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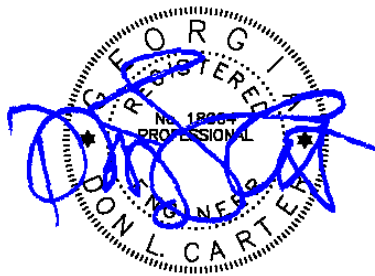
***REQUEST FOR PROPOSALS***

**HARTLEY ELEMENTARY SCHOOL  
PARKING IMPROVEMENTS**

**BIBB COUNTY BOARD OF EDUCATION  
MACON, GEORGIA**

**MARCH 18, 2019**

**CEG FILE: B7600.017**



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**RFB 19-34**

**ADVERTISEMENT FOR BIDS**

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Sealed Bids will be received by the Bibb County Board of Education (the "Owner") at the office of the Director of Procurement, Ms. Elaine Wilson, at 4580 Cavalier Drive, Macon, GA 31210 until 2:00 PM local time on the 18th of April, 2019 for all labor, materials and services necessary for Project No. RFB 19-34, Hartley Elementary School Parking Improvements (the "Project"). Bids will be opened and read aloud publicly at the time and place stated above. The Project will be awarded by base bid. All interested parties are invited to attend.

Project description: Construction of site improvements including demolition work, utility work, grading and drainage, concrete work, canopy installation, striping and paving. Plans and specifications for detailed work requirements will be provided. The project is located at 2230 Anthony Road, in Macon, GA 31204, and as more particularly set forth in the Bidding Documents.

The Design Professional for the Project is Carter Engineering Group, 6310 Peake Road, Suite 200, Macon, GA 31210. The Contract Documents may be obtained electronically from the Owner's website at [www.bcsdk12.net](http://www.bcsdk12.net) by selecting the "bids and proposals" link on the website homepage.

All anticipated federal, state and local permits required for the Project have required permits are anticipated on or before April 17, 2019.

All rights of way and easements anticipated for the Project have been obtained.

The Contract, if awarded, will be on a lump sum basis by base bid. No Bid may be withdrawn for a period of sixty (60) days after Bid opening, except as otherwise expressly provided by applicable law. Bids must be accompanied by a Bid Bond in the amount of five percent (5%) of the Base Bid. Both a Performance Bond and a Payment Bond will be required in an amount equal to one hundred percent (100%) of the Contract Price. The Owner will provide the forms of all bonds.

The Owner reserves the right to reject any or all Bids, and to waive technicalities and informalities.

A **mandatory** pre-bid conference will be held at 4580 Cavalier Drive, Macon, GA 31220 at **9:00 AM** local time **on 2<sup>nd</sup> of April, 2019**.

BIBB COUNTY BOARD OF EDUCATION

## INSTRUCTIONS TO BIDDERS

RFB 19-34

**Owner:** *Bibb County Board of Education*

**Project Name:** *HARTLEY ELEMENTARY SCHOOL PARKING  
IMPROVEMENTS*

**Address:** *2230 ANTHONY ROAD*

*Macon, GA 31204*

**Description:** *Construction of site improvements including demolition work, utility work, grading and drainage, concrete work, canopy installation, striping and paving. Plans and specifications for detailed work requirements will be provided. The project is located at 2230 Anthony Road, in Macon, GA 31204, and as more particularly set forth in the Bidding Documents*

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## **INSTRUCTIONS TO BIDDERS**

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### **ARTICLE 1 DEFINITIONS**

1.1 Bidding Documents means the Advertisement for Bids, the Instructions to Bidders, the Bid Form, the form of Bid Bond, the form of Subcontractor Listing, the form of Corporate Certificate, the form of Partnership Certificate, the form of Entity Certificate, the form of Bidder's and Individuals' Affidavit of Noncollusion, the Form of Construction Contract (with exhibits), the form of Performance Bond, the form of Payment Bond, the Special Conditions (if any), the Plans and Specifications, all other proposed contract documents, and any Addenda issued prior to Bid opening.

1.2 Definitions contained in the proposed contract documents shall be applicable to the Bidding Documents.

1.3 Addenda are written or graphic instruments issued by the Architect prior to Bid opening which modify or interpret the Bidding Documents by additions, deletions, clarifications, corrections or revisions.

1.4 A Bid is a complete and properly executed proposal to do the Work in accordance with the Contract for the sums stipulated in the Bid supported by data required by the Bidding Documents, submitted in accordance with the Bidding Documents.

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

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

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

1.8 A Bidder is a person or entity that submits a Bid.

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

1.10 The Owner for whom the work will be executed is the Bibb County Board of Education, 484 Mulberry Street, Macon, Georgia 31201.

1.11 The Owner has selected as Design Professional – Carter Engineering Group, LLC, 6310 Peake Road, Suite 200, Macon, GA 31210, Phone: 478-214-2600, who has prepared plans and specifications and who will administer the Contract for construction.

### **ARTICLE 2 BIDDER'S REPRESENTATIONS AND WARRANTIES**

2.1 Bidders shall carefully and thoroughly examine the Bidding Documents and the construction site. The Bidder, by submitting a Bid, represents and warrants that:



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2.1.1 The Bidder has read and understands the Bidding Documents and the Bid is made in accordance therewith.

2.1.2 The Bidder has read and understands the bidding documents or contract documents for other portions of the Project, if any, being bid concurrently or presently under construction, to the extent that such documentation relates to the Work for which the Bid is submitted.

2.1.3 The Bidder has visited, examined and inspected the site, obtained first-hand knowledge of existing conditions, the conformation of the ground, the character, quality and quantity of the products needed preliminary to and during the prosecution of the Work, the general and local conditions and all other matters which can in any way affect the Work to be done under the Contract, and become thoroughly familiar with all conditions under which the Work is to be performed and has correlated all the Bidder's personal observations and any other facts or conditions that are known to or reasonably knowable by the Bidder with the requirements of the Bidding Documents, including the proposed Contract Documents.

2.1.4 The Bid is based upon furnishing the Work, including services, supervision, labor, materials, equipment, systems, warranties and other things required by the Bidding Documents.

2.2 If soil and subsurface investigations were conducted at the site, a copy of the report is included in the Bidding Documents. The report shall not constitute a part of the contract documents. Such information is provided for the purpose of disclosure only, and shall not relieve the Contractor from its obligation to investigate the soil and subsurface conditions. The accuracy or completeness of the data is not guaranteed by the Owner or the Architect, and neither the Owner nor the Architect shall be responsible therefor. The Contractor shall not rely on such subsurface information. Bidders shall make their own investigation of subsurface conditions. Neither the Owner nor the Architect will be responsible in any way for additional compensation because of the reliance on or assumptions based on the soil investigation data furnished with the Bidding Documents.

2.3 The Bidder shall notify the Owner of the date and time he proposes to examine the location of the Work. The Bidder shall confine his examination to the specific areas designated for the proposed construction, including easements and public right-of-ways. If the Owner's procurement of the proposed construction site (including easements) has not been completed, the Bidder shall obtain express written consent of the property owner before entering the site. The Bidder solely is responsible for any damages caused by his examination of the site. If the Project involves an existing facility, the facility will be available for examination by appointment.

2.4 The failure or omission of any Bidder to examine the site or any of the Bidding Documents shall in no way relieve any Bidder from any obligation in respect to the Bid or the performance of the Contract if awarded. The successful Bidder shall not be entitled to any additional compensation for conditions which could or should have been determined by examining the site and the Bidding Documents as described above.

2.5 If indicated in the Advertisement for Bids, there will be a pre-bid conference as provided therein. If the pre-bid conference is "mandatory," attendance is required as a condition precedent to submission of a Bid.

## **ARTICLE 3** **BIDDING DOCUMENTS**

### 3.1 Copies.

3.1.1 The Contract Documents may be obtained electronically from the Owner's website at [www.bcsdk12.net](http://www.bcsdk12.net) by selecting the "bids and proposals" link on the website homepage.

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3.1.2 Bidding Documents will not be issued directly to Sub-bidders or others unless specifically offered in the Advertisement for Bids.

3.1.3 No partial sets of Bidding Documents will be issued. Bidders shall use complete sets of Bidding Documents in preparing Bids; neither the Owner nor the Architect will be responsible for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

3.1.4 In making copies of the Bidding Documents available on the above terms, the Owner and the Architect do so only for the purpose of obtaining Bids on the Work and do not confer a license or grant permission for any other use of the Bidding Documents.

3.1.5 Applicants for Bidding Documents shall register with the Architect by providing in writing at the time of application for Bidding Documents the Project number and name, the Bidder's name, address, phone number and contact person.

### 3.2 Interpretation or Correction of Bidding Documents.

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

3.2.2 If a Bidder is in doubt as to the meaning of any part of the Bidding Documents, or otherwise has questions or requires clarification or interpretation of the Bidding Documents, the Bidder shall request an interpretation from the Design Professional. Such request shall be made in writing to the Director of Procurement, Ms. Elaine Wilson not later than seven (7) days prior to the date for opening Bids, and failure of the successful Bidder to request such interpretation shall not relieve the Bidder as a Contractor of the obligation to execute the Work in accordance with a later interpretation by the Design Professional, without additional charge to the Owner.

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

### 3.3 Substitutions.

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

3.3.2 No substitution will be considered prior to receipt of Bids unless written request for approval has been received by the Design Professional at least ten (10) days prior to the date for opening Bids. Such requests shall include the name of the specified product, material or equipment, and the drawing number or specification section as appropriate. The request shall provide a complete description of the proposed substitution including drawings, performance and test data, and other information necessary for an evaluation. The request for approval shall explain fully the difference, if any, between the proposed product and the one or more named in the specifications, including difference in cost. A statement setting forth changes in other materials, equipment or other portions of the Work including changes in the work of other contracts that incorporation of the proposed substitution would require shall be included in the request. The burden of proof of the merit of the proposed substitution is upon the proposer. The Owner's decision of approval or disapproval of a proposed substitution shall be final.

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3.3.3 If the Design Professional approves a proposed substitution prior to Bid opening, such approval will be set forth in an Addendum. Bidders shall not rely upon approvals made in any other manner.

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

3.4 Addenda.

3.4.1 Addenda, if any, will be sent to all known prospective bidders and will be available on the Bibb County School District's website at [www.bcsdk12.net](http://www.bcsdk12.net) by selecting the "bids and proposals" link on the website homepage.

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

3.4.3 No Addenda modifying plans and specifications shall be issued within a period of 72 hours prior to the advertised time for the opening of Bids, excluding Saturdays, Sundays, and legal holidays, except for Addenda which include an extension of the time for opening of Bids by at least 72 hours excluding Saturdays, Sundays, and legal holidays, from the date of the original Bid opening. An addendum withdrawing the request for Bids may be issued at any time.

3.4.4 Each Bidder shall ascertain prior to submitting a Bid that the Bidder has received all Addenda issued, if any, and the Bidder shall acknowledge their receipt in the Bid. Failure of a Bidder to receive or acknowledge any Addendum shall not relieve the Bidder of any obligation under the Bid. All Addenda shall become part of the Contract Documents.

3.5 Communications. **Except as expressly provided in, or permitted by, the Bidding Documents, from the date of issuance of the Advertisement for Bids until final Board action of approval of contract award, the Bidder shall not initiate any communication or discussion concerning the Project or the Bidder's Bid or any part thereof with any employee, agent, or representative of the Board. Any violation of this restriction may result in the rejection of the Bidder's Bid.**

**ARTICLE 4**  
**BIDDING PROCEDURES**

4.1 Form and Style of Bids.

4.1.1 Bids shall be submitted on forms identical to the form included with the Bidding Documents.

4.1.2 All blanks on the Bid Form shall be filled in by typewriter or manually in ink.

4.1.3 Where so indicated on the Bid Form sums shall be expressed in both words and figures, and in case of discrepancy between the two, the amount written in words shall govern.

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

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

4.1.6 All requested unit cost items shall be bid.

4.1.7 The Bidder shall make no additional stipulations on the Bid Form nor qualify the Bid in any other manner.

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4.1.8 The Bid shall include the legal name of the Bidder and a statement that the Bidder is a sole proprietor, partnership, corporation or other legal entity. The Bid, and each copy, shall be signed by the person or persons legally authorized to bind the Bidder to a contract. The Bid shall state the Federal Tax I.D. number or Social Security Number of the Bidder. A Bid by a corporation or other entity shall further state the state where the entity is organized and have the corporate (or other entity as applicable) seal affixed. A Bid submitted by an agent shall have a current power of attorney attached certifying the agent's authority to bind the Bidder. All signatures shall have the name and title of the signor typed below the signature.

4.1.9 Bidders shall submit an original and two duplicate copies of the Bid. Label the original and duplicate Bids as "ORIGINAL," "DUPLICATE 1," and "DUPLICATE 2," respectively, at the top of the first page.

### 4.2 Bid security.

4.2.1 Each Bid shall be accompanied by bid security in the form of a Bid Bond written on a form identical to the form included with the Bidding Documents. The attorney-in-fact who executes the Bid Bond on behalf of the surety shall affix to the Bid Bond a certified and current copy of its power of attorney. The Bid Bond shall be made payable to the Owner in the amount of five percent (5%) of the Base Bid. The surety must be satisfactory to the Owner and must be licensed to do business in Georgia as approved by the State Insurance Commissioner's Office. No other form of bid security will be accepted.

4.2.2 The Owner shall have the right to retain the Bid Bond of all Bidders until either (a) the Contract has been executed and a satisfactory Payment Bond and Performance Bond have been furnished, or (b) sixty (60) days after Bid opening, or (c) all Bids have been rejected.

### 4.3 Submission of Bids.

4.3.1 The original and all copies of the Bid, the Bid Bond, and other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall be addressed to the party receiving the Bids as indicated by the Advertisement for Bids. The envelope shall be identified with the Project number and name, the Bidder's name and address, the words "Bid-Do Not Open", the designated portion of the Work for which the Bid is submitted (if such a designation is applicable), and the bid closing date and hour. If the Bid is sent by mail, the sealed envelope shall be enclosed in a separate mailing envelope with the notation "SEALED BID ENCLOSED" on the face thereof.

4.3.2 Bids shall be deposited at the designated location prior to the closing time and date for receipt of Bids indicated in the Advertisement for Bids, or any extension thereof made by Addendum.

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

4.3.4 Oral, telephonic, telegraphic, electronic, or facsimile Bids are invalid and will not receive consideration.

4.3.5 The Bidder must complete, execute and include with the Bid, the following on forms identical to the forms provided in the Bidding Documents:

- .1 Bid Form;
- .2 Bid Bond;
- .3 Subcontractor Listing; and,
- .4 Corporate Certificate, Partnership Certificate, or Entity Certificate (if applicable).

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4.4 Modification or Withdrawal of Bids.

4.4.1 Except as otherwise expressly provided by applicable law, no Bid may be withdrawn for a period of sixty (60) days following the closing time and date for receipt of Bids, and all Bids are subject to acceptance by the Owner during said period, and each Bidder so agrees by submitting a Bid.

**ARTICLE 5**  
**CONSIDERATION OF BIDS**

5.1 Opening of Bids. Unless stated otherwise in the Advertisement for Bids, the properly identified timely Bids will be opened publicly and will be read aloud. All interested parties are invited to attend.

5.2 Rejection of Bids. Notwithstanding any other provision, the Owner shall have the right to reject any or all Bids, before or after opening, for any reason whatsoever including, but not limited to, any failure of any Bid to be accompanied by a Bid Bond or by other data required by the Bidding Documents, any incompleteness or irregularity of any Bid received, any evidence of collusion with the intent to defraud or other illegal practices on the part of the Bidder, failure to comply with the requirements of the Bidding Documents, or exceeding the funds available. Nothing shall limit or restrict the Owner's authority to reject any and all Bids.

5.3 Acceptance of Bid (Award).

5.3.1 It is the intent of the Owner to award a contract, at the sole option of the Owner, in due course and after a reasonable Bid evaluation period, on a lump sum basis and within the funds available, to the lowest responsive, responsible Bidder provided that the Bid otherwise fulfills the requirements of the Bidding Documents. The Owner shall have the right to waive technicalities and informalities in a Bid received and to accept the Bid which, in the Owner's judgment, is in the Owner's best interests.

5.3.2 The Advertisement for Bids indicates whether the Project will be awarded by base bid or base bid plus selected alternates. Deductive alternates may be used to reduce the Base Bid; however, they shall be prioritized and exercised, if at all, in numerical sequence as listed in the Bidding Documents. If it is determined that deductive alternates will be selected, all bids will be recalculated removing the deductive alternates selected. The low bid shall then be determined on the Base Bid less any deductive alternates. Additive alternates may be exercised in any order. If the Project will be awarded by Base Bid, then additive alternates are considered only after the low base bidder has been declared. If the Project will be awarded by Base Bid plus selected alternates, all bids will be recalculated by adding the additive alternates to be taken. The low bid shall then be determined on the Base Bid plus the selected alternates.

5.3.3 Each Bidder shall be prepared to commence Work upon the date it receives the Notice to Proceed to be issued by the Owner, or such later date as may be set forth therein.

**ARTICLE 6**  
**QUALIFICATION OF CONTRACTORS**

6.1 Contractor's Qualification.

6.1.1 The Owner shall have the right to make such additional inquiry as it deems necessary to determine the ability of the Bidder to perform the Work in a prompt and efficient manner in accordance with the Contract Documents. The failure of a Bidder to promptly supply information in connection with the Owner's inquiry shall be grounds for a determination that such Bidder is not responsive, not responsible, or both.

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6.1.2 In determining the qualifications and responsibility of the Bidder, the Owner may take into consideration any and all relevant facts and circumstances available to it including, but not limited to, the Bidder's experience, capacity, facilities, previous work standing, financial standing, skill, available supervisory personnel, available labor, quality and efficiency of construction plant and equipment proposed to be utilized on the Project.

6.1.3 The Owner shall have the right to reject the Bid of any Bidder failing to show to the complete satisfaction of the Owner the Bidder could perform the Work in a prompt and efficient manner in accordance with the Contract Documents.

**ARTICLE 7**  
**SUBCONTRACTORS AND SUPPLIERS**

7.1 The Bidder will submit with its Bid a list of the names of persons or entities (including those persons or entities who are to furnish material or equipment fabricated to a special design) proposed for the principal portions of the Work, and names of the manufacturers, products and the suppliers of principal items or systems of materials and equipment proposed for the Work, on the Subcontractor Listing form included with the Bidding Documents. There shall be only one person or entity named for each portion of the Work listed.

7.2 The Bidder shall be responsible for establishing to the satisfaction of the Architect and the Owner the reliability and responsibility of the persons or entities listed. The Bidder may be required by the Owner to provide additional information regarding the persons or entities listed.

7.3 Prior to the award of the Contract, the Architect will notify the Bidder in writing if either the Owner or the Architect has reasonable objection to a person or entity proposed by the Bidder. If the Owner or Architect has reasonable objection to a proposed person or entity, the Bidder shall submit the name of an acceptable substitute with no change in the Bid price. The failure of the Bidder to promptly comply with this requirement may be grounds for rejection of the Bid.

7.4 The Bidder shall make no other substitutions for any listed person or entity without first notifying the Owner in writing of the intended substitution and the specific reason for the substitution. Persons and entities proposed by the Bidder and to whom the Owner and Architect have made no reasonable objection shall be used on the Work for which they were proposed and shall not be changed except with the written consent of the Owner and Architect. Substitutions will not be allowed if the Owner or Architect have reasonable objection to the substitution. Substitutions subsequent to the execution of the Contract shall be governed by the Contract.

7.5 Nothing contained in the Bidding Documents shall be deemed to create a contractual relationship between the Owner and any subcontractor or supplier.

**ARTICLE 8**  
**UNIT PRICES**

8.1 The Bidder shall submit with the Bid the Unit Prices, if any, designated on the Bid Form included with the Bidding Documents.

8.2 Where applicable, Unit Prices shall be used for the pricing of changes in the quantity of Work, if any, authorized in writing in accordance with the Contract.

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8.3 The Unit Prices shall include all necessary supervision, labor, materials, equipment, appliances, supplies, plus overhead and profit and any other costs and compensation for such item.

8.4 Only one Unit Price shall be quoted for each designated item of Work. The Unit Price shall be used to calculate price adjustments based on deductive as well as additive changes.

8.5 Where applicable, Unit Prices shall apply to all phases of the Work, whether the Work be performed by the Bidder or by the Bidder's subcontractor.

8.6 Unit Prices are subject to equitable adjustment as expressly set forth in the Contract.

**ARTICLE 9**  
**PERFORMANCE BOND, PAYMENT BOND AND INSURANCE**

9.1 Bond Requirements.

9.1.1 The successful Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder, both in the amount of one hundred percent (100%) of the Contract Price. The surety must be satisfactory to the Owner and must be licensed to do business in Georgia as approved by the State Insurance Commissioner's Office.

9.1.2 The cost of furnishing such bonds shall be paid by the Bidder, and said cost shall be included in the Bid.

9.2 Time of Delivery and Form of Bonds.

9.2.1 The successful Bidder shall deliver the required bonds to the Owner simultaneously with the execution of the Contract.

9.2.2 Both the Performance Bond and Payment Bond shall be written in the exact form required by the Owner. Required forms are provided in the Bidding Documents. A successful Bidder having co-sureties, rather than a single surety, shall request the Owner's alternate forms for the applicable number of co-sureties. Both bonds shall be written in the amount of one hundred percent (100%) of the Contract Price.

9.2.3 The bonds shall be dated the same date as the date of the Contract.

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

9.3 Insurance. The successful Bidder shall comply with any insurance requirements set forth in the Contract.

**ARTICLE 10**  
**AWARD OF CONTRACT AND FORM OF AGREEMENT**  
**BETWEEN OWNER AND CONTRACTOR**

10.1 The award of contract is contingent upon (a) securing an acceptable Bid that is within the amount of budgeted funds, and (b) determining that the award of contract will be in the best interests of the Owner.

10.2 The Contract between the Owner and the Contractor shall be identical in form with the form provided in the Bidding Documents. The successful Bidder shall assist and cooperate with the Owner in preparing the Contract, and upon its presentation by the Owner, shall execute same in the number required by the Owner.

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10.3 Upon delivery of the Contract executed by the Contractor, the Contractor shall deliver to the Owner the Performance Bond and Payment Bond. All required forms, bonds, policies or certificates of insurance and other documents must be submitted and approved by the Owner before the Notice to Proceed may be issued.

**ARTICLE 11**  
**MINIMUM WAGE RATES**

If federal funds are used on this Project, a wage rate determination will be included in the Bidding Documents. On covered contracts, the contractor and subcontractors shall pay all laborers employed on the site not less than the minimum hourly wage rates set forth in the wage rate determination. The designated wage rates represent minimum allowable rates of pay and shall not be construed to mean that higher rates may not have to be paid in order to secure labor. Thus, differences between designated wage rates and actual wage rates shall not be an appropriate basis for later adjustment of the Contract Price.

**ARTICLE 12**  
**AUTHORITY CERTIFICATE**

12.1 A Corporate Certificate is included with the Bidding Documents. If the Bidder is a corporation, the Bidder shall complete and sign the Corporate Certificate and submit same with its Bid.

12.2 A Partnership Certificate is included with the Bidding Documents. If the Bidder is a partnership, the Bidder shall complete and sign the Partnership Certificate and submit same with its Bid.

12.3 An Entity Certificate is included with the Bidding Documents. If the Bidder is a legal entity other than a corporation or a partnership, the Bidder shall complete and sign the Entity Certificate and submit same with its Bid.

**ARTICLE 13**  
**AFFIDAVIT**

13.1 A form of Bidder's and Individuals' Affidavit of Noncollusion is included with the Bidding Documents. Not later than simultaneously with the execution of the Contract, the successful Bidder shall deliver to the Owner the completed and executed Affidavit in accordance with O.C.G.A. § 36-91-21(e). If the successful Bidder is a partnership, all of the partners and any officer, agent, or other person who may have represented or acted for them in bidding for or procuring the contract shall execute the Affidavit. If the successful Bidder is a corporation or other entity, all officers, agents, or other persons who may have acted for or represented the corporation or other entity in bidding for or procuring the contract shall execute the Affidavit.

**ARTICLE 14**  
**EQUAL EMPLOYMENT AND NONDISCRIMINATION**

14.1 The Owner is committed to a policy of providing equal job opportunities on public contracts and prohibiting discrimination based on race, creed, color, sex, age, religion, national origin, or disability in employment.



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**ARTICLE 15**  
**MISCELLANEOUS**

15.1 Employment of Georgia Citizens and Use of Georgia Products. Since the Work provided for in the Contract is to be performed in Georgia, it is the wish of the Owner that materials and equipment manufactured or produced in Georgia shall be used in the Work and that Georgia citizens shall be employed in the Work at wages consistent with those being paid in the general area in which the Work is to be performed. This desire on the part of the Owner is not intended to restrict or limit competitive bidding nor to increase the cost of the Work; nor shall the fulfillment of this desire be asserted by the contractor as an excuse for any noncompliance or omission to fulfill any obligation under the Contract.

15.2 Photographs. The Contractor shall be required to take monthly photographs.

15.3 Temporary Facilities. The Bidder shall include in his Bid, all temporary facilities including, without limitation, fencing, gatework or other means required for protection of the public and property.

15.4 Fee Exemptions. Contractors doing work for Bibb County School District are exempted from building permit fees, assessment fees, and impact fees.

15.5 Water and Sewer Utilities. Bidders shall include and be responsible for in the Base Bid costs for the following utility work, without limitation:

15.5.1 Any work needed to relocate or repair utilities related to the work contained within the project.

15.5.2 Tap Fees

15.5.3 Contractor shall contact the appropriate utility departments.

15.6 Required Permits. See the Advertisement for Bids concerning whether all anticipated federal, state and local permits required for the Project have or have not been obtained, and, if not, when the Owner anticipates that such permits will be obtained.

15.7 Rights Of Way And Easements. See the Advertisement for Bids concerning whether all anticipated rights of way and easements required for the Project have or have not been obtained, and, if not, when the Owner anticipates that such rights of way and easements will be obtained.



## BID FORM

Project Name: HARTLEY ELEMENTARY SCHOOL PARKING IMPROVEMENTS

Bibb County Board of Education  
484 Mulberry Street  
Macon, GA 31201

Project No. **RFP 19-34**  
Date: March 18, 2019

In compliance with your Advertisement for Bids and the Bidding Documents, the undersigned Bidder,

\_\_\_\_\_  
[legal name of Bidder]

\_\_\_\_\_

\_\_\_\_\_  
[address of Bidder]

\_\_\_\_\_  
[telephone number of Bidder]

having carefully examined the site and Bidding Documents, including the proposed contract documents and any Addenda thereto, for Project No. **RFB 19-34, Hartley Elementary School Parking Improvements**, proposes and agrees, if this bid is accepted, to enter into a contract with the Owner in the exact form provided in the Bidding Documents and to perform the Work including all services, supervision, labor, equipment and material and specified **allowances** listed in Section 01020 in conformance with the contract documents, in the time stated therein, for the lump sum of:

\_\_\_\_\_ dollars  
[written in words]

(\$ \_\_\_\_\_), which sum shall constitute the Base Bid.

The undersigned Bidder agrees that if it is notified in writing by mail, telegraph, facsimile or hand-delivery of the acceptance of this Bid, via Notice of Award or otherwise, within sixty (60) days after the date of the Bid opening, the undersigned Bidder will execute, within ten (10) days of the date of the notice, a contract for the Work in accordance with the Bidding Documents in the exact form provided therein for the amount stated above, and at that time will furnish and deliver to the Owner a satisfactory Performance Bond and Payment Bond, both on the exact forms provided in the Bidding Documents and each in an amount equal to one hundred percent (100%) of the Contract Price. The Bidder further agrees to furnish other documents or information as required by the Bidding Documents in accordance therewith.

Enclosed herewith is a fully executed Bid Bond in the exact form required by the Bidding Documents.

The undersigned Bidder agrees to commence actual physical work on the site with adequate forces and equipment within ten (10) calendar days of the date of the Notice to Proceed to be issued by the Owner, and to complete the Work within the time provided in the proposed contract documents.

The undersigned Bidder hereby acknowledges receipt of the following Addenda [insert the number and date of each Addendum; if none, insert "None"]:

\_\_\_\_\_

\_\_\_\_\_

The undersigned Bidder is duly organized and existing under the laws of the State of \_\_\_\_\_ as a:

- (1) \_\_\_ Sole Proprietorship;
- (2) \_\_\_ Partnership;
- (3) \_\_\_ Corporation; or
- (4) \_\_\_ Other legal entity (specify) \_\_\_\_\_.

The Bidder's Federal I.D. number, or Social Security number if the Bidder is an individual, is as follows: \_\_\_\_\_.

In accordance with the Bidding Documents, the following are attached hereto or enclosed herewith:

- (1) Original and two (2) duplicates of this Bid, appropriately marked;
- (2) Bid Bond;
- (3) Subcontractor Listing;
- (4) Corporate Certificate or Partnership Certificate (if applicable);
- (5) Noncollusion Affidavit;

The Bidder understands that the Owner reserves the right to reject any or all Bids, and to waive informalities and technicalities.

The Bidder understands that all anticipated federal, state and local permits required for the Project have not been obtained. If any permits have not been obtained, the Bidder understands that the Owner's anticipated date for obtaining all of the required permits is on or before April 17, 2019.

The Bidder understands that all rights of way and easements anticipated for the Project have been obtained.

The Bidder agrees that this Bid may not be revoked or withdrawn for a period of sixty (60) days after the date and time of Bid opening, but shall remain open for acceptance for a period of sixty (60) days following Bid opening.

By submission of this Bid, the Bidder certifies that this Bid has been derived independently, without consultation, communication or agreement as to any matter relating to this Bid with any other Bidder or with any competitor. The Bidder hereby certifies that this Bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same Work and is in all respects fair and without collusion or fraud. The Bidder agrees to abide by all conditions of the Bid.

The full names, titles and addresses of persons and firms interested in the foregoing Bid as principals are as follows:

NAME	TITLE	ADDRESS
_____	_____	_____
_____	_____	_____
_____	_____	_____

***[Signatures and Notary on Following Pages]***

Respectfully submitted,

\_\_\_\_\_  
*[typed name of Bidder]*

By: \_\_\_\_\_ [seal]  
*[signature]*

\_\_\_\_\_  
*[typed name and title]*

\_\_\_\_\_

\_\_\_\_\_  
*[address of Bidder]*

( \_\_\_\_\_ )  
*[business telephone number]*

\_\_\_\_\_  
*[date of execution]*

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

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

Came before me, \_\_\_\_\_, and after being  
*[typed name of individual signing Bid]*

duly sworn, deposes and says that he/she is \_\_\_\_\_ of  
*[title]*

\_\_\_\_\_ and that all of the foregoing is true and correct to the  
*[Bidder]*

best of his/her information and belief.

\_\_\_\_\_  
*[signature of individual signing Bid]*

Subscribed and sworn to  
before me this \_\_\_\_ day of  
\_\_\_\_\_, 2\_\_\_\_.

(seal)

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

My Commission Expires:  
\_\_\_\_/\_\_\_\_/\_\_\_\_

HARTLEY ELEMENTARY SCHOOL  
PARKING IMPROVEMENTS

**BID BOND**

---

KNOW ALL PERSONS BY THESE PRESENTS, that we, \_\_\_\_\_,  
*[insert proper name of Surety]*  
a corporation duly organized and existing under the laws of the State of \_\_\_\_\_,  
as surety ("Surety"), and \_\_\_\_\_  
*[Insert proper name and address of Bidder or Offeror]*  
as principal ("Bidder"), enter into, execute this bond ("Bid Bond"), and firmly bind ourselves,  
our heirs, administrators, executors and successors, jointly and severally, in favor of the  
Bibb County Board of Education, as obligee ("Owner"), in the penal sum of:

\_\_\_\_\_ dollars (\$ \_\_\_\_\_),  
*[Insert penal sum, written in words and in numerals, which shall equal 5% of the proposed lump sum contract price (exclusive of  
alternates and unit prices)]*  
as of the \_\_\_\_ day of \_\_\_\_\_ 20\_\_.

WHEREAS, the Bidder has submitted a Proposal for construction of renovations to HARTLEY  
ELEMENTARY SCHOOL PARKING IMPROVEMENTS in Macon-Bibb, Georgia; and

WHEREAS, the Owner has required the Bidder to furnish this Bid Bond containing the  
terms and conditions set forth herein as a condition to submission of the Proposal;

NOW THEREFORE, the Surety and the Bidder, for themselves, their heirs, administrators,  
executors and successors, both joint and severally, agree that if the Owner accepts the Proposal of  
the Bidder and within sixty (60) days of the Proposal opening delivers to the Bidder a Notice of  
Award, and the Bidder, within ten (10) calendar days after receipt of such Notice of Award, has not  
executed a contract with the Owner in accordance with the terms of such Proposal and furnished  
such bonds as are specified in the Contract Documents with good and sufficient surety for the  
faithful performance of such contract and for the prompt payment of labor and materials furnished in  
the prosecution thereof, then the Surety and the Bidder shall pay to the Owner the full penal sum  
hereof as liquidated damages and not as a penalty.

SIGNED AND SEALED this \_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_.

BIDDER

SURETY

\_\_\_\_\_  
[Typed Name] [SEAL]

\_\_\_\_\_  
[Typed Name] [SEAL]

BY: \_\_\_\_\_  
[Signature]

BY: \_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Printed Name, Title and Address]

\_\_\_\_\_  
[Printed Name, Title and Address]

Attach current, valid Power of attorney



**ENTITY CERTIFICATE  
Proposals**

---

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

I, \_\_\_\_\_, certify that I am the Secretary of the entity named as Contractor in the foregoing proposal; that \_\_\_\_\_ who signed said proposal in behalf of the Contractor was then \_\_\_\_\_ of said entity; that said proposal was duly signed for and in behalf of said entity by due authority, and is within the scope of its legal powers; and that said entity is a \_\_\_\_\_ organized under the laws of the State of \_\_\_\_\_.

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[typed name]*

Subscribed and sworn to  
before me this \_\_\_\_ day of  
\_\_\_\_\_, 2\_\_\_\_.

(SEAL)

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

My Commission Expires:  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**CORPORATE CERTIFICATE  
(Proposals)**

---

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

I, \_\_\_\_\_, certify that I am the Secretary of the corporation named as Contractor in the foregoing proposal; that \_\_\_\_\_ who signed said proposal in behalf of the Contractor was then \_\_\_\_\_ of said corporation; that said proposal was duly signed for and in behalf of said corporation by authority of its Board of Directors, and is within the scope of its corporate powers; and that said corporation is organized under the laws of the State of \_\_\_\_\_.

\_\_\_\_\_  
*[signature]*

\_\_\_\_\_  
*[typed name]*

Subscribed and sworn to  
before me this \_\_\_\_ day of  
\_\_\_\_\_, 2\_\_\_\_.

(SEAL)

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

My Commission Expires:  
\_\_\_\_/\_\_\_\_/\_\_\_\_

**PARTNERSHIP CERTIFICATE**  
Proposals

---

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

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, personally appeared \_\_\_\_\_, who executed the above proposal, and being first duly sworn, deposes and says that he or she is a general partner in the firm of \_\_\_\_\_ and that said firm consists of himself or herself and \_\_\_\_\_ and that he or she executed the foregoing instrument on behalf of said firm for the uses and purposes stated therein, and that no one except the above named members of the firm have any financial interest whatsoever in said proposed contract.

\_\_\_\_\_  
*[Affiant's Signature]*

\_\_\_\_\_  
*Partner*

\_\_\_\_\_  
*Partner*

\_\_\_\_\_  
*Partner*

\_\_\_\_\_  
*Partner*

Subscribed and sworn to  
before me this \_\_\_\_ day of  
\_\_\_\_\_, 2\_\_\_\_.

(seal)

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

My Commission Expires:  
\_\_\_\_/\_\_\_\_/\_\_\_\_

NOTE: If only one partner signs, a Power of Attorney executed by all other partners authorizing him or her to act in the name of the partnership must be attached; otherwise, all partners must sign.

**BIDDER'S and INDIVIDUALS' AFFIDAVIT OF NONCOLLUSION**

*(This affidavit to be executed in accordance with O.C.G.A. § 36-91-21(e))*

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

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

COMES NOW, \_\_\_\_\_ ("Bidder"),  
*[name of Bidder]*

appearing by and through \_\_\_\_\_, it's \_\_\_\_\_  
*[insert name of individual with authority to bind Bidder]* *[title]*

(averring both individually and in his or her representative capacity on behalf of Bidder) (the "Individual And Representative Affiant"), and \_\_\_\_\_  
*[in these blanks insert the names of all those required to give the oath under O.C.G.A. § 36-91-21(e)]*

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(collectively, the "Individual Affiants"), and each of the Individual And Representative Affiant and the Individual Affiants, after first being duly sworn, deposes and says that:

1. He, she or it, as applicable, has not directly or indirectly violated subsection (d) of the Official Code of Georgia Annotated Section 36-91-21, which subsection provides as follows:

(d) Whenever a public works construction contract for any governmental entity subject to the requirements of this chapter is to be let out by competitive sealed bid or proposal, no person, by himself or herself or otherwise, shall prevent or attempt to prevent competition in such bidding or proposals by any means whatever. No person who desires to procure such work for himself or herself or for another shall prevent or endeavor to prevent anyone from making a bid or proposal therefor by any means whatever, nor shall such person so desiring the work cause or induce another to withdraw a bid or proposal for the work.

2. If the Bidder is a partnership, then the Individual And Representative Affiant, together with the Individual Affiants, constitute all of the partners and any officer, agent or other person who may have

HARTLEY ELEMENTARY SCHOOL  
PARKING IMPROVEMENTS

represented or acted for them in bidding for or procuring the contract for the Bibb County Board of  
Education Project No. \_\_\_\_\_ for \_\_\_\_\_  
(the "Project").

3. If the Bidder is a corporation or other entity, then the Individual And Representative Affiant,  
together with the Individual Affiants, constitute all officers, agents, or other persons who may have acted  
for or represented the corporation or other entity in bidding for or procuring the contract for the Project.

Further, the Individual And Representative Affiant and the Individual Affiants sayeth not.

This \_\_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_

\_\_\_\_\_  
*[insert name of Bidder]*

and \_\_\_\_\_  
*[insert name of Individual And Representative Affiant]*

By: \_\_\_\_\_, both individually and on behalf of Bidder as its  
*[signature]*

\_\_\_\_\_  
*[insert title]*

Individual Affiants' signatures and names:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

x \_\_\_\_\_  
Name:

Sworn to and subscribed before me this \_\_\_\_ day of \_\_\_\_\_, 2\_\_\_\_\_.

Notary Public: \_\_\_\_\_ My commission expires: \_\_/\_\_/\_\_.

(SEAL)

**STANDARD FORM OF  
FIXED PRICE CONSTRUCTION CONTRACT  
BETWEEN  
THE BIBB COUNTY BOARD OF EDUCATION  
AND**

---

[Contractor]

**PROJECT: HARTLEY ELEMENTARY SCHOOL PARKING  
IMPROVEMENTS**

**Address: 2230 ANTHONY ROAD  
Macon, GA 31204**

**Design Professional: CARTER ENGINEERING GROUP, LLC**

**Design Professional's  
Address: 6310 PEAKE ROAD, SUITE 200  
Macon, GA 31210**

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This FIXED PRICE CONSTRUCTION CONTRACT (the "Contract") is made and entered into by and between THE BIBB COUNTY BOARD OF EDUCATION (the "Owner") and \_\_\_\_\_ (the "Contractor"). This Contract is executed under seal, and shall be effective on the date executed by the last party to execute it.

This Contract is for the construction of a project identified as Hartley Elementary School Parking Improvements (the "Project").

NOW, THEREFORE, in consideration of the mutual promises, covenants and agreements stated herein, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties agree as follows:

## **ARTICLE 1**

### **DOCUMENTS INCORPORATED BY REFERENCE**

This Contract includes this instrument, all exhibits hereto, the plans and specifications for the Project identified thereon as such, the Contractor's Bid or Proposal (as applicable), Supplemental Conditions, if any, Special Conditions, if any, and all Addenda issued prior to execution of the Contract, if any, plus the following (if any):

---

\_\_\_\_\_, all of which are hereby incorporated herein by reference and made a part hereof. Attached hereto as Exhibit "A" is a list of the plans and specifications for the Project. Change Orders issued hereafter, and any other amendments executed by the Owner and the Contractor, shall become and be a part of this Contract. Documents not included or expressly contemplated in this Article 1 do not, and shall not, form any part of this Contract. The Contract, of which this instrument is a part, may sometimes be referred to as the "Contract Documents."

## **ARTICLE 2**

### **REPRESENTATIONS OF THE CONTRACTOR**

2.1 **Generally.** In order to induce the Owner to execute this Contract and recognizing that the Owner is relying thereon, and without limiting or restricting any other representation or warranty set forth elsewhere or implied by law, the Contractor, by executing this Contract, makes the following express representations and warranties to the Owner:

2.1.1 The Contractor is fully qualified to act as the contractor for the Project and has, and shall maintain, any and all licenses, permits or other authorizations necessary to act as the contractor for, and to construct, the Project.

2.1.2 The Contractor has visited, inspected and become familiar with the Project site and the local conditions under which the Project is to be constructed and operated.

2.1.3 The Contractor has received, reviewed and carefully examined all of the documents which make up this Contract, including, but not limited to, the plans and specifications, and believes them in all respects to be complete, accurate, adequate, consistent, coordinated and sufficient for construction.

2.2 **Qualification Information.** The Contractor represents, warrants and affirms that only truthful, complete and correct information has been provided to the Owner with the Contractor's Bid or Proposal (as applicable), and in any other communication from the Contractor regarding the Contractor's qualifications or responsibility to perform the obligations of the Contractor under this Contract (all such

information being referred to herein as "Qualification Information"). The Contractor further represents, warrants and affirms that in the event that any Qualification Information changed in any material way after it was communicated from the Contractor and before this Contract is signed by all parties, the Contractor has immediately notified the Owner, in writing, of such change or changes and Contractor agrees that Owner may take such action thereon as Owner deems appropriate. The Contractor acknowledges and agrees that the Owner has relied, and will continue to rely, on the truthfulness, completeness and correctness of the Qualification Information. The Contractor acknowledges and agrees that all Qualification Information is material and important to the Owner's evaluation of the Contractor's qualifications and responsibility to undertake the Contractor's obligations under this Contract. Contractor acknowledges and agrees that if the Contractor knowingly provided any false, incorrect, misleading or incomplete information to the Owner in any Qualification Information, or failed to advise the Owner in writing of any material change in such information as set forth in this Paragraph, this Contract shall be deemed to be materially breached by Contractor and subject to immediate termination for cause or rescission for cause by the Owner, at the sole option of the Owner. The Owner also shall have and retain any and all other rights and remedies provided by law, in contract or otherwise.

### **ARTICLE 3**

#### **CONTRACT CONSTRUCTION**

3.1 Intent and Interpretation. With respect to the intent and interpretation of this Contract, the Owner and the Contractor agree as follows:

3.1.1 This Contract, together with the Contractor's and Surety's performance and payment bonds for the Project, constitute the entire and exclusive agreements between the parties with reference to the Project, and said Contract supersedes any and all prior discussions, communications, representations, understandings, negotiations, or agreements. This Contract also supersedes any bid documents, but only to the extent that it is inconsistent therewith.

3.1.2 Anything that may be required, implied or inferred by the documents which make up this Contract, or any one or more of them, shall be provided by the Contractor for the Contract Price.

3.1.3 Nothing contained in this Contract shall create, nor be interpreted to create, privity or any other relationship whatsoever between the Owner and any person or entity except the Contractor.

3.1.4 The specification herein of any act, failure, refusal, omission, event, occurrence or condition as constituting a material breach of this Contract shall not imply that any other, non-specified act, failure, refusal, omission, event, occurrence or condition shall be deemed not to constitute a material breach of this Contract.

3.1.5 The Contractor shall have a continuing duty to read, examine, review, compare and contrast each of the documents which make up this Contract, shop drawings, and other submittals. Each of the documents is complementary and shall be interpreted so that what is called for by one shall be as binding as if called for by all. Should the Contractor observe any conflicts, ambiguity, errors or omissions within the documents, he shall, by written notice, bring them to the Owner's and Design Professional's attention for decision and revision as soon as possible after originally observed and before proceeding with the affected Work. In the event of duplication or conflicts between the documents after the Contract has been executed, the most expensive method of work, materials and equipment shall be construed as the requirement, with a credit for all costs saved accruing to the Owner in the event the least expensive method of work is directed. The express or implied approval by the Owner or the Design Professional of any shop drawings or other submittals shall not relieve the Contractor of the continuing duties imposed hereby, nor shall any such approval be evidence of the Contractor's compliance with this Contract. The Owner has requested the Design Professional to only prepare documents for the Project, including the plans and specifications for the Project, which are accurate, adequate, consistent, coordinated and sufficient for construction. However, the Owner makes no representation or warranty of

any nature whatsoever to the Contractor concerning such documents. The Contractor again hereby acknowledges and represents that it has received, reviewed and carefully examined such documents, believes them to be complete, accurate, adequate, consistent, coordinated and sufficient for construction, and that the Contractor has not, does not, and will not rely upon any representations or warranties by the Owner concerning such documents, as no such representations or warranties have been or are hereby made.

3.1.6 Plans are not intended to be scaled or to act as shop drawings.

3.1.7 In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Contract, interpretation will be based on the following priority:

3.1.7.1 First, Addenda (if any), with those of later date having precedence over those of earlier date;

3.1.7.2 second, this Contract;

3.1.7.3 third, Supplemental or Special Conditions (if any);

3.1.7.4 fourth, the Specifications; and,

3.1.7.5 fifth, the Plans, with the following priority:

(a) As between figures given on plans and scaled measurements, the figures shall govern;

(b) As between large scale plans and small scale plans, the large scale plans shall govern.

3.1.8 Whenever an item is specified or shown on the plans by detail or reference, it shall be considered typical for other items which are obviously intended to be the same even though not so designated or specifically named but do serve the same function in the building.

3.1.9 Any material specified by reference to the number, symbol, or title of a specific standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standard, shall comply with the requirements in the latest revision thereof and any amendment or supplement thereto in effect on the date indicated on the specifications, except as limited, or modified in such references. The standards referred to, except as modified in the Contract, shall have full force and effect as though printed in the Contract. The Contractor shall make itself aware of the contents of such standards and shall furnish the field office with one (1) full set of each.

3.1.10 If Owner elects to accept any items proposed by the Contractor as a substitution, the Contractor shall assume full responsibility for the proper performance of any substitution to the criteria set forth in the Contract and assume the costs of any changes in the Work which may be due to such substitution.

3.1.11 When a word, term, or phrase is used in this Contract, it shall be interpreted or construed first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the construction industry, according to its common and customary usage.

3.1.12 The words "include", "includes", or "including", as used in this Contract, shall be deemed to be followed by the phrase, "without limitation".

3.1.13 Wherever the terms “necessary”, “suitable”, “as directed”, “when directed”, “satisfactory”, “good and sufficient”, “approved”, or other general qualifying terms are used on the plans, they are deemed to be followed by the words “in the opinion of the Design Professional”, or “by the Design Professional”, as the case may be.

3.1.14 Unless otherwise stated, the terms “approval”, “approved”, “approved equal”, “or equal”, or “other approved”, are deemed to be followed by the words “in the opinion of the Design Professional”, or “by the Design Professional”, as the case may be.

3.1.15 If the Owner’s design professional for the Project is an engineer rather than an Design Professional, then the term “Design Professional” as used throughout this Contract shall mean “Engineer”.

3.1.16 Unless otherwise stated, the term “day” means “calendar day” and the term “days” means “calendar days”.

3.1.17 “Work” means any and all labor, supervision, work, supplies, fixtures, appliances, furnishings, vehicles, equipment, services, facilities, tools, materials, computers, transportation, storage, power, fuel, heat, light, cooling, utilities, insurance, bonds, items, documents and things required by the Contract Documents to be performed, obtained, furnished, provided, or supplied by Contractor, including without limitation all construction, testing, and permitting required to render the Project, and every component thereof, operational and usable for its intended purposes.

3.2 Ownership. The documents which make up this Contract, and each of them, as well as any other documents furnished by the Owner, shall remain the property of the Owner. The Contractor shall have the right to keep one (1) copy of the Contract upon completion of the Project; provided, however, that in no event shall the Contractor use, or permit to be used, any portion or all of such Contract on other projects without the Owner's prior written authorization.

## **ARTICLE 4**

### **CONTRACTOR'S PERFORMANCE**

4.1 Generally. The Contractor shall perform all of the Work required, implied or reasonably inferable from this Contract including, but not limited to, the following:

4.1.1 Construction of the Project;

4.1.2 The furnishing of required surety bonds and insurance;

4.1.3 The provision, and prompt payment therefor, of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, power, fuel, heat, light, cooling, or other utilities, required for construction and all necessary building permits and other permits, licenses, fees and governmental inspections required for the construction of the Project; and,

4.1.4 The creation and submission to the Owner of detailed and comprehensive as-built drawings depicting all as-built construction. Said as-built drawings shall be submitted to the Owner upon Final Completion of the Project and receipt of same by the Owner shall be a condition precedent to final payment to the Contractor.

## **ARTICLE 5**

### **TIME FOR CONTRACTOR'S PERFORMANCE**

5.1 Time for Performance. The Contractor shall commence the performance of this Contract on the day the Contractor receives a written Notice to Proceed from the Design Professional or Owner, or

such later date as may be set forth therein, and shall diligently continue its performance to and until Final Completion of the Project. The Contractor shall accomplish Substantial Completion of the Project on or before July 27, 2019. The time for achieving Substantial Completion may sometimes be referred to in the Contract Documents as the "Contract Time".

5.2 Liquidated Damages for Delay. The Contractor shall pay the Owner for each and every calendar day of unexcused delay in achieving Substantial Completion beyond the date set forth herein for Substantial Completion the sum indicated at Exhibit "B" attached hereto and by reference made a part hereof. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the Owner. When the Owner reasonably believes that Substantial Completion will be inexcusably delayed, the Owner shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the Owner to be adequate to recover liquidated damages applicable to such delays. If and when the Contractor overcomes the delay in achieving Substantial Completion, or any part thereof, for which the Owner has withheld payment, the Owner shall promptly release to the Contractor those funds withheld, but no longer applicable, as liquidated damages.

5.3 Substantial Completion. The term "Substantial Completion", as used herein, shall mean that point at which, as certified in writing by the Design Professional, the Project is at a level of completion in strict compliance with this Contract such that the Owner can enjoy beneficial use or occupancy and can use or operate it in all respects, for its intended purpose. Partial use or occupancy of the Project shall not result in the Project being deemed substantially complete, and such partial use or occupancy shall not be evidence of Substantial Completion.

5.4 Time Is Of The Essence. All limitations of time set forth herein are material and are of the essence of this Contract.

## **ARTICLE 6**

### **FIXED PRICE AND CONTRACT PAYMENTS**

6.1 Contract Price. The Owner shall pay, and the Contractor shall accept, as full and complete payment for the Contractor's timely performance of its obligations hereunder the fixed price of \_\_\_\_\_ Dollars (\$\_\_\_\_\_). The price set forth in this Paragraph 6.1 shall constitute the Contract Price, which shall not be modified except by Change Order as provided in this Contract. The Contract Price includes the following Alternate(s), if any: \_\_\_\_\_.

6.2 Schedule of Values. Within ten (10) calendar days of the effective date hereof, the Contractor shall prepare and present to the Owner and the Design Professional the Contractor's Schedule of Values apportioning the Contract Price among the different elements of the Project for purposes of periodic and final payment. The Contractor's Schedule of Values shall be presented in whatever format, with such detail, and backed up with whatever supporting information the Design Professional or the Owner requests. The Contractor shall not front-end load its Schedule of Values by imbalancing it or by increasing any element thereof in excess of the actual cost, and any violation of this provision by the Contractor shall constitute a material breach of this Contract. The Contractor's Schedule of Values will be utilized for the Contractor's Payment Requests but shall only be so utilized after it has been acknowledged in writing by the Design Professional and the Owner.

6.3 Payment Procedures. The Owner shall pay the Contract Price to the Contractor in accordance with the procedures set forth in this Article 6. On, or no more than 5 days, before the 1st day of each month after commencement of performance, but no more frequently than once monthly, the Contractor may submit a Payment Request for the period ending the last day of the previous month. Said Payment Request shall be in such format and include whatever supporting information as may be required by the Design Professional, the Owner, or both. Therein, the Contractor may request payment for ninety percent (90%) of that part of the Contract Price allocable to Contract requirements properly provided, labor, materials and equipment properly incorporated in the Project, and materials or equipment necessary for the Project and properly stored at the Project site (or elsewhere if offsite storage is approved in writing by the Owner), less the total amount of previous payments received from the Owner. Any payment on account of stored materials or equipment will be subject to the Contractor providing written proof that the Owner has title to such materials or equipment and that they are fully insured against loss or damage. Moreover, any sums approved for stored materials shall be at actual cost and shall not include markup by subcontractor or Contractor. Actual cost means costs charged by the manufacturer or the distributor for the manufacturer and the Payment Request shall include copies of invoices from the manufacturer or the distributor.

When fifty percent (50%) of the Contract Price, as it may be adjusted, is due and the manner of completion of the Work and its progress are reasonably satisfactory to the Design Professional, the Owner shall withhold no more retainage. If, after discontinuing the retention, the Design Professional determines that the Work is unsatisfactory or has fallen behind schedule, retention shall be resumed at the previous level.

Each Payment Request shall be signed by the Contractor and shall constitute the Contractor's representation that the quantity of Work has reached the level for which payment is requested, that the Work has been properly installed or performed in strict compliance with this Contract, and that the Contractor knows of no reason why payment should not be made as requested.

Thereafter, the Design Professional shall review the Payment Request and also shall review the Work at the Project site or elsewhere to determine whether the quantity and quality of the Work is as represented in the Payment Request and is as required by this Contract. The Design Professional shall approve in writing the amount which, in the opinion of the Design Professional, is properly owing to the Contractor. The Owner, after the approval of the Georgia Department of Education if so required, shall make payment to the Contractor within thirty (30) days following the Design Professional's written approval of each Payment Request. The amount of each such payment shall be the amount approved for payment by the Design Professional less such amounts, if any, otherwise owing by the Contractor to the Owner or which the Owner shall have the right to withhold as authorized by this Contract. The Design Professional's approval of the Contractor's Payment Requests shall not preclude the Owner from the exercise of any of its rights as set forth in Paragraph 6.6 hereinbelow. The submission by the Contractor of a Payment Request also constitutes an affirmative representation and warranty that all Work for which the Owner has previously paid is free and clear of any lien, claim, or other encumbrance of any person or entity whatsoever. As a condition precedent to payment, the Contractor shall, if required by the Owner, also furnish to the Owner properly executed waivers of claim or lien, in a form acceptable to the Owner, from Contractor and from all subcontractors, materialmen, suppliers or others having claim or lien rights, wherein Contractor and said subcontractors, materialmen, suppliers or others having claim or lien rights shall acknowledge receipt of all sums due pursuant to all prior Payment Requests and waive and relinquish any liens, lien rights or other claims relating to the Project site. Furthermore, the Contractor warrants and represents that, upon payment of the Payment Request submitted, title to all Work included in such payment shall be vested in the Owner.

6.4 Payments by Contractor. When payment is received from the Owner, the Contractor shall immediately pay all subcontractors, materialmen, laborers and suppliers the amounts they are due for the Work covered by such payment. In the event the Owner becomes informed that the Contractor has not paid a subcontractor, materialman, laborer, or supplier as provided herein, the Owner shall have the right, but not the duty, to issue future checks and payment to the Contractor of amounts otherwise due hereunder naming the Contractor and any such subcontractor, materialman, laborer, or supplier as joint

payees. Such joint check procedure, if employed by the Owner, shall create no rights in favor of any person or entity beyond the right of the named payees to payment of the check and shall not be deemed to commit the Owner to repeat the procedure in the future.

6.5 No Acceptance of Work. Neither payment to the Contractor, utilization of the Project for any purpose by the Owner, nor any other act or omission by the Owner shall be interpreted or construed as an acceptance of any Work of the Contractor not strictly in compliance with this Contract.

6.6 Refusal to Make Payment. The Owner shall have the right to refuse to make payment and, if necessary, may demand the return of a portion or all of the amount previously paid to the Contractor due to any one, or combination of, the following:

6.6.1 The quality of a portion, or all, of the Contractor's Work not being in accordance with the requirements of this Contract;

6.6.2 The quantity of the Contractor's Work not being as represented in the Contractor's Payment Request, or otherwise;

6.6.3 The Contractor's rate of progress being such that, in the opinion of the Owner or the Design Professional, or both, Substantial Completion or Final Completion, or both, may be inexcusably delayed;

6.6.4 Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price;

6.6.5 The Contractor's failure to use Contract funds, previously paid the Contractor by the Owner, to pay Contractor's Project-related obligations including, but not limited to, subcontractors, laborers and material and equipment suppliers;

6.6.6 Claims made, or likely to be made, against the Owner or its property;

6.6.7 Loss or damage caused by the Contractor;

6.6.8 The Contractor's failure or refusal to perform any of its obligations relating to safety, including without limitation the safety related obligations set forth in the Specifications Division 1 – General Requirements; or,

6.6.9 The Contractor's failure or refusal to perform any of its obligations to the Owner.

In the event that the Owner makes written demand upon the Contractor for amounts previously paid by the Owner as contemplated in this Paragraph 6.6 the Contractor shall promptly comply with such demand.

6.7 Untimely Payments. If within thirty (30) days from the date payment to the Contractor is due, the Owner, without cause or basis hereunder, fails to pay the Contractor any amounts then due and payable to the Contractor, the Contractor shall have the right to cease Work until receipt of proper payment after first providing ten (10) days written notice of its intent to cease Work to the Owner.

6.7.1 Payments due from the Owner to the Contractor under the terms of this Contract which remain unpaid for thirty (30) days after the date when due will thereafter accrue interest at the rate of six percent (6%) per annum until payment of such amount as is due has been made in full provided that notice has been given as set forth in O.C.G.A. § 13-11-7. Acceptance of progress payments or final payment shall release all claims for interest on said payments. To the fullest extent allowed by law, the Contract Documents shall supersede all provisions of the Georgia Prompt Pay Act, O.C.G.A. § 13-11-1, *et seq.*

6.8 Inspection and Payment at Substantial Completion. When Substantial Completion has been achieved, the Contractor shall notify the Owner and the Design Professional in writing and shall furnish to the Design Professional a listing of those matters yet to be finished. The Design Professional will thereupon conduct an inspection to confirm that the Work is in fact substantially complete. Upon its confirmation that the Contractor's Work is substantially complete, the Design Professional will so certify to the Owner and Contractor in writing and will therein set forth the date of Substantial Completion. If the Design Professional, through its inspection, fails to find that the Contractor's Work is substantially complete, and is required to repeat all, or any portion, of its Substantial Completion inspection, the Contractor shall bear the cost of such repeat inspection(s) which cost may be deducted by the Owner from any payment then or thereafter due to the Contractor. Guarantees and equipment warranties required by this Contract shall commence on the date of Substantial Completion. Subject to the condition precedent set forth in the immediately succeeding sentence, upon Substantial Completion, the Owner shall pay the Contractor an amount sufficient to increase total payments to the Contractor to one hundred percent (100%) of the Contract Price less two hundred percent (200%) of the reasonable costs as determined by the Owner for completing all incomplete Work, correcting and bringing into conformance all defective and nonconforming Work, and handling any outstanding or threatened claims. Prior to being entitled to receive the payment described in the immediately preceding sentence, and as a condition precedent thereto, Contractor shall furnish Owner, in form and manner acceptable to Owner, consent(s) of surety to release retainage, together with an original current power of attorney with current certificate attached thereto.

6.9 Final Completion. "Final Completion" means the completion of all Work required by, and in strict compliance with, the Contract, including start-up, testing, obtaining regulatory approvals from all applicable authorities, and all preparations necessary to operate the Project.

6.10 Final Inspection; Final Approval for Payment. When the Project is finally complete and the Contractor is ready for a final inspection, it shall notify the Owner and the Design Professional thereof in writing. Thereupon, the Design Professional will perform a final inspection of the Project. If the Design Professional confirms that the Project is complete in full accordance with this Contract and that the Contractor has performed all of its obligations to the Owner hereunder, the Design Professional will furnish a final Approval for Payment to the Owner certifying to the Owner that the Project is complete and the Contractor is entitled to the remainder of the unpaid Contract Price, less any amount withheld pursuant to this Contract. If the Design Professional is unable to issue its final Approval for Payment and is required to repeat its final inspection of the Project, the Contractor shall bear the cost of such repeat inspection(s), which costs may be deducted by the Owner from the Contractor's final payment.

6.11 Time for Final Completion; Liquidated Damages for Delay in Final Completion. If the Contractor fails to achieve Final Completion within thirty (30) days after achieving Substantial Completion, the Contractor shall pay the Owner \$250.00 per day for each and every calendar day of unexcused delay in achieving Final Completion beyond thirty (30) days after achieving Substantial Completion. Any sums due and payable hereunder by the Contractor shall be payable, not as a penalty, but as liquidated damages representing an estimate of Final Completion delay damages likely to be sustained by the Owner. When the Owner reasonably believes that Final Completion will be inexcusably delayed, the Owner shall be entitled, but not required, to withhold from any amounts otherwise due the Contractor an amount then believed by the Owner to be adequate to recover liquidated damages applicable to such Final Completion delay. If and when the Contractor overcomes the delay in achieving Final Completion, or any part thereof, for which the Owner has withheld payment, the Owner shall promptly release to the Contractor those funds withheld, if any, that exceed the Owner's liquidated damages attributable to such unexcused delay to Final Completion. The Owner's right to recover liquidated damages for the Contractor's unexcused delay in timely achieving Final Completion is in addition to the Owner's right to recover liquidated damages for the Contractor's unexcused delay in timely achieving Substantial Completion.



6.12 Conditions Precedent to Final Payment. Prior to being entitled to receive final payment, and as a condition precedent thereto, the Contractor shall furnish the Owner, in the form and manner required by Owner, if any, with a copy to the Design Professional, all of the following:

6.12.1 An affidavit that all of the Contractor's obligations to subcontractors, laborers, equipment or material suppliers, or other third parties in connection with the Project, have been paid or otherwise satisfied;

6.12.2 Separate releases of claims and liens and claim and lien waivers from Contractor and each subcontractor, lower tier subcontractor, laborer, supplier or other person or entity who has, or might have, a claim against the Owner or the Owner's property and an affidavit that all such releases and waivers have been provided;

6.12.3 Consent(s) of Surety to final payment, together with an original current power of attorney with current certificate attached thereto; and,

6.12.4 All product warranties, operating manuals, instruction manuals and other record documents, drawings and things customarily required of the Contractor, or expressly required herein, as a part of or prior to Project closeout.

6.13 Final Payment. The Owner shall, after the approval of the Georgia Department of Education if so required, and subject to its rights set forth in Paragraph 6.6 above, make final payment of all sums due the Contractor within thirty (30) days of the Design Professional's execution of a final Approval for Payment. The making of final payment by the Owner shall constitute a full and final waiver of any and all claims by the Contractor except for claims (a) previously and timely made in writing by the Contractor pursuant to the requirements of Article 12 and (b) listed and identified on the Contractor's final Payment Request.

## **ARTICLE 7**

### **INFORMATION AND MATERIAL SUPPLIED BY THE OWNER**

7.1 Generally. The Owner shall furnish to the Contractor, prior to the execution of this Contract, any and all written and tangible material in its possession concerning conditions below ground at the site of the Project. Such written and tangible material is furnished to the Contractor only in order to make complete disclosure of such material as being in the possession of the Owner and for no other purpose. By furnishing such material, the Owner does not represent, warrant, or guarantee its accuracy either in whole, in part, implicitly or explicitly, or at all, and shall have no liability therefor. The Owner shall also furnish, if appropriate, the legal description of the Project site, and any required survey.

7.2 Easements. The Owner shall obtain all required easements and the like, but not the building permit and other permits or fees required of the Contractor by this Contract, or permits and fees customarily the responsibility of the Contractor.

7.3 Contract Copies. The Owner will provide the Contractor three (3) copies of the complete Contract Documents. The Contractor will be charged, and shall pay the Owner, actual cost of reproduction for each additional copy of the Contract Documents requested by the Contractor.

## **ARTICLE 8**

### **CEASE AND DESIST ORDER**

In the event the Contractor fails or refuses to perform the Work as required herein, the Owner may instruct the Contractor to cease and desist from performing further Work in whole or in part. Upon receipt of such instruction, the Contractor shall immediately cease and desist as instructed by the Owner and shall not proceed further until the cause for the Owner's instructions has been corrected, no longer

exists, or the Owner instructs that the Work may resume. In the event the Owner issues such instructions to cease and desist, and in the further event that the Contractor fails and refuses within seven (7) days of receipt of same to provide adequate assurance to the Owner that the cause of such instructions will be eliminated or corrected, then the Owner shall have the right, but not the obligation, to carry out the Work with its own forces, or with the forces of another contractor, and the Contractor shall be fully responsible and liable for the costs of performing such Work by the Owner. In such case, an appropriate Change Order shall be issued deducting from the payment then or thereafter due the Contractor the cost of correcting such deficiencies, including the cost of the Design Professional's additional services made necessary by such default, neglect or failure. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the Owner. The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the Owner may have against the Contractor.

**ARTICLE 9**

**DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CONTRACTOR**

9.1 Generally. In addition to any and all other duties, obligations and responsibilities of the Contractor set forth in this Contract, the Contractor shall have and perform the following duties, obligations and responsibilities to the Owner:

9.1.1 The Contractor is again reminded of its continuing duties set forth in Subparagraph 3.1.5 which are by reference hereby incorporated in this Subparagraph 9.1.1. The Contractor shall not perform Work without adequate plans and specifications, or, as appropriate, approved shop drawings, or other submittals. If the Contractor performs Work knowing or believing it involves an error, inconsistency or omission in the Contract without first providing written notice to the Design Professional and Owner, the Contractor shall be responsible for such Work and pay the cost of correcting same.

9.1.2 All Work shall strictly conform to the requirements of this Contract.

9.1.3 The Work shall be strictly supervised, the Contractor bearing full responsibility for any and all acts or omissions of those engaged in the Work on behalf of the Contractor.

9.1.4 The Contractor shall obtain and pay for all required permits, fees and licenses customarily obtained by the Contractor. The Contractor shall comply with all laws and legal requirements applicable to the Work.

9.1.5 The Contractor shall employ and maintain at the Project site only competent supervisory personnel. The superintendent must be satisfactory to the Owner. The superintendent shall represent the Contractor and communications given to the superintendent shall be as binding as if given to the Contractor. Key supervisory personnel assigned by the Contractor to this Project are as follows:

NAME	FUNCTION
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

So long as the individuals named above remain actively employed or retained by the Contractor, they shall perform the functions indicated next to their names unless the Owner agrees to a change to any of the above key supervisory personnel in writing. The Contractor shall not change or replace any of the above-listed key personnel without the Owner's prior written consent. If the Contractor changes or replaces any of the above-listed key personnel without the Owner's prior written consent, the Contractor shall pay the Owner the sum of \$450.00 per day for each day that the Contractor is in violation of the preceding sentence. In the event one or more individuals not listed above subsequently assumes one or more of those functions listed above with the Owner's prior written consent, the Contractor shall be bound by the provisions of this Subparagraph 9.1.5 as though such individuals had been listed above.

9.1.6 The Contractor shall keep an updated copy of this Contract at the site. Additionally, the Contractor shall keep a copy of approved shop drawings and other submittals. All of these items shall be available to the Owner and the Design Professional at all regular business hours. Upon Final Completion of the Work, all of these items shall be finally updated and provided to the Owner and shall become the property of the Owner.

9.1.7 Shop drawings and other submittals from the Contractor do not constitute a part of the Contract. The Contractor shall not do any Work requiring shop drawings or other submittals unless such shall have been approved in writing by the Design Professional. All Work requiring approved shop drawings or other submittals shall be done in strict compliance with such approved documents. However, approval by the Design Professional or the Owner shall not be evidence that Work installed pursuant thereto conforms with the requirements of this Contract. The Owner and the Design Professional shall have no duty to review partial submittals or incomplete submittals. The Contractor shall maintain a submittal log which shall include, at a minimum, the date of each submittal, the date of any resubmittal, the date of any approval or rejection, and the reason for any approval or rejection. The Contractor shall carefully review, inspect and examine any and all submittals before submission of same to the Owner or the Design Professional.

9.1.8 The Contractor shall maintain the Project site in a reasonably clean condition during performance of the Work. Upon Final Completion, the Contractor shall thoroughly clean the Project site of all debris, trash and excess materials or equipment.

9.1.9 At all times relevant to this Contract, the Contractor shall permit the Owner and the Design Professional to enter upon the Project site and to review or inspect the Work without formality or other procedure.

## 9.2 Warranty.

9.2.1 The Contractor hereby warrants that all labor furnished under this Contract shall be competent to perform the tasks undertaken, that the product of such labor shall yield only first-class results, that all materials and equipment provided shall be new and of high quality, that the completed Work will be complete, of high quality, without defects, and that all Work strictly complies with the requirements of this Contract. Any Work not strictly complying with the requirements of this Subparagraph shall constitute a breach of the Contractor's warranty.

9.2.2 The Contractor shall provide any and all specific or special warranties or guarantees of materials, equipment, items, systems and other things as required elsewhere in this Contract.

9.3 Schedule for Completing Work. The Contractor, within fifteen (15) days of commencing the Work, shall provide to the Owner and the Design Professional, and comply with, the Contractor's Schedule of Construction for timely completing the Work. Such schedule shall be a detailed critical path (CPM) schedule in a form acceptable to the Owner. The Contractor's Schedule of Construction shall be updated no less frequently than monthly (unless the parties otherwise agree in writing) and shall be updated to reflect conditions encountered from time to time and shall apply to the total Project. Each such revision shall be furnished to the Owner and the Design Professional. In addition to, and not in limitation of, any other requirements of this Contract, the Contractor shall comply with the requirements of Exhibit "C," Minimum Requirements for Contractor's Schedule of Construction, attached hereto and incorporated herein by reference. Strict compliance with the requirements of this Paragraph 9.3 shall be a condition precedent to payment to the Contractor, and failure by the Contractor to strictly comply with said requirements shall constitute a material breach of this Contract.

9.3.1 In the event the Contractor inexcusably fails to comply with the time limits established in the Contractor's Schedule of Construction with respect to any task on the critical path of the Project, then, in addition to any other rights and remedies of the Owner under the Contract, the Contractor shall, within seven days after receipt of written demand of the Owner, commence working not less than a twelve-hour day and not less than six days a week until such time as Contractor shall have overcome the delinquency and brought the amount of critical path Work in place into compliance with the Contractor's Schedule of Construction, all at no additional cost to the Owner. Nothing herein shall relieve the Contractor from liability for failure to timely progress the Work or any other breach of the Contract Documents.

9.4 Storm Water Discharge Permits. Unless otherwise directed in writing by the Owner, the provisions of this Paragraph 9.4 shall apply and the Contractor shall have and perform the duties, obligations and responsibilities of the Contractor set forth herein. The Owner has contracted with the Design Professional to: (i) prepare the Erosion, Sedimentation and Pollution Control Plan in accordance with the State of Georgia Department of Natural Resources Environmental Protection Division storm water discharge permit (the "DNREPDSWD Permit"); (ii) perform the initial inspection of the installation of the control measures set forth in the Erosion, Sedimentation and Pollution Control Plan in accordance with the DNREPDSWD Permit; (iii) perform the weekly inspections and inspections after rain (or other precipitation) as are required by the DNREPDSWD Permit; and (iv) perform the duties, obligations and responsibilities of the "design professional" under the DNREPDSWD Permit. As used in the immediately preceding sentence, the term "design professional" shall have the meaning ascribed to it in the DNREPDSWD Permit. Excepting only the foregoing items (i) through (iv) performed by the Design Professional, the Contractor shall provide, satisfy or otherwise comply with all applicable requirements and conditions of the DNREPDSWD Permit, including, without limitation, all notices, fees, plan implementation, monitoring, sampling, inspections, reports, record keeping, submittals and any other requirements and conditions of the DNREPDSWD Permit. The Contractor's duties and obligations shall not be relieved by any duties of the Design Professional. The Contractor shall timely notify the Design Professional of any rain or other precipitation requiring the inspections referred to in item (iii) above so as to facilitate the Design Professional's timely performance of such inspections. The Contractor shall timely notify the Owner and Design Professional of any failure by the Design Professional to timely perform the inspections referred to in item (iii) above.

## **ARTICLE 10**

### **INDEMNITY**

The Contractor shall indemnify and hold the Owner harmless from any and all claims, liability, damages, loss, cost and expense of every type whatsoever including, without limitation, attorneys' fees and expenses, in connection with the Contractor's performance of this Contract, provided that such claim, liability, damage, loss, cost or expense is due to sickness, bodily injury, disease or death, or to loss or destruction of tangible property (other than the Work itself), including loss of use resulting therefrom, to the extent caused by the Contractor, or anyone for whose acts the Contractor is or may be responsible or liable, regardless of whether such liability, claim, damage, loss, cost or expense is caused in part by the

Owner. The Contractor shall not indemnify or hold harmless the Owner against claims for damages, losses, or expenses, including attorneys' fees, arising out of sickness, bodily injury, disease or death, or to loss or destruction of tangible property caused by or resulting from the sole negligence of the Owner, or its officers, agents or employees; provided, however, the preceding limitation concerning the sole negligence of the Owner or its officers, agents or employees shall not limit or affect any obligation of the Contractor under workers' compensation or coverage or insurance specifically relating to workers' compensation, nor any requirement that one party to this Contract purchase a project specific insurance policy, including owner's or contractor's protective insurance, builder's risk insurance, installation coverage, project management protective liability insurance, an owner controlled insurance policy, or a contractor controlled insurance policy.

## **ARTICLE 11**

### **THE PROJECT DESIGN PROFESSIONAL**

11.1 Design Professional. The Design Professional for this Project is Carter Engineering Group, LLC (the "Design Professional"). In the event the Owner should find it necessary or convenient to replace the Design Professional, the Owner shall retain a replacement Design Professional and the role of the replacement Design Professional shall be the same as the role of the Design Professional. Unless otherwise directed by the Owner in writing, the Design Professional will perform those duties and discharge those responsibilities allocated to the Design Professional in this Contract. The duties, obligations and responsibilities of the Design Professional shall include, but are not limited to, the following:

11.1.1 Unless otherwise directed by the Owner in writing, the Design Professional shall act as the Owner's agent from the effective date of this Contract until final payment has been made, to the extent expressly set forth in this Contract;

11.1.2 Unless otherwise directed by the Owner in writing, the Owner and the Contractor shall communicate with each other in the first instance through the Design Professional;

11.1.3 When requested by the Contractor in writing, the Design Professional shall render interpretations necessary for the proper execution or progress of the Work;

11.1.4 The Design Professional shall draft proposed Change Orders;

11.1.5 The Design Professional shall approve, or respond otherwise as necessary concerning shop drawings or other submittals received from the Contractor;

11.1.6 The Design Professional shall be authorized to refuse to accept Work which is defective or otherwise fails to comply with the requirements of this Contract. If the Design Professional deems it appropriate, the Design Professional shall be authorized to call for extra inspection or testing of the Work for compliance with requirements of this Contract;

11.1.7 The Design Professional shall review the Contractor's Payment Requests and, after consultation with the Owner, shall approve in writing those amounts which, in the opinion of the Design Professional, are properly owing to the Contractor as provided in this Contract;

11.1.8 The Design Professional shall, upon written request from the Contractor, perform those inspections required in Article 6 hereinabove;

11.1.9 The Design Professional shall be authorized to require the Contractor to make changes which do not involve a change in the Contract Price or in the time for the Contractor's performance of this Contract consistent with the intent of this Contract; and,

11.1.10 The duties, obligations and responsibilities of the Contractor under this Contract

shall in no manner whatsoever be changed, altered, discharged, released, or satisfied by any duty, obligation or responsibility of the Design Professional. The Contractor is not a third-party beneficiary of any contract by and between the Owner and the Design Professional. It is expressly acknowledged and agreed that the duties of the Contractor to the Owner are independent of, and are not diminished by, any duties of the Design Professional to the Owner.

## **ARTICLE 12**

### **CLAIMS BY THE CONTRACTOR**

12.1 **Generally.** Claims by the Contractor against the Owner are subject to the following terms and conditions, and strict compliance with this Article 12 shall be a condition precedent to any liability of Owner therefor.

12.1.1 All Contractor claims against the Owner, including without limitation claims in respect of changes in the Contract Price or Contract Time, shall be initiated by a written notice of claim submitted to the Owner and the Design Professional. Such written notice of claim shall be received by the Owner and the Design Professional no later than seven (7) calendar days after the event, or the first appearance of the circumstances, causing the claim, and same shall set forth in detail all known facts and circumstances supporting the claim, including the amount claimed. Contractor agrees and acknowledges that its failure to provide written notice of a claim as set forth herein shall constitute a waiver of any claim for additional compensation or time extension related thereto.

12.1.2 Upon discovering an event or condition forming the basis of a claim, including a claim for an increase in the Contract Price or an extension of the Contract Time, Contractor shall, until the claim is resolved, commence to maintain separate records evidencing all costs and delays incurred in connection with the event or condition forming the basis for the claim.

12.1.3 No later than ten (10) days after the date of the written notice of claim, Contractor shall submit a formal written claim which shall include at least the following information: (1) a concise statement of the occurrence(s) supporting the claim; (2) identification of the facts giving rise to the claim; (3) the date Contractor discovered the occurrence(s); (4) a detailed schedule of values identifying all costs resulting from the claim; (5) documentation supporting the schedule of values; (6) identification of any impact the claim has on the critical path schedule; and (7) all correspondence, internal memoranda, progress notes, and other documentation relating to the events which form the basis of the claim. In the event the claim relates to a Change Order, Contractor's formal written claim shall also include Contractor's good faith estimate of the change in the Contract Price, the Contract Time, or both, determined in accordance with Article 14 in respect of the Change Order. Other information or documents shall be submitted to Owner and Design Professional within ten (10) days after written request by Owner or Design Professional. The failure to provide a claim as set forth herein, or the failure to provide such other documents or information requested by Owner or Design Professional within ten (10) days after the written request, shall constitute a waiver of any claim for additional compensation or time extension related thereto.

12.1.4 The Contractor shall provide, and continue to provide, to Owner and Design Professional all such documentation, including cost and time records, as and when Owner or Design Professional may request so that Owner and Design Professional may evaluate Contractor's claim.

12.1.5 The Contractor and the Owner shall continue their performance hereunder regardless of the existence of any claims submitted by the Contractor.

12.1.6 In the event the Contractor discovers previously concealed and unknown site conditions which are materially at variance from those typically and ordinarily encountered in the general geographical location of the Project, the Contract Price shall be modified, either upward or downward, upon the written claim made by either party within seven (7) calendar days after the first appearance to such party of the circumstances. As a condition precedent to the Owner having any liability to the

Contractor due to concealed and unknown conditions, the Contractor must give the Owner and the Design Professional written notice of, and an opportunity to observe, such condition prior to disturbing it. The failure by the Contractor to give the written notice and make the claim as provided by this Subparagraph 12.1.6 shall constitute a waiver by the Contractor of any rights arising out of or relating to such concealed and unknown condition.

12.1.7 In the event the Contractor seeks to make a claim, including a claim for an increase in the Contract Price, as a condition precedent to any liability of the Owner therefor, the Contractor shall strictly comply with the requirements of Subparagraph 12.1.1, above, and such notice shall be given by the Contractor before proceeding to execute any additional or changed Work. Failure of the condition precedent to occur shall constitute a waiver by the Contractor of any claim for money or additional compensation.

12.1.8 In connection with any claim by the Contractor against the Owner for money or compensation in excess of the Contract Price, any liability of the Owner for the Contractor's cost shall be strictly limited to direct cost reasonably incurred by the Contractor and shall in no event include indirect cost or consequential damages of the Contractor. The Owner shall have no liability to the Contractor for, and the Contractor hereby waives all rights to, the following claims: loss of financing; loss or impairment of bonding; loss of business; loss of profit and overhead on Work not yet performed; loss of future or anticipated profits from other work; or, home office overhead. Notwithstanding the foregoing first two sentences of this Subparagraph 12.1.8, the Owner's limitation of liability shall not apply to the Owner's liability to the Contractor, if any, for claims arising out of bodily injury to persons, death or damage to property caused by or resulting from the sole negligence of the Owner, or its officers, agents or employees. The Owner shall not be liable to the Contractor for Claims of subcontractors for extra Work or changes in the Work unless and until liability of the Contractor has been established therefor in a court of competent jurisdiction.

12.2 Delays Generally. In the event the Contractor is delayed in performing any task which at the time of the delay is then critical, or which during the delay becomes critical, as the sole result of: (i) any act or omission by the Owner or someone acting in the Owner's behalf, (ii) any Owner-authorized Change Order, (iii) acts of God, (iv) unusually severe weather, (v) any order of a governmental authority having jurisdiction over the Project which order is issued through no fault of the Contractor, (vi) acts of war, or (vii) acts of terrorism, then the date for achieving Substantial Completion, or, as applicable, Final Completion, shall be appropriately adjusted by the Owner upon the written notice and claim of the Contractor to the Owner and the Design Professional for such reasonable time as Owner may determine. A task is critical within the meaning of this Paragraph 12.2 if, and only if, said task is on the critical path of the Project schedule so that a delay in performing such task will delay the ultimate completion of the Project. Any claim for an extension of time by the Contractor shall strictly comply with the requirements of Subparagraph 12.1.1 above and such notice shall be given by Contractor before proceeding to execute any additional or changed Work. If the Contractor fails to give such notice, any claim for an extension of time shall be waived.

12.2.1 The Contractor agrees that the Work shall be prosecuted regularly, diligently, and without interruption at such rate of progress as will insure full completion thereof within the time required by the Contract Documents. It is expressly understood and agreed that the Contractor has considered all contingencies and factors affecting its ability to perform all the Work within this time, including without limitation, delays caused by any fact or condition other than those expressly set forth in clauses (i) through (vii) of the foregoing Paragraph 12.2, and after consideration of all such contingencies and factors, Contractor has made an allowance for such contingencies and factors before agreeing to the time for completion specified in the Contract Documents, and does further agree that all things considered, such time for completion is a reasonable time for completion of all Work to be performed hereunder, without the need for any extension of time for any reasons other than those expressly set forth in clauses (i) through (vii) of the foregoing Paragraph 12.2.

12.2.2 The date for achieving Substantial Completion or, as applicable, Final Completion will not be extended due to unusually severe weather (excepting unusually severe weather which

precludes access to the Project site) after the Project is enclosed or due to normal severe weather. For the purpose of this Paragraph, the term "enclosed" is defined to mean when the building is sufficiently sealed, either temporarily or permanently, to permit the structure to be heated and the roof dried in to permit finishing trades to work. There shall be no extension of the time for completion due to any lost days that are not weekday working days (based on a Monday through Friday work week). No change in the Contract Price shall be due because of weather.

12.3 Mediation. Any claim, dispute or other matter in question arising out of or related to this Contract shall be subject to mediation as a condition precedent to the institution of legal or equitable proceedings by either party. If such matter relates to or is the subject of a lien arising out of the Contractor's services, the Contractor may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation. The Owner and Contractor shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Request for mediation shall be filed in writing with the other party to this Contract and with the American Arbitration Association. The request may be made concurrently with the filing of a civil action but, in such event, mediation shall proceed in advance of legal or equitable proceedings, which may be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or a court order. The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Subject to the express approval of the Bibb County Board of Education, agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

### **ARTICLE 13**

#### **SUBCONTRACTORS**

Upon execution of this Contract, the Contractor shall identify to the Owner and the Design Professional, in writing, those parties intended as subcontractors on the Project. The Owner shall, in writing, state any objections the Owner may have to one or more of such subcontractors. The Contractor shall not enter into a subcontract with an intended subcontractor with whom the Owner objects. All subcontracts shall afford the Contractor rights against the subcontractor which correspond to those rights afforded to the Owner against the Contractor herein, including those rights of Contract termination as set forth hereinbelow. The Design Professional will not enter into disputes between the Contractor and any subcontractor or supplier, nor shall the Design Professional be called upon to settle same. Neither shall the Design Professional be called upon to enter into or to settle disputes between any subcontractors or suppliers.

### **ARTICLE 14**

#### **CHANGE ORDERS**

14.1 Generally. One or more changes to the Work within the general scope of this Contract, or the time for the Contractor's performance, or any combination thereof, may be ordered by Change Order. The Contractor shall proceed with any such changes, and same shall be accomplished in strict accordance with the following terms and conditions:

14.1.1 "Change Order" shall mean a written order to the Contractor executed by the Owner and the Design Professional after execution of this Contract, and approved by the Georgia Department of Education if so required, directing a change in the Work, the time for the Contractor's performance, or any combination thereof.

14.1.2 A change in the Work (excepting only changes required by the Design Professional pursuant to Paragraph 11.1.9 of this Contract) or the time for the Contractor's performance may be made only by Change Order. The Owner will not be responsible for any change in the Work



involving extra costs unless approval in writing is furnished by the Owner before such Work is begun. Note that the Design Professional does not have authority to order changes in the Work that involve changes in cost or time.

14.1.3 Any change in the Contract Price resulting from a Change Order shall be determined as follows:

- (a) Any increase in the Contract Price must be requested by Contractor pursuant to the terms and conditions of Article 12 of this Contract, and any such request for an increase in the Contract Price shall be subject to Paragraph 14.1.5 of this Contract. The failure of Contractor to provide notice in writing to Owner and Design Professional in accordance with Article 12 of this Contract of any request for an increase in the Contract Price shall constitute a waiver by Contractor of any entitlement to an increase in the Contract Price;
- (b) The change in the Contract Price, if any, shall be established on the basis of, and shall be limited to, the reasonable actual costs incurred or savings achieved, as defined below, resulting from the change, plus a component for direct jobsite overhead and profit, as set forth below, but shall not include home office overhead or other indirect costs or components. If, and to the extent, the change involves Work of one or more subcontractors, the overhead and profit component for subcontractors shall be five percent (5%) and the overhead and profit component for the Contractor shall be five percent (5%) of the amount allocable for subcontracted Work; provided, however, that the foregoing five percent (5%) overhead and profit component for subcontractors is intended to cover all subcontractors of any tier, and there shall be no additional overhead and profit component for subcontractors below first-tier subcontractors of the Contractor. If the change involves only Work of the Contractor, the component for overhead and profit shall be ten percent (10%). Any such costs or savings shall be documented in the format, and with such content and detail, as the Owner or the Design Professional require. As used in this Subparagraph 14.1.3(b), reasonable actual costs incurred or savings achieved means, and shall be limited to, the following:
  - (i) Actual, reasonable costs of materials and the use of heavy construction equipment;
  - (ii) Actual, reasonable costs of supervision and labor, plus, solely as applicable thereto, social security, unemployment insurance, fringe benefits required by agreement or custom, and worker's compensation insurance;
  - (iii) Actual, reasonable rental costs of machinery and equipment (exclusive of small tools or hand tools) whether rented from Contractor or others; and
  - (iv) Actual, reasonable costs of premiums for bonds, permit fees, and sales, use or other taxes related to the Work.

All costs not set forth in the immediately preceding subsections (i) through (iv) shall be considered as overhead, including without limitation insurance other than that set forth above, travel (including transportation, meals and lodging), administrative staff, watchmen, hand tools, small power tools, incidental job burdens, engineering, drafting, and office expense (including costs of preparing Change Order proposal estimates). In no event shall any costs or savings associated with Contractor's home office overhead or other indirect costs be considered to be actual costs incurred or savings achieved resulting from a

Change Order and Contractor's compensation for additional Work shall be limited strictly as set forth herein.

- (c) The Contractor shall continue to diligently perform the Work, including any change directed by the Owner by Change Order, and shall keep thorough records of the cost of performance of such Change Order consistent with and in accordance with the provisions of Subparagraph 14.1.3 above. Pending final determination of reasonable actual costs incurred or savings achieved, payments on account shall be made to Contractor in accordance with said Subparagraph 14.1.3 and Article 6 of this Contract.
- (d) If unit prices are provided in the Contract, and if the quantities contemplated are materially changed in a proposed Change Order such that an application of the unit prices to the quantities of Work proposed would cause inequity to the Owner or the Contractor, then, subject to the three (3) immediately succeeding sentences, the applicable unit prices shall be equitably adjusted at the request of either party made in accordance with such other provisions of this Contract as are applicable to such party. No such equitable adjustment shall be made with respect to the quantities contemplated in the Contract. Any equitable adjustment to unit prices pursuant to this Subparagraph 14.1.3(d) shall be made only with respect to the difference between the quantity of applicable units of Work contemplated in the Contract and the quantity of applicable units of Work resulting after giving effect to such a proposed Change Order, and an equitable adjustment shall be made only if such difference is a material difference from the quantities contemplated in the Contract. Any increase to unit prices pursuant to this Subparagraph 14.1.3(d) shall be conditioned and contingent upon the Contractor demonstrating proof, satisfactory to the Owner and the Design Professional, that such increase in the unit price is due solely to increased cost per unit caused solely by such a material change in quantities.

14.1.4 Any extension of the time for the Contractor's performance requested by Contractor for performance of any change in the Work ordered by Owner may be granted by mutual agreement and then set forth in the Change Order. Otherwise, extensions of the time for the Contractor's performance shall be requested by Contractor pursuant to the terms and conditions of Article 12 of this Contract and any such request for extension of time shall be subject to Paragraph 14.1.5 of this Contract. The failure of Contractor to provide notice in writing to Owner in accordance with Article 12 of this Contract of any request for extension of time, or the Contractor's execution of a Change Order, shall constitute a waiver by Contractor of any entitlement to an extension of time arising out of or relating to such Change Order.

14.1.5 The execution of a Change Order by the Contractor shall constitute conclusive evidence of the Contractor's agreement to the ordered changes in the Work, this Contract as thus amended, the Contract Price and the time for performance by the Contractor. The Contractor, by executing the Change Order, waives and forever releases any claim against the Owner for additional time or compensation for matters relating to or arising out of or resulting from the Work included within or affected by the executed Change Order.

14.1.6 The Contractor shall notify and obtain the consent and approval of the Contractor's Surety with reference to all Change Orders if such notice, consent or approval are required by the Owner, the Design Professional, the Contractor's Surety or by law. The Contractor's execution of the Change Order shall constitute the Contractor's warranty to the Owner that the Surety has been notified of, and consents to, such Change Order and the Surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

## ARTICLE 15

### **DISCOVERING AND CORRECTING DEFECTIVE OR INCOMPLETE WORK**

15.1 Work in Violation of Contract. In the event that the Contractor covers, conceals or obscures its Work in violation of this Contract or in violation of a directive from the Owner or the Design Professional, such Work shall be uncovered and displayed for the Owner's or Design Professional's inspection upon request, and shall be reworked at no cost in time or money to the Owner.

15.2 Work in Conformity with Contract. If any of the Work is covered, concealed or obscured in a manner not covered by Paragraph 15.1 above, it shall, if directed by the Owner or the Design Professional be uncovered and displayed for the Owner's or Design Professional's inspection. If the uncovered Work conforms strictly with this Contract, the costs incurred by the Contractor to uncover and subsequently replace such Work shall be borne by the Owner. Otherwise, such costs shall be borne by the Contractor.

15.3 Defective or Nonconforming Work. The Contractor shall, at no cost in time or money to the Owner, timely correct Work rejected by the Owner or by the Design Professional as defective or failing to conform to this Contract. Additionally, the Contractor shall reimburse the Owner for all testing, inspections and other expenses incurred as a result thereof.

15.4 Duty to Correct Defective or Nonconforming Work. In addition to its warranty obligations set forth elsewhere herein, the Contractor shall be specifically obligated to correct any and all defective or nonconforming Work for a period of twelve (12) months following Final Completion upon written direction from the Owner. The Owner shall promptly notify Contractor of any noted defective or nonconforming Work. Contractor shall within two (2) business days respond by visiting the site and commencing, and promptly completing, any necessary remedial Work including needed maintenance instructions to Owner's personnel.

15.5 Owner's Option. The Owner may, but shall in no event be required to, choose to accept defective or nonconforming Work. In such event, the Contract Price shall be reduced by the greater of (a) the reasonable costs of removing and correcting the defective or nonconforming Work, and (b) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming Work. If the remaining portion of the unpaid Contract Price, if any, is insufficient to compensate the Owner for the acceptance of defective or nonconforming Work, the Contractor shall, upon written demand from the Owner, pay the Owner such remaining compensation for accepting defective or nonconforming Work.

## ARTICLE 16

### **TERMINATION BY THE CONTRACTOR**

If the Owner repeatedly fails to perform its material obligations to the Contractor for a period of sixty (60) days after receiving written notice from the Contractor of its intent to terminate hereunder, the Contractor may terminate performance under this Contract by written notice to the Owner and the Design Professional. If the Owner suspends Contractor's performance for a period of more than one hundred twenty (120) days, through no fault of the Contractor, then Contractor may, upon seven (7) days written notice to Owner, terminate this Contract. In either event, the Contractor shall be entitled to recover from the Owner as though the Owner had terminated the Contractor's performance under this Contract for convenience pursuant to Paragraph 18.1 hereunder.

## ARTICLE 17

### **OWNER'S RIGHT TO SUSPEND CONTRACTOR'S PERFORMANCE**

17.1 Suspension. The Owner shall have the right at any time to direct the Contractor to

suspend its performance, or any designated part thereof, for any reason whatsoever, or without reason, for a cumulative period of up to one hundred twenty (120) calendar days. If any such suspension is directed by the Owner, the Contractor shall immediately comply with same.

17.2 Compensation. In the event the Owner directs a suspension of performance under this Article 17, through no fault of the Contractor, the Owner shall pay the Contractor as full compensation for such suspension the Contractor's reasonable costs, actually incurred and paid, of:

- 17.2.1 demobilization and remobilization, including such costs paid to subcontractors;
- 17.2.2 preserving and protecting Work in place;
- 17.2.3 storage of materials or equipment purchased for the Project, including insurance thereon; and,
- 17.2.4 performing in a later, or during a longer, time frame than that contemplated by this Contract.

## **ARTICLE 18**

### **TERMINATION BY THE OWNER**

18.1 Termination for Convenience. The Owner may, for any reason whatsoever, terminate performance under this Contract by the Contractor for convenience. The Owner shall give written notice of such termination to the Contractor specifying when termination becomes effective. The Contractor shall incur no further obligations in connection with the Work and the Contractor shall stop Work when such termination becomes effective. The Contractor shall also, at the Owner's direction, either terminate or assign to Owner or Owner's designee outstanding orders and subcontracts. The Contractor shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The Owner may direct the Contractor to assign the Contractor's right, title and interest under terminated orders or subcontracts to the Owner or its designee. The Contractor shall transfer title and deliver to the Owner such completed or partially completed Work and materials, equipment, parts, fixtures, information and Contract rights as the Contractor has. When terminated for convenience, the Contractor shall be compensated as follows:

18.1.1 The Contractor shall submit a termination claim to the Owner and the Design Professional specifying the amounts due because of the termination for convenience together with costs, pricing or other data required by the Owner or the Design Professional. If the Contractor fails to file a termination claim within one (1) year from the effective date of termination, the Owner shall pay the Contractor, an amount derived in accordance with Subparagraph 18.1.3 below.

18.1.2 The Owner and the Contractor may agree to the compensation, if any, due to the Contractor hereunder.

18.1.3 Absent agreement to the amount due to the Contractor, the Owner shall pay the Contractor the following amounts:

- (a) Contract prices for labor, materials, equipment and other services accepted under this Contract;
- (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the Work, and in terminating the Contractor's performance, plus a fair and reasonable allowance for direct jobsite overhead and profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it appears that the Contractor would have not profited or would have sustained a loss if the entire Contract would have been completed, no profit shall be allowed or included and the amount of compensation shall be

reduced to reflect the anticipated rate of loss, if any; and,

- (c) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Paragraph 18.1 of this Contract. These costs shall not include amounts paid in accordance with other provisions hereof.

The total sum to be paid the Contractor under this Paragraph 18.1 shall not exceed the total Contract Price, as properly adjusted, reduced by the amount of payments otherwise made, and shall in no event include duplication of payment.

18.2 Termination for Cause. If the Contractor does not perform the Work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Contract, then the Owner, in addition to any other rights it may have against the Contractor or others, may terminate the performance of the Contractor and assume possession of the Project site and of all materials and equipment at the site and may complete the Work. In such case, the Contractor shall not be paid further until the Work is complete. After Final Completion has been achieved, if any portion of the Contract Price, as it may be modified hereunder, remains after the cost to the Owner of completing the Work, including all costs and expenses of every nature incurred, has been deducted by the Owner, such remainder shall belong to the Contractor. Otherwise, the Contractor shall pay and make whole the Owner for such cost. This obligation for payment shall survive the termination of the Contract. In the event the employment of the Contractor is terminated by the Owner for cause pursuant to this Paragraph 18.2 and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under Paragraph 18.1 and the provisions of Paragraph 18.1 shall apply.

18.3 Termination Not Subject to Article 12. Termination of this Contract by the Owner is not subject to the procedures set forth in Article 12.

## **ARTICLE 19**

### **INSURANCE**

The Contractor shall have and maintain insurance in accordance with the requirements of Exhibit "D" and Exhibit "D-1" attached hereto and incorporated herein by reference.

## **ARTICLE 20**

### **SURETY BONDS**

The Contractor shall furnish separate performance and payment bonds to the Owner. Each bond shall set forth a penal sum in an amount equal to the Contract Price. Each bond furnished by the Contractor shall incorporate by reference the terms of this Contract as fully as though they were set forth verbatim in such bonds. In the event the Contract Price is increased by Change Order executed by the Contractor, the penal sum of both the performance bond and the payment bond shall be deemed increased by like amount. The performance and payment bonds furnished by the Contractor shall be in the exact form provided by the Owner and shall be executed by a surety, or sureties, licensed in the State of Georgia by the Office of Commissioner of Insurance, rated A or better by A.M. Best Company, listed on the United States Department of Treasury's Listing of Approved Sureties (Treasury Department Circular 570) as a surety authorized to write bonds for the U.S. Government with a total underwriting limitation equal to or greater than the penal sum of the bonds as adjusted from time to time, and not otherwise reasonably objectionable to the Owner.

**ARTICLE 21**

**PROJECT RECORDS**

All documents relating in any manner whatsoever to the Project, or any designated portion thereof, which are in the possession of the Contractor, or any subcontractor of the Contractor, shall be made available to the Owner or the Design Professional for inspection and copying upon written request by the Owner. Furthermore, said documents shall be made available, upon request by the Owner, to any state, federal or other regulatory authority and any such authority may review, inspect and copy such records. Said records include, but are not limited to, all drawings, plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos, photographs, estimates, invoices, bills, receipts, cancelled checks, vouchers or other writings or things which document or involve in any manner the Project, its design, its cost, and its construction. Said records expressly include those documents reflecting the cost of construction to the Contractor and its Subcontractors. The Contractor shall maintain and protect these documents for no less than six (6) years after Final Completion of the Project, or for any longer period of time as may be required by law or good construction practice.

**ARTICLE 22**

**APPLICABLE LAW / JURISDICTION AND VENUE**

22.1 Applicable Law / No Waiver. The law applicable to this Contract shall be the law of the State of Georgia. Each and every provision required by law to be inserted in this Contract shall be deemed to be inserted herein and the Contract shall be read and enforced as though it were included herein. Wherever possible, each provision of the Contract shall be interpreted in such manner as to be effective and valid under applicable law, but in case any one or more of the provisions contained therein shall, for any reason, be held to be invalid, illegal or unenforceable in any respect, such provision shall be ineffective to the extent, but only to the extent, of such invalidity, illegality or unenforceability without invalidating the remainder of such invalid, illegal or unenforceable provision or provisions or any other provisions hereof. The failure of owner to insist, in any one or more instances, upon the performance of any of the terms, covenants, or conditions of the Contract, or to exercise any right therein, shall not be construed as a waiver or relinquishment of such term, covenant, condition or right in any other instance. The Contractor, all subcontractors and all sub-subcontractors shall comply with all state and federal immigration laws, rules and regulations, and the Contractor, all subcontractors and all sub-subcontractors shall provide the Owner with a completed and signed affidavit, in the form attached hereto as Exhibit "E," together with the signed Contract.

22.2 Jurisdiction and Venue. The Contractor and its Surety(ies) irrevocably consent to the non-exclusive venue and jurisdiction of the Superior Court of Bibb County, Georgia, regarding any matter arising out of or relating to this Contract. The Contractor agrees that it shall file any lawsuit or other action, including any third-party practice lawsuit, against the Owner arising out of or related to this Contract or the Project only in the Superior Court of Bibb County.

**ARTICLE 23**

**SUCCESSORS AND ASSIGNS**

Each party binds itself, its successors, assigns, executors, administrators or other representatives to the other party hereto and to successors, assigns, executors, administrators or other representatives of such other party in connection with all terms and conditions of this Contract. The Contractor shall not assign this Contract without prior written consent of the Owner.

*[Signatures on Following Page]*



**EXHIBIT "A"**

**LIST OF PLANS AND SPECIFICATIONS  
FOR THE PROJECT**

*[Here insert or attach list of plans and specifications for the Project.]*

**Plans:**

<u>SHEET NO.</u>	<u>TITLE</u>
-	COVER SHEET
C1.0	OVERALL SITE PLAN
C1.1	SITE SURVEY SECTOR 1
C1.2	SITE SURVEY SECTOR 2
C2.1	SITE SURVEY AND DEMOLITION PLAN
C3.1	SITE LAYOUT AND PAVING PLAN
C4.1	SITE GRADING AND DRAINAGE PLAN
C5.1	SITE WATER AND SANITARY SEWER PLAN
C6.1	INITIAL STORMWATER POLLUTION PREVENTION PLAN
C6.2	INTERMEDIATE STORMWATER POLLUTION PREVENTION
C6.3	FINAL STORMWATER POLLUTION PREVENTION PLAN
C6.4	NPDES COMPREHENSIVE MONITORING PROGRAM NOTES
C6.5	STORMWATER POLLUTION PREVENTION NOTES
C6.6	STORMWATER POLLUTION PREVENTION DETAILS
C6.7	STORMWATER POLLUTION PREVENTION DETAILS
C7.1	MISCELLANEOUS SITE DETAILS
C7.2	MISCELLANEOUS SITE DETAILS
C7.3	MISCELLANEOUS SITE DETAILS
C7.4	MISCELLANEOUS SITE DETAILS

**Specifications:**

**DIVISION 00**

- Section 00010 – Advertisement for Proposals
- Section 00020 – Request for Proposals from General Contractor Offerors
- Section 00030 – Instructions to General Contractor Offerors
- Section 00040 – Proposal Form
- Section 00045 – Bid Bond
- Section 00050 – Consent to Release Information
- Section 00055 – Entity Certificate
- Section 00060 – Corporate Certificate
- Section 00065 – Partnership Certificate



- Section 00070 – Standard Form of Fixed Price Construction Contract
- Section 00075 – Payment Bond
- Section 00080 – Performance Bond

**DIVISION 01**

- Section 01010 – Preliminary Construction Schedule
- Section 01020 – Allowances
- Section 01026 – Unit Prices
- Section 01100 – Summary
- Section 01250 – Contract Modification Procedures
- Section 01290 – Payment Procedures
- Section 01310 – Project Management and Coordination
- Section 01320 – Construction Progress Documentation
- Section 01322 – Photographic Documentation
- Section 01330 – Submittal Procedure
- Section 01400 – Quality Requirements
- Section 01420 – References
- Section 01500 – Temporary Facilities and Controls
- Section 01700 – Execution Requirements
- Section 01731 – Cutting and Patching
- Section 01770 – Closeout Procedures

**DIVISION 02**

- Section 02230 – Site Clearing
- Section 02300 – Earthwork
- Section 02316 – Rock Removal
- Section 02545 – Mechanically Stabilized Earth Retaining Walls
- Section 02630 – Storm Drainage and Subdrainage
- Section 02721 – Base Course Construction for Synthetic Turf Fields
- Section 02740 – Miscellaneous Site Specialties
- Section 02741 – Asphalt Concrete Paving
- Section 02751 – Concrete Paving, Sidewalks and Curb & Gutters
- Section 02790 – Shock Pad – Synthetic Sub-Base System for Synthetic Turf Fields
- Section 02792 – Infilled Synthetic Turf and Pad System
- Section 02821 – Chain Link Fences & Gates
- Section 02900 – Finishing Lawn & Landscape Areas
- Section 02920 – Landscape Work
- Section 02940 – Erosion, Siltation & Dust Control

**DIVISION 10**

- Section 10530 – Aluminum Walkway Covers

**EXHIBIT "B"**

**LIQUIDATED DAMAGES**

Liquidated damages applicable to Paragraph 5.2 of this Contract shall be the amount stated in the right column below which is directly opposite the applicable Contract Price range stated in the left column below.

If The Original Contract Price Is:

Daily Liquidated Damages Shall Be:

Up to \$49,999.99	\$50
\$50,000.00 to \$99,999.99	\$100
\$100,000.00 to \$299,999.99	\$200
\$300,000.00 to \$599,999.99	\$300
\$600,000.00 to \$999,999.99	\$400
\$1,000,000.00 to \$1,999,999.99	\$500
\$2,000,000.00 to \$4,999,999.99	\$750
\$5,000,000.00 to \$9,999,999.99	\$1,500
\$10,000,000.00 to \$14,999,999.99	\$2,500
\$15,000,000.00 to \$19,999,999.99	\$3,500
\$20,000,000.00 or above	The product of .0002 multiplied by the Original Contract Price.

**EXHIBIT "C"**

**MINIMUM REQUIREMENTS FOR CONTRACTOR'S  
SCHEDULE OF CONSTRUCTION**

PART 1 - GENERAL

- 1.1 DEFINITIONS. For purposes of this Exhibit "C", the following terms shall have the meanings set forth below.
- A. Activity: A discrete part of a project that can be identified for planning, scheduling, monitoring, and controlling the construction project. Activities included in a construction schedule consume time and resources.
    - 1. Critical activities are activities on the critical path. They must start and finish on the planned early start and finish times.
    - 2. Predecessor Activity: An activity that precedes another activity in the network.
    - 3. Successor Activity: An activity that follows another activity in the network.
  - B. Cost Loading: The allocation of the Schedule of Values for the completion of an activity as scheduled. The sum of costs for all activities must equal the total Contract Price, unless otherwise approved by Design Professional and Owner.
  - C. CPM: Critical path method, which is a method of planning and scheduling a construction project where activities are arranged based on activity relationships. Network calculations determine when activities can be performed and the critical path of the project.
  - D. Critical Path: The longest connected chain of interdependent activities through the network schedule that establishes the minimum overall project duration and contains no float.
  - E. Event: The starting or ending point of an activity.
  - F. Float: The measure of leeway in starting and completing an activity.
    - 1. Float time belongs to Owner.
    - 2. Free float is the amount of time an activity can be delayed without adversely affecting the early start of the successor activity.
    - 3. Total float is the measure of leeway in starting or completing an activity without adversely affecting the planned project completion date.
  - G. Fragnet: A partial or fragmentary network that breaks down activities into smaller activities for greater detail.
  - H. Major Area: A story of construction, a separate building, or a similar significant construction element.
  - I. Milestone: A key or critical point in time for reference or measurement.
  - J. Network Diagram: A graphic diagram of a network schedule, showing activities and activity relationships.

- K. Resource Loading: The allocation of manpower and equipment necessary for the completion of an activity as scheduled.

## 1.2 SUBMITTALS

- A. Preliminary Schedule of Construction: Submit two opaque copies.
  - 1. No action or inaction by Design Professional or Owner in connection with cost-loaded preliminary schedule of construction shall constitute or be deemed to constitute approval or acknowledgment of Schedule of Values for cost-loaded activities.
- B. Preliminary Network Diagram: Submit two opaque copies, large enough to show entire network or entire construction period. Show logic ties for activities.
- C. Contractor's Schedule of Construction: Submit two opaque copies of initial schedule and each updated schedule, large enough to show entire schedule for entire construction period.
  - 1. Submit an electronic copy of schedule, using software indicated, on CD-R, and labeled to comply with requirements for submittals. Include type of schedule (Initial or Updated) and date on label.
  - 2. No action or inaction by Design Professional or Owner in connection with cost-loaded Contractor's Schedule of Construction shall constitute or be deemed to constitute approval or acknowledgment of Schedule of Values for cost-loaded activities.
- D. CPM Reports: Concurrent with CPM schedule, submit three copies of each of the following computer-generated reports. Format for each activity in reports shall contain activity number, activity description, cost and resource loading, original duration, remaining duration, early start date, early finish date, late start date, late finish date, and total float in calendar days.
  - 1. Activity Report: List of all activities sorted by activity number and then early start date, or actual start date if known.
  - 2. Logic Report: List of preceding and succeeding activities for all activities, sorted in ascending order by activity number and then early start date, or actual start date if known.
  - 3. Total Float Report: List of all activities sorted in ascending order of total float.
  - 4. Earnings Report: Compilation of Contractor's total earnings from commencement of the Work until most recent Application for Payment.
- E. Submittal of the preliminary schedule of construction, the initial Contractor's Schedule of Construction and updates thereto are for Design Professional's and Owner's information. No action or inaction by the Design Professional or Owner shall constitute or be deemed to constitute an approval of Contractor's Schedule of Construction.

## 1.3 QUALITY ASSURANCE

- A. Scheduling Consultant Qualifications: An experienced specialist in CPM scheduling and reporting, with capability of producing CPM reports and diagrams within 24 hours of Design Professional's or Owner's request.

- B. Prescheduling Conference: Conduct conference to review methods and procedures related to the Preliminary Schedule of Construction and Contractor's Schedule of Construction, including, but not limited to, the following:
1. Review software limitations and content and format for reports.
  2. Verify availability of qualified personnel needed to develop and update schedule.
  3. Discuss constraints, including, if applicable, phasing, work stages, area separations, interim milestones, and partial Owner occupancy.
  4. Review delivery dates for Owner-furnished products, if any.
  5. Review schedule for work of Owner's separate contracts, if any.
  6. Review time required for review of submittals and resubmittals.
  7. Review requirements for tests and inspections by independent testing and inspecting agencies.
  8. Review time required for completion and startup procedures.
  9. Review and finalize list of construction activities to be included in schedule.
  10. Review submittal requirements and procedures.
  11. Review procedures for updating schedule.

#### 1.4 COORDINATION

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors, if any.
- B. Coordinate Contractor's Schedule of Construction with the Schedule of Values, list of subcontracts, submittals schedule, progress reports, payment requests, and other required schedules and reports.
1. Secure time commitments for performing critical elements of the Work from parties involved.
  2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

### PART 2 – PRODUCTS

#### 2.1 CONTRACTOR'S SCHEDULE OF CONSTRUCTION, GENERAL

- A. Procedures: Comply with procedures not less stringent and protective of the Owner than contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for commencement of the Work to date of Final Completion.

1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
1. Activity Duration: Define activities so no activity is longer than 14 days, unless specifically allowed by Design Professional and Owner.
  2. Procurement Activities: Include procurement process activities for long lead items and major items, requiring a cycle of more than 60 days, as separate activities in schedule. Procurement cycle activities include, but are not limited to, submittals, approvals, purchasing, fabrication, and delivery.
  3. Submittal Review Time: Include review and resubmittal times in schedule. Coordinate submittal review times in Contractor's Schedule of Construction with submittals schedule.
  4. Startup and Testing Time: Include a sufficient number of days for startup and testing.
  5. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Design Professional's and Owner's administrative procedures necessary for approval of Substantial Completion.
- D. Constraints: If applicable, include constraints and work restrictions indicated in the Contract Documents and as follows in schedule, and show how the sequence of the Work is affected.
1. Phasing: Arrange list of activities on schedule by phase.
  2. Work under More Than One Contract: Include a separate activity for each contract.
  3. Work by Owner: Include a separate activity for each portion of work performed by Owner.
  4. Products Ordered in Advance: Include a separate activity for each product. Include delivery date. Delivery dates indicated stipulate the earliest possible delivery date.
  5. Owner-Furnished Products: Include a separate activity for each product. Include delivery date. Delivery dates indicated stipulate the earliest possible delivery date.
  6. Work Restrictions: Show the effect of the following items on the schedule:
    - a. Coordination with existing construction.
    - b. Limitations of continued occupancies.
    - c. Uninterruptible services.
    - d. Partial occupancy before Substantial Completion.
    - e. Use of premises restrictions.
    - f. Provisions for future construction.
    - g. Seasonal variations.
    - h. Environmental control.

7. Work Stages: Indicate important stages of construction for each major portion of the Work, including, but not limited to, the following:
  - a. Subcontract awards.
  - b. Submittals.
  - c. Purchases.
  - d. Mockups.
  - e. Fabrication.
  - f. Sample testing.
  - g. Deliveries.
  - h. Installation.
  - i. Tests and inspections.
  - j. Adjusting.
  - k. Curing.
  - l. Startup and placement into final use and operation.
  
8. Area Separations: Identify each major area of construction for each major portion of the Work. Indicate where each construction activity within a major area must be sequenced or integrated with other construction activities to provide for the following:
  - a. Structural completion.
  - b. Permanent space enclosure.
  - c. Completion of mechanical installation.
  - d. Completion of electrical installation.
  - e. Substantial Completion
  
9. Other Constraints: Show the effect of any additional constraints.
  
- E. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Commencement Date, Substantial Completion, and Final Completion and interim milestones required by Owner, if any.
  
- F. Cost Correlation: At the head of schedule, provide a cost correlation line, indicating planned and actual costs. On the line, show dollar volume of the Work performed as of dates used for preparation of payment requests.
  1. Contractor shall assign cost to construction activities on the CPM schedule. Costs shall not be assigned to submittal activities unless specified otherwise but may, with Design Professional's and Owner's approval, be assigned to fabrication and delivery activities. Costs shall be under required principal subcontracts for testing and commissioning activities, operation and maintenance manuals, punch list activities, project record documents, and demonstration and training (if applicable), in an appropriate amount.
  2. Each activity cost shall reflect an accurate value subject to objection by Design Professional or Owner.
  3. Total cost assigned to activities shall equal the total Contract Price.
  
- G. Contract Modifications: For each proposed contract modification and concurrent with its submission, prepare a time-impact analysis using fragnets to demonstrate the effect of the proposed change on the overall project schedule.

H. Computer Software: Prepare schedules using a program that has been developed specifically to manage construction schedules.

1. Use software, version and operating system required by Owner.

## 2.2 CONTRACTOR'S SCHEDULE OF CONSTRUCTION (CPM SCHEDULE)

A. General: Prepare network diagrams using AON (activity-on-node) format.

B. Preliminary Network Diagram: Submit diagram within 7 days of date established for commencement of the Work. Outline significant construction activities for the first 60 days of construction. Include skeleton diagram for the remainder of the Work and a cash requirement prediction based on indicated activities.

C. CPM Schedule: Prepare Contractor's Schedule of Construction using a computerized, cost-loaded and resource-loaded, time-scaled CPM network analysis diagram for the Work.

1. Submit CPM schedule within 15 days after date established for commencement of the Work.

a. Failure to include any Work item required for performance of this Contract shall not excuse Contractor from completing all Work within applicable completion dates.

2. Conduct educational workshops to train and inform key Project personnel, including subcontractors' personnel, in proper methods of providing data and using CPM schedule information.

3. Establish procedures for monitoring and updating CPM schedule and for reporting progress. Coordinate procedures with progress meeting and payment request dates.

4. Use "one workday" as the unit of time. Include list of nonworking days and holidays incorporated into the schedule.

D. CPM Schedule Preparation: Prepare a list of all activities required to complete the Work. Using the preliminary network diagram, prepare a skeleton network to identify probable critical paths.

1. Activities: Indicate the estimated time duration, sequence requirements, and relationship of each activity in relation to other activities. Include estimated time frames for the following activities:

a. Preparation and processing of submittals.

b. Mobilization and demobilization.

c. Purchase of materials.

d. Delivery.

e. Fabrication.

f. Utility interruptions.

g. Installation.

h. If applicable, work by Owner that may affect or be affected by Contractor's activities.

i. Testing and start up.



2. Critical Path Activities: Identify critical path activities, including those for interim completion dates. Scheduled start and completion dates shall be consistent with Contract milestone dates.
  3. Processing: Process data to produce output data on a computer-drawn, time-scaled network. Revise data, reorganize activity sequences, and reproduce as often as necessary to produce the CPM schedule within the limitations of the Contract Time.
  4. Format: Mark the critical path. Locate the critical path near center of network; locate paths with most float near the edges.
    - a. Subnetworks on separate sheets are permissible for activities clearly off the critical path.
- E. Initial Issue of Schedule: Prepare initial network diagram from a list of straight "early start-total float" sort. Identify critical activities. Prepare tabulated reports showing the following:
1. Contractor or subcontractor and the Work or activity.
  2. Description of activity.
  3. Principal events of activity.
  4. Immediate preceding and succeeding activities.
  5. Early and late start dates.
  6. Early and late finish dates.
  7. Activity duration in workdays.
  8. Total float or slack time.
  9. Average size of workforce.
  10. Dollar value of activity (coordinated with the Schedule of Values).
- F. Schedule Updating: Concurrent with making revisions to schedule, prepare tabulated reports showing the following:
1. Identification of activities that have changed.
  2. Changes in early and late start dates.
  3. Changes in early and late finish dates.
  4. Changes in activity durations in workdays.
  5. Changes in the critical path.
  6. Changes in total float or slack time.
  7. Changes in the Contract Time.

- G. Value Summaries: Prepare two cumulative value lists, sorted by finish dates.
1. In first list, tabulate activity number, early finish date, dollar value, and cumulative dollar value.
  2. In second list, tabulate activity number, late finish date, dollar value, and cumulative dollar value.
  3. In subsequent issues of both lists, substitute actual finish dates for activities completed as of list date.
  4. Prepare list for ease of comparison with payment requests; coordinate timing with progress meetings.
    - a. In both value summary lists, tabulate "actual percent complete" and "cumulative value completed" with total at bottom.
    - b. Submit value summary printouts one week before each regularly scheduled progress meeting.

### PART 3 - EXECUTION

#### 3.1 CONTRACTOR'S SCHEDULE OF CONSTRUCTION

- A. Scheduling Consultant: Engage a consultant to provide planning, evaluation, and reporting using CPM scheduling.
1. In-House Option: Owner may waive the requirement to retain a consultant if Contractor employs skilled personnel with experience in CPM scheduling and reporting techniques. Submit qualifications.
  2. Meetings: Scheduling consultant shall attend all meetings related to Project progress, alleged delays, and time impact.
- B. Contractor's Schedule of Construction Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  3. As the Work progresses, indicate actual completion percentage for each activity.
- C. Distribution: Distribute copies of schedule to Design Professional, Owner, separate contractors, testing and inspecting agencies, subcontractors and other parties identified by Contractor with a need-to-know.
1. Post copies in Project meeting rooms and temporary field offices.

2. When revisions are made, distribute updated schedules to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in performance of construction activities.

END OF EXHIBIT "C"

**EXHIBIT "D"**

**REQUIRED INSURANCE**

(1) The Contractor shall purchase and maintain such insurance as will protect it from claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by itself or by any Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

(a) claims under workers' or workmen's compensation disability benefit or other similar employees benefit acts;

(b) claims for damages because of bodily injury, occupational sickness or disease or death of its employees;

(c) claims for damages because of bodily injury, sickness or disease, or death of any person other than its employees;

(d) claims for damages insured by usual personal injury liability coverage which are sustained (1) by any person as a result of an offense directly or indirectly related to the employment of such person by the Contractor, or (2) by any other person;

(e) claims for damages, other than to the Work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and

(f) claims for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance or use of any motor vehicle.

(2) The insurance required by Paragraph 1 shall be written for not less than any limits of liability specified within this exhibit, or required by law, whichever is greater.

(3) The insurance required by Paragraph 1 shall include contractual liability insurance.

(4) The Contractor shall be responsible from the time of signing the Contract or from the time of the beginning of the first Work, whichever shall be earlier, for all bodily injury (including death) or damage to property of any kind resulting from the Work under this Contract to persons or property.

The Contractor assumes the obligation to save the Owner, the Bibb County School District and the Design Professional harmless and to indemnify them from every expense, liability or payment arising out of or through bodily injury (including death) to any person or persons or damage to property of any person arising out of any act of the Contractor, any subcontractor or anyone either directly or indirectly employed by or under the supervision of any of them in the prosecution of the Work included in the Contract.

All liability policies shall name the Owner, the Bibb County School District and the Design Professional as an additional insured. All liability policies shall be issued on a primary and non-contributory basis over any other liability insurance which may be available to the Owner, the Bibb County School District and Design Professional to fully insure the indemnity obligations made herein and in any other portion of this contract.

(5) The Contractor agrees to comply with the provisions of the Workman's Compensation laws of the State of Georgia and to require all Subcontractors likewise to comply. Contractor shall secure the following insurance at his own expense and prior to starting any Work shall file Certificates of Insurance with the Owner except that on the Owner's Protective Insurance, original policies shall be filed with the Owner.

(a) Workmen's Compensation - Statutory Limits, Employer's Liability -\$1,000,000.00

(b) Comprehensive General Liability (including Premises-Operations; Independent Contractors Protective; Products and Completed Operations; Broad Form Property Damage and Broad Form General Liability Endorsement; Explosion & Collapse).

1. Bodily Injury: \$1,000,000.00 Each Occurrence; \$2,000,000.00 Aggregate, Products and Completed Operations (Umbrella).
2. Property Damage: \$500,000.00 Each Occurrence; \$1,000,000.00 Aggregate.
3. Products and Completed Operations Insurance shall be maintained for a minimum period of three (3) years after completion of the work and Contractor shall continue to provide evidence of such coverage to Owner on an annual basis during the aforementioned period.
4. Property Damage Liability Insurance shall include coverage for Explosion, Collapse, and Underground.
5. Contractual Liability (Hold Harmless Coverage): Bodily Injury: \$1,000,000.00 Each Occurrence; Property Damage: \$500,000.00 Each Occurrence, \$500,000.00 Aggregate.
6. Personal Injury, with Employment Exclusion deleted: \$1,000,000.00 Each Occurrence, \$1,000,000 Aggregate.
7. If the Comprehensive General Liability policy provides that the general aggregate limit for items (5)(b) 1-6 above apply separately to **each** project, then the Owners Protective Liability policy in item (8) (a)-(c) shall not be required.

(c) Comprehensive Automobile Liability (owned, non-owned, leased, hired):

1. Bodily Injury: \$1,000,000.00 Each Person, \$1,000,000.00 Each Accident;
2. Property Damage: \$1,000,000.00 Each Occurrence;
3. or \$1,000,000 Combined Single Limit.

(d) Commercial Umbrella

1. Umbrella limits shall be the amount stated in the right column below which is directly opposite the applicable Contract Price range stated in the left column below:

Contract Price	Required Umbrella Limit
Less than \$1,000,000	\$1,000,000
\$1,000,000 to \$10,000,000	\$5,000,000
Greater than \$10,000,000	\$10,000,000

2. In the event that the Contract Price is increased by Change Order, the umbrella limits shall automatically be increased to the limits stated in the foregoing table in (5)(d)1.
3. Umbrella coverage must include as insureds all entities that are additional insureds on the Commercial General Liability policy.
4. Umbrella coverage for such additional insureds shall apply as primary before any other insurance or self insurance, including any deductible, maintained by or provided to the

additional insured by the Owner, the Bibb County School District and Design Professional.

(6) Certificates of Insurance (2 copies) shall be filed with Owner before commencement of Work. These Certificates shall contain a provision that coverages afforded under the policies will not be canceled, changed or allowed to expire until thirty (30) days after the Owner has received written notice evidenced by return receipt of registered letter.

(7) Insurance will not be acceptable unless written by a Company authorized by the State of Georgia Insurance Department to do business in Georgia at the time the policy is issued and the company must in addition be acceptable to the Owner.

(8) Contractor shall purchase and maintain Owner's Protective Liability Policy with minimum limits of:

(a) Bodily Injury: \$1,000,000.00 Each Occurrence, \$2,000,000.00 Aggregate.

(b) Property Damage: \$2,000,000.00 Each Occurrence, \$2,000,000.00 Aggregate.

(c) Personal Injury, with Employment Exclusion deleted: \$1,000,000.00 Aggregate.

This policy shall be issued in the name of the Bibb County Board of Education and delivered to Owner along with Certificates of Insurance. Employees of the Bibb County Board of Education shall be included as an additional insured. Policy shall also name the Bibb County School District and the Design Professional as an additional insured.

(9) Contractor shall purchase and maintain BUILDER'S RISK INSURANCE payable to the Contractor and Owner, as their interest may appear, upon the entire structure and all materials in or adjacent thereto which are to be made a part of the insured structure of 100% of the insurable value thereof covering fire, theft, extended coverage, vandalism and malicious mischief. There shall be attached to and made a part of the insurance policy for Builder's Risk an endorsement of the Insurance Company as shown on Exhibit "D-1" attached hereto.

(10) The Contractor may, at his option, purchase insurance policies having a "deductible" feature provided that:

(a) Deductible amount does not exceed \$10,000.00.

(b) Contractor agrees in written letter to the Owner (through the Design Professional) to be responsible for payment of any such deductibles, in the event that such payment should become necessary.

End of Exhibit "D"

**EXHIBIT D - 1**

**ENDORSEMENT TO BUILDER'S RISK**

Attached to and forming part of Policy No. \_\_\_\_\_ of the \_\_\_\_\_ Insurance Company, issued at its \_\_\_\_\_, \_\_\_\_\_ Agency.

In consideration of the premium for which the policy is written and proper rate adjustment when applicable, the insurance company agrees as follows:

- (1) The insurance company consents and agrees that furniture and equipment may be delivered to the insured premises and installed in place, ready for use, and said delivery and installation of furniture and equipment shall in no way diminish, change, alter or otherwise affect the coverage and protection afforded the insured under said policy.
- (2) The insurance company consents and agrees that insured premises may be occupied, and said occupation shall in no way diminish, change, alter or otherwise affect the coverage and protection afforded the insured under said policy. The insured shall give notice to insurance company of any partial occupancy.
- (3) The insurance company recognizes the right of the Owner of the insured premises to perform other Work in connection with construction operations insured under this policy and agrees that performance of other work by the said Owner, by agents of the said Owner, or by Contractors employed by said Owner, shall in no way diminish, change, alter or otherwise affect protection afforded under said policy.
- (4) The insurance company agrees that this policy shall not be canceled, changed, allowed to lapse or to expire until thirty (30) days after the Owner has received written notice thereof as evidenced by return receipt of registered letter.

The foregoing insurance provisions have been incorporated into by reference and are hereby made a part of insurance Policy No. \_\_\_\_\_, this \_\_\_ day of \_\_\_\_\_, 20 \_\_\_.

Name of Company

Authorized Signature

DISPOSITIONS: Policy to be deposited with Design Professional prior to commencement of Work.

End of Exhibit "D-1"

**EXHIBIT "E"**  
**Contractor Affidavit under O.C.G.A. § 13-10-91(b)(1)**

By executing this affidavit, the undersigned contractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services on behalf of Bibb County Board of Education has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned contractor will continue to use the federal work authorization program throughout the contract period and the undersigned contractor will contract for the physical performance of services in satisfaction of such contract only with subcontractors who present an affidavit to the contractor with the information required by O.C.G.A. § 13-10-91(b). Contractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Contractor

\_\_\_\_\_  
Name of Project

Name of Public Employer: Bibb County Board of Education

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, \_\_\_\_, 20\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_, 20\_\_.



**Subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(3)**

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract with \_\_\_\_\_ [insert name of contractor] on behalf of Bibb County Board of Education has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the subcontractor with the information required by O.C.G.A. § 13-10-91(b). Additionally, the undersigned subcontractor will forward notice of the receipt of an affidavit from a sub-subcontractor to the contractor within five business days of receipt. If the undersigned subcontractor receives notice that a sub-subcontractor has received an affidavit from any other contracted sub-subcontractor, the undersigned subcontractor must forward, within five business days of receipt, a copy of the notice to the contractor. Subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Subcontractor

\_\_\_\_\_  
Name of Project

Name of Public Employer: Bibb County Board of Education

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, \_\_\_\_, 20\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_, 20\_\_\_\_.

**Sub-subcontractor Affidavit under O.C.G.A. § 13-10-91(b)(4)**

By executing this affidavit, the undersigned sub-subcontractor verifies its compliance with O.C.G.A. § 13-10-91, stating affirmatively that the individual, firm or corporation which is engaged in the physical performance of services under a contract for \_\_\_\_\_ [insert name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract] and \_\_\_\_\_ [insert name of contractor] on behalf of Bibb County Board of Education has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program, in accordance with the applicable provisions and deadlines established in O.C.G.A. § 13-10-91. Furthermore, the undersigned sub-subcontractor will continue to use the federal work authorization program throughout the contract period and the undersigned sub-subcontractor will contract for the physical performance of services in satisfaction of such contract only with sub-subcontractors who present an affidavit to the sub-subcontractor with the information required by O.C.G.A. § 13-10-91(b). The undersigned sub-subcontractor shall submit, at the time of such contract, this affidavit to \_\_\_\_\_ [insert name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract]. Additionally, the undersigned sub-subcontractor will forward notice of the receipt of any affidavit from a sub-subcontractor to \_\_\_\_\_ [insert name of subcontractor or sub-subcontractor with whom such sub-subcontractor has privity of contract]. Sub-subcontractor hereby attests that its federal work authorization user identification number and date of authorization are as follows:

\_\_\_\_\_  
Federal Work Authorization User Identification Number

\_\_\_\_\_  
Date of Authorization

\_\_\_\_\_  
Name of Sub-subcontractor

\_\_\_\_\_  
Name of Project

Name of Public Employer: Bibb County Board of Education

I hereby declare under penalty of perjury that the foregoing is true and correct.

Executed on \_\_\_\_\_, \_\_\_\_, 20\_\_ in \_\_\_\_\_ (city), \_\_\_\_\_ (state).

\_\_\_\_\_  
Signature of Authorized Officer or Agent

\_\_\_\_\_  
Printed Name and Title of Authorized Officer or Agent

SUBSCRIBED AND SWORN BEFORE ME  
ON THIS THE \_\_\_\_\_ DAY OF \_\_\_\_\_, 20\_\_.

\_\_\_\_\_  
NOTARY PUBLIC  
My Commission Expires: \_\_\_\_\_, 20\_\_

End of Exhibit "E"

HARTLEY ELEMENTARY SCHOOL  
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**PAYMENT BOND (Contractor)**

---

\_\_\_\_\_, a corporation duly  
*[Insert Proper Name of Surety]*  
organized and existing under the laws of the State of \_\_\_\_\_, as surety ("Surety"),  
and \_\_\_\_\_, as principal ("Contractor"), enter  
*[Insert Proper Name of Contractor]*  
into, execute this bond ("Payment Bond"), and bind themselves in favor of the Bibb County Board of  
Education, as obligee ("Owner") in the penal sum of \_\_\_\_\_  
*[Insert Penal Sum in words]*  
dollars (\$ \_\_\_\_\_), as of \_\_\_\_\_.  
*[Insert Date Contract Signed by Contractor]*

WHEREAS, the Contractor signed a contract with the Owner on \_\_\_\_\_, 2\_\_\_\_  
("Construction Contract") for construction of: \_\_\_\_\_ ("Project");  
and,

WHEREAS, the Owner has required the Contractor to furnish this Payment Bond containing the  
terms and conditions set forth herein as a condition to executing the Construction Contract with the  
Contractor;

NOW THEREFORE, the Surety and the Contractor, both jointly and severally, and for themselves,  
their heirs, administrators, executors and successors agree:

1.

The Construction Contract is hereby incorporated herein and by reference made a part hereof to  
the same extent and effect as though it were copied verbatim herein. The Surety and the Contractor are  
bound for the full performance of the Construction Contract including without exception all of its terms and  
conditions, both express and implied, and, without limitation, specifically including Contractor's obligation  
to pay for labor, materials, machinery, and equipment provided in connection with the Construction  
Contract performance.

2.

For purposes of this Payment Bond, Beneficiary is defined as any subcontractor or other person  
supplying labor, materials, machinery, or equipment in the prosecution of the work provided for in the  
Construction Contract, or any other person entitled to the protection of this Payment Bond pursuant to the  
provisions of Title 36, Chapter 91, Official Code of Georgia Annotated.

3.

Every Beneficiary who has not been paid in full for labor or material furnished in the prosecution of  
the work on the Project before the expiration of a period of ninety (90) days after the day on which the last  
of the labor was done or performed by such person or the material or equipment or machinery was  
furnished or supplied by such person for which such claim is made, or when he or she has completed his  
or her subcontract for which claim is made, shall have the right to bring an action on this Payment Bond  
for the amount, or the balance thereof, unpaid at the time of the commencement of such action and to  
prosecute such action to final execution and judgment for the sum or sums due such person; provided,  
however, that:

(A) Any person having a direct contractual relationship with a subcontractor but no  
contractual relationship, express or implied, with the Contractor where the Contractor has not complied

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with the notice of commencement requirements in accordance with Code Section 36-91-92, Official Code of Georgia Annotated, shall have the right of action upon this Payment Bond upon giving written notice to the Contractor within ninety (90) days from the day on which such person did or performed the last of the labor or furnished the last of the material or machinery or equipment for which such claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the material was furnished or supplied or for whom the labor was performed or done; provided, however, that: (i) the Contractor's failure to supply a copy of the notice of commencement within ten calendar days of receipt of a written request from a subcontractor, materialman or person shall render the provisions of this paragraph 3(A) inapplicable to such subcontractor, materialman or person, and (ii) the Contractor's failure to file a notice of commencement shall render the notice to contractor requirements of this paragraph 3(A) inapplicable.

(B) Any person having direct contractual relationship with a subcontractor but no contractual relationship express or implied with the Contractor where the Contractor has complied with the notice of commencement requirements in accordance with subsection (a) of Code Section 36-91-92, Official Code of Georgia Annotated, shall have the right of action on this Payment Bond provided such person shall, within thirty (30) days from the filing of the notice of commencement or thirty (30) days following the first delivery of labor, material, machinery or equipment, whichever is later, give to the Contractor a written notice setting forth:

(i) The name, address and telephone number of the person providing labor, material, machinery or equipment;

(ii) The name and address of each person at whose instance the labor, material, machinery or equipment is being furnished;

(iii) The name and the location of the Project; and

(iv) A description of the labor, material, machinery or equipment being provided and, if known, the contract price or anticipated value of the labor, material, machinery or equipment to be provided or the amount claimed to be due, if any; and

(C) Nothing contained in this Payment Bond shall limit the right of action of a Beneficiary to the ninety (90) day period referenced in paragraph 3(A) above.

The notice required under paragraph 3(A) of this Payment Bond may be served by registered or certified mail, postage prepaid, or statutory overnight delivery, duly addressed to the Contractor, at any place at which the Contractor maintains an office or conducts his or her business or at his or her residence, by depositing such notice in any post office or branch post office or any letter box under the control of the United States Postal Service; alternatively, notice may be served in any manner in which the sheriffs of the State of Georgia are authorized by law to serve summons or process.

Every action instituted on this Payment Bond shall be brought in the name of the Beneficiary, without the Owner being made a party thereto.

4.

In no event shall the Surety be obligated hereunder for sums in excess of the Penal Sum. As used in this Payment Bond, the term "Penal Sum" means the amount stated as the penal sum in the preamble of this Payment Bond, as that amount may be adjusted from time to time pursuant to paragraph 5 below.

5.

The Surety waives notice of any changes to the Construction Contract including, without limitation, changes in the contract time, the contract price, or the work to be performed. If the total amount payable by the terms of the Construction Contract is increased to an amount in excess of the then current Penal Sum, then, automatically and without notice to or any action required of any party, the Penal Sum shall be increased as the total amount payable by the terms of the Construction Contract is increased. No

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agreement, modification, or change in the Construction Contract, change in the work covered by the Construction Contract, or extension of time for the completion of the Construction Contract shall release the Surety of this Payment Bond.

6.

No action can be instituted hereunder after one (1) year from the completion of the Construction Contract and the acceptance of the Project by the Owner and any other applicable public authorities.

7.

Unless otherwise provided herein, any and all notices to the Surety or the Contractor shall be given by Certified Mail, Return Receipt Requested, to the address set forth for each party below, including a courtesy copy to the Owner:

Surety: \_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

Contractor: \_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

Owner: Bibb County Board of Education  
\_\_\_\_\_  
Attn: \_\_\_\_\_

8.

Notwithstanding any provision herein that may be to the contrary, this Payment Bond is intended to be a statutory payment bond under applicable laws of the State of Georgia and shall be so construed.

CONTRACTOR: \_\_\_\_\_ [SEAL]  
[Typed Name]

By: \_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Printed Name, Title and Address]

\_\_\_\_\_

\_\_\_\_\_

SURETY: \_\_\_\_\_ [SEAL]  
[Typed Name]

By: \_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Printed Name, Title and Address]

\_\_\_\_\_

\_\_\_\_\_

**PERFORMANCE BOND (Contractor)**

---

\_\_\_\_\_, a corporation duly  
*[Insert Proper Name of Surety]*  
organized and existing under the laws of the State of \_\_\_\_\_, as surety ("Surety"),  
and \_\_\_\_\_, as principal ("Contractor"), enter  
*[Insert Proper Name of Contractor]*  
into, execute this bond ("Performance Bond"), and bind themselves in favor of the Bibb County Board  
of Education, as obligee ("Owner") in the penal sum of \_\_\_\_\_  
*[Insert Penal Sum in words]*  
dollars (\$\_\_\_\_\_), as of \_\_\_\_\_.  
*[Insert Date Contract Signed by Contractor]*

WHEREAS, the Contractor signed a contract with the Owner on \_\_\_\_\_, 2\_\_\_\_\_  
("Construction Contract") for construction of: \_\_\_\_\_ ("Project"); and,

WHEREAS, the Owner has required the Contractor to furnish this Performance Bond containing  
the terms and conditions set forth herein as a condition to executing the Construction Contract with the  
Contractor;

NOW THEREFORE, the Surety and the Contractor, both jointly and severally, and for themselves,  
their heirs, administrators, executors and successors agree:

1.

The Construction Contract is hereby incorporated herein and by reference made a part hereof to  
the same extent and effect as though it were copied verbatim herein. The Surety and the Contractor are  
bound for the full performance of the Construction Contract, including, without exception, all of its terms  
and conditions, both express and implied.

2.

If the Contractor is in default of the Construction Contract and the Owner, by written notice to the  
Contractor and the Surety, declares the Contractor to be in default and terminates the right of the  
Contractor to proceed, the Surety shall thereupon promptly notify the Owner in writing as to which of the  
actions permitted to the Surety in Paragraph 3 it will take.

3.

Upon default and termination of the Contractor and notice to the Contractor and Surety as  
provided in Paragraph 2 above, the Surety shall, within 30 days, proceed to take one or, at its option, more  
than one of the following courses of action:

(A) Proceed itself, or through others acting on its behalf, to complete full performance of the  
Construction Contract including, without limitation, correction of defective and nonconforming work  
performed by or on behalf of the Contractor. During such performance by the Surety, the Owner shall pay  
the Surety from its own funds only such sums as would have been due and payable to the Contractor in  
the absence of the default and termination.

(B) Applicable law permitting, and with the prior written consent of the Owner, obtain bids or  
proposals from contractors previously identified as being acceptable to the Owner, for full performance of  
the Construction Contract. The Surety shall furnish the Owner a copy of such bids or proposals upon

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receipt of same. The Surety shall promptly select, with the agreement of the Owner, the best responsive bid or proposal and shall promptly tender the contractor submitting it, together with a contract for fulfillment and completion of the Construction Contract executed by the completing contractor, to the Owner for the Owner's execution. Upon execution by the Owner of the contract for fulfillment and completion of the Construction Contract, the completing contractor shall furnish to the Owner a performance bond and a separate payment bond, each in the form of those bonds previously furnished to the Owner for the Project by the Contractor. Each such bond shall be in the penal sum of the (1) fixed price for completion, (2) guaranteed maximum price for completion, or (3) estimated price for completion, whichever is applicable. The Owner shall pay the completing contractor from its own funds only such sums as would have been due and payable to the Contractor under the Construction Contract as and when they would have been due and payable to the Contractor in the absence of the default and termination. To the extent that the Owner is obligated to pay the completing contractor sums which would not have then been due and payable to the Contractor under the Construction Contract, the Surety shall provide the Owner with such sums in a sufficiently timely manner that the Owner can utilize such sums in making timely payment to the completing contractor; or,

(C) Take any and all other acts, if any, mutually agreed upon in writing by the Owner and the Surety.

4.

In addition to those duties set forth hereinabove, the Surety shall promptly pay the Owner all loss, costs and expenses resulting from the Contractor's default(s), including, without limitation, fees, expenses and costs for architects, engineers, consultants, testing, surveying and attorneys, liquidated or actual damages, as applicable, for delay in completion of the Project, and fees, expenses and costs incurred at the direction, request, or as a result of the acts or omissions of the Surety.

5.

In no event shall the Surety be obligated to the Owner hereunder for any sum in excess of the Penal Sum. As used in this Performance Bond, the term "Penal Sum" means the amount stated as the penal sum in the preamble of this Performance Bond, as that amount may be adjusted from time to time pursuant to Paragraph 6 below.

6.

The Surety waives notice of any changes to the Construction Contract including, without limitation, changes in the contract time, the contract price, or the work to be performed. If the total amount payable by the terms of the Construction Contract is increased to an amount in excess of the then current Penal Sum, then, automatically and without notice to or any action required of any party, the Penal Sum shall be increased as the total amount payable by the terms of the Construction Contract is increased.

7.

This Performance Bond is provided by the Surety for the sole and exclusive benefit of the Owner, together with its successors or assigns. No other party, person or entity shall have any rights against the Surety hereunder.

8.

Any and all notices to the Surety, the Contractor or the Owner shall be given by Certified Mail, Return Receipt Requested, to the address set forth for each party below:

Surety: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

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Contractor: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

Owner: Bibb County Board of Education  
\_\_\_\_\_  
\_\_\_\_\_  
Attn: \_\_\_\_\_

9.

Any statutory limitation, which may be contractually superseded, to the contrary notwithstanding, any action hereon may be instituted so long as the applicable statute of limitations governing the Construction Contract has not run or expired.

CONTRACTOR:

SURETY:

\_\_\_\_\_  
[Typed Name] [Seal]

\_\_\_\_\_  
[Typed Name] [Seal]

By: \_\_\_\_\_  
[Signature]

By: \_\_\_\_\_  
[Signature]

\_\_\_\_\_  
[Printed Name, Title and Address]

\_\_\_\_\_  
[Printed Name, Title and Address]

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



# **DIVISION 01**

HARTLEY ELEMENTARY SCHOOL  
PARKING IMPROVEMENTS

**SECTION 01010 – PRELIMINARY CONSTRUCTION SCHEDULE**

**A. Description:** A Construction Schedule for the project is provided below.

1. The schedule dates for the project shall be strictly adhered to and are the last acceptable dates unless they are modified by mutual consent of the Owner and the Contractor by written change order. All dates shall be indicated on contractor's construction schedule. All dates indicate midnight unless otherwise stipulated.

**B. Schedule:**

---

<b>Anticipated Notice to Proceed</b>	<b>May 1, 2019</b>
<b>Substantial Completion</b>	<b>July 27, 2019</b>
<b>Final Completion</b>	<b>August 16, 2019</b>

END OF SECTION 01010

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**SECTION 01020 - ALLOWANCES**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements governing allowances.
  - 1. Selected materials and equipment are specified in the Contract Documents by allowances. In some cases, these allowances include installation. Allowances have been established in lieu of additional requirements and to defer selection of actual materials and equipment to a later date when additional information is available for evaluation. If necessary, additional requirements will be issued by Change Order.
- B. Types of allowances include the following:
  - 1. Lump-sum allowances.
  - 2. Quantity allowances.
  - 3. Contingency allowances.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Modification Procedures" specifies procedures for submitting and handling Change Orders.
  - 2. Division 1 Section "Quality Control Services" specifies procedures governing the use of allowances for inspection and testing.

**1.3 DEFINITIONS**

- A. Suitable soil/materials are soils or materials defined as satisfactory or approved backfill and fill material or granular fill acceptable to the Engineer of Record.
- B. Unsuitable soil/material are soils or material defined as unsatisfactory and/or that are not suitable or appropriate for their intended use as determined by the testing agency or the Engineer of Record.

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**1.4 SELECTION AND PURCHASE**

- A. At the earliest practical date after award of the Contract, advise the Engineer of the date when the final selection and purchase of each product or system described by an allowance must be completed to avoid delaying the Work.
- B. At the Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- C. Purchase products and systems selected by the Engineer from the designated supplier.

**1.5 SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances, in the form specified for Change Orders.
- B. Submit invoices or delivery slips to show the actual quantities of materials delivered to the site for use in fulfillment of each allowance.

**1.6 ALLOWANCES, GENERAL**

- A. Owner reserves the right to use unused portions of Allowances for other Work required by the Project.
  - 1. The Owner or Engineer shall direct the Contractor as to the use of any unused Allowances.

**1.7 QUANTITY ALLOWANCES**

- A. Use quantity allowances as scheduled in this section in conjunction with unit prices as scheduled in Specification Section 01026 – Unit Prices to determine line item values associated with the quantity allowances schedule.
- B. Line items for each quantity allowance scheduled shall be included on the “Schedule of Values” included with application for payments.
- C. Contractors costs associated with these line item values shall include all cost necessary, including but not limited to materials, delivery, installation, insurance, applicable taxes, overhead and profit, labor burden, etc.
- D. Should the quantity allowances be exceeded, change orders authorizing additional quantities shall use the same unit price as scheduled in Specification 01026 – Unit Price for additional cost.

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- E. At project closeout, credit all unused allowances remaining in the Schedule of Values to Owner by change order.

**1.8 LUMP-SUM ALLOWANCES**

- A. Line items for each lump sum allowance scheduled shall be included on the “Schedule of Values” included with the Application for Payment.
- B. Contractor’s costs associated with the utility allowances shall be based on the invoice amount from the utility company plus 7 ½ percent for Contractor’s handling. Contractor shall coordinate work with proper utility company, obtain written cost estimate from the utility company, and have estimate approved by Owner prior to beginning work.
- C. Should the lump sum allowances be exceeded, change orders authorizing additional costs shall be executed using the same basis of the original allowance (utility company invoice plus 7 ½ percent for Contractor’s handling).
- D. At project closeout, credit all unused allowances remaining the Schedule of values to Owner by Change Order.

**1.9 CONTINGENCY ALLOWANCES**

- A. Use the contingency allowance only as directed by Engineer for Owner’s purposes and only by Change Orders that indicate amounts to be charged to the allowance.
- B. Contractor’s overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance and are part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, and similar costs.
- C. Change Orders authorizing use of funds from the contingency allowance will include Contractor’s related costs and reasonable overhead and profit margins.
- D. Line items for each contingency allowance scheduled shall be included on the “Schedule of Values” included with applications for payment.
- E. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

**PART 2 - PRODUCTS**

**2.1 PRODUCTS**

- A. Back fill and fill materials shall be provided as indicated in Division 2 – Earthwork or as recommended by testing company and approved by the Engineer of Record.

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**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. If unsuitable soils or rock are encountered during the Project, the Project Testing Company and the Engineer of Record shall be notified immediately.

**3.2 UNSUITABLE SOILS AND ROCK**

- A. Removal, disposal and placement of unsuitable soils materials and any rock shall be at the recommendation of the Project's Testing Company and as approved by the Engineer of Record.
  - 1. Remove shall include removal by acceptable methods and equipment of the minimum quantities deemed necessary by the Project's Testing Company.
  - 2. Disposal shall include disposal of materials either on site or off site as indicated. Disposal of materials on site shall be at the direction of the Engineer of Record. Rock materials disposed of on site shall be placed in fill slopes as directed by the Engineer of Record. Disposal of materials off site shall be in accordance with applicable laws and regulations. It shall be the responsibility to dispose of off site materials accordingly.
  - 3. Place shall include obtaining suitable backfill and or fill materials or some obtained from on-site or off-site sources as indicated and placing materials and compacting to Project requirements. Materials obtained from on-site sources shall be obtained from on site locations as directed by the Engineer of Record.
  - 4. **No allowances shall be paid unless all quantities are qualified, quantified and approved by the Projects Testing Company and the Engineer of Record.**

**3.3 REMOVAL AND RELOCATION OF EXISTING UTILITIES**

- A. Removal or relocation of utilities shall be coordinated by the Contractor.

**3.4 SCHEDULE OF ALLOWANCES:**

Note: Allowances and Unit prices are in addition to work already included in the contract documents.

A line item for these allowances shall be included on the "Schedule of Values" included with application for payments.

At project closeout, credit the remaining amount of all allowances in the Schedule of Values to the Owner by change order.

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- A. Quantity Allowances: Not Used.
- B. Lump Sum Allowances: Not Used.
- C. Contingency Allowance: Include in the Base Bid a Contingency Allowance of \$50,000.00.

END OF SECTION 01020

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**SECTION 01026 - UNIT PRICES**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS:**

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

**1.2 SUMMARY:**

- A. This Section includes administrative and procedural requirements for unit prices.
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 2 Section "Earthwork" for requirements and procedures regarding rock excavation.

**1.3 DEFINITIONS:**

- A. Unit price is an amount proposed by bidders, stated on the Bid Form, as a price per unit of measurement for materials or services added to or deducted from the Contract Sum by appropriate modification, if the estimated quantities of Work required by the Contract Documents are increased or decreased.

**1.4 PROCEDURES:**

- A. Unit prices include all necessary material, plus cost for delivery, installation, insurance, overhead, profit, and applicable taxes.
- B. Measurement and Payment: All measurements shall be verified by an on site representative from the Owner's geotechnical testing firm. Refer to individual Specification Section 01020 – Allowances for work that requires establishment of unit prices. Methods of measurement and payment for unit prices are specified in that Section.
- C. Schedule: A "Unit Price Schedule" is included at the end of this Section. Specification Sections referenced in the Schedule contain requirements for materials described under each unit price.



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**PART 2 - PRODUCTS (Not Applicable)**

**PART 3 - EXECUTION**

3.1 UNIT PRICE SCHEDULE: Not Used.

END OF SECTION 01026

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**SECTION 01100 - SUMMARY**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. This Section includes the following:
  - 1. Work covered by the Contract Documents.
  - 2. Type of contract.
  - 3. Proof of purchase for long-lead items.
  - 4. Owner-furnished products.
  - 5. Use of premises.
  - 6. Owner's occupancy requirements.
  - 7. Work restrictions.
  - 8. Specification formats and conventions.
  - 9. Miscellaneous provisions.

**1.3 WORK COVERED BY CONTRACT DOCUMENTS**

- A. The work includes material and labor necessary to complete all requirements described in both the drawings and specifications.

**1.4 CONTRACT**

- A. Project will be constructed under a general construction contract. See "Contract for Construction".

**1.5 PROOF OF PURCHASE FOR LONG-LEAD ITEMS**

- A. Contractor shall submit to Owner proof of purchase of all mechanical units and any other long lead time items. This proof of purchase invoice shall be issued by the FACTORY and shall confirm that the order has been received from manufacturer's representative and shall be accompanied by copies of the mechanical units specifications, including make, size, voltage, model numbers, etc. and shall include anticipated shipping or delivery date. This submittal shall be issued to the General Contractor immediately after the Factory receives the Purchase Order from the Factory Representative so as not to delay the Work. Documents issued only by the Contractor as proof of purchase are not acceptable.

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**1.6 OWNER-FURNISHED PRODUCTS – NOT APPLICABLE**

- A. Owner will furnish products indicated. The Contractor shall include as part of the Work all final plumbing, mechanical, and electrical connections.
1. Owner will arrange for and deliver Shop Drawings, Product Data, and Samples to Contractor.
  2. Owner will arrange and pay for delivery of Owner-furnished items according to Contractor's Construction Schedule.
  3. After delivery, Owner will inspect delivered items for damage.
  4. If Owner-furnished items are damaged, defective, or missing, Owner will arrange for replacement.
  5. Owner will arrange for manufacturer's field services and for delivery of manufacturer's warranties.
  6. Owner will furnish Contractor the earliest possible delivery date for Owner-furnished products. Using Owner-furnished earliest possible delivery dates, Contractor shall designate delivery dates of Owner-furnished items in Contractor's Construction Schedule.
  7. Contractor shall review Shop Drawings, Product Data, and Samples and return them to Engineer noting discrepancies or anticipated problems in use of product.
  8. Owner is responsible for receiving, unloading, and handling Owner-furnished items at Project site. Contractor is responsible for making final plumbing, mechanical, and electrical connections.
  9. Contractor is responsible for protecting Owner-furnished items from damage during storage and handling, including damage from exposure to the elements.
  10. If Owner-furnished items are damaged as a result of contractor's operations, Contractor shall repair or replace them.
  11. Contractor shall install and otherwise incorporate Owner-furnished items into the Work.

**1.7 SPECIFICATION FORMATS AND CONVENTIONS**

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.
- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred, as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

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2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
  - a. The words “shall”, “shall be”, or “shall comply with”, depending on the context, are implied where a colon (:) is used within a sentence or phrase.

**PART 2 - PRODUCTS** (Not Used)

**PART 3 - EXECUTION** (Not Used)

END OF SECTION 01100

## **SECTION 01250 - CONTRACT MODIFICATION PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Sections include the following:
  - 1. Division 1 Payment Procedures

#### **1.3 MINOR CHANGES IN THE WORK**

- A. Engineer will issue supplemental instructions authorizing Minor Changes in the Work, not involving adjustment to the Contract Sum or the Contract Time.

#### **1.4 PROPOSAL REQUESTS**

- A. Owner-Initiated Proposal Requests: Engineer will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests issued by Engineer are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within 7 days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

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- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor may propose changes by submitting a request for a change to Engineer. Reference the “Contract for Construction” for additional instructions.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
  2. Include a detailed list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
  3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
  4. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

**1.5 ALLOWANCES**

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
  2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
- B. Submit claims for increased costs because of a change in scope or nature of the allowance described in the Contract Documents, whether for the Purchase Order amount or Contractor's handling, labor, installation, overhead, and profit.
1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of work has changed from what could have been foreseen from information in the Contract Documents.
  2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

**1.6 CHANGE ORDER PROCEDURES**

- A. On Owner's approval of a Proposal Request, Engineer will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

END OF SECTION 01250

## **SECTION 01290 - PAYMENT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and Division 00 Section “Standard Form of Fixed Price Construction Contract” and other Division 1 Specification Sections, apply to this Section.

#### **1.2 SUMMARY**

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Sections include the following:
  - 1. Division 00 Section “Standard Form of Fixed Price Construction Contract”.
  - 2. Division 1 Section "Allowances" for procedural requirements governing handling and processing of allowances
  - 3. Division 1 Section "Unit Prices" for administrative requirements governing use of unit prices.
  - 4. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
  - 5. Division 1 Section "Construction Progress Documentation" for administrative requirements governing preparation and submittal of Contractor's Construction Schedule and Submittals Schedule.
  - 6. Division 1 Section “Photograph Documentation” for submittal of photographs with application of payment.

#### **1.3 SCHEDULE OF VALUES**

- A. Coordination: Coordinate preparation of the Schedule of Values with preparation of Contractor's Construction Schedule.
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets.
    - b. Submittals Schedule.
    - c. Contractor’s Construction Schedule.
  - 2. Submit the Schedule of Values to Engineer at earliest possible date but no later than seven days before the date scheduled for submittal of initial Applications for Payment.

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- a. The Schedule of Values must be approved by the Owner/Engineer prior to submission of the initial application of payment.
  3. Subschedules: Where the Work is separated into phases requiring separately phased payments, provide subschedules showing values correlated with each phase of payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line item for each Specification Section and additional line for major products as listed in the summary section. See example of pay application at the end of this section.
1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of Engineer.
    - c. Engineer's project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
    - a. Related Specification Section or Division.
    - b. Dollar value.
      - 1) Percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent.
  3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
  4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
  5. Provide a separate line item in the Schedule of Values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
    - a. Any items listed as stored items must be on-site. Include evidence of insurance and invoices.
    - b. **The owner will not pay for material stored off site.**
  6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the Work.



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7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
  - a. Temporary facilities and other major cost items that are not direct cost of actual work-in-place must be shown as separate line items in the Schedule of Values.

**1.4 APPLICATIONS FOR PAYMENT**

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Engineer and paid for by Owner.
  1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction Work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Times: See Owner/Contractor Agreement.
- D. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment in addition the Georgia Dept. of Education coversheet.
  1. The Contractor shall submit with each monthly payment application the Georgia Department of Education Facilities Services Unit Form 0263.
- E. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Engineer will return incomplete applications without action.
  1. Prior to contractor's first application for payment, the schedule of values must reflect the actual values of the subcontractor's contracts. Copies of these contracts will be made available to the Engineer and owner prior to submitting the first application for payment.
  2. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.

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3. Include amounts of Change Orders and Field Directives issued before last day of construction period covered by application.
- F. Transmittal: Submit 4 (four) signed and notarized original copies of each Application for Payment to Engineer by a method ensuring receipt within 24 hours. All copies shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
  2. Only one copy will be required as an original AIA Document.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
  2. When an application shows completion of an item, submit final or full waivers.
  3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
    - a. Submit final Application for Payment with or proceeded by final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
  4. Waiver Forms: Submit waivers of lien on forms, executed in a manner acceptable to Owner.
    - a. See example of a suggestive form at the end of this section.
- H. Onsite Stored Materials: All onsite stored material shall be submitted as a separate spreadsheet as indicated at the end of this section with each applicable pay application. The Engineer will review onsite stored material during the monthly pay application process and determine if material requested for payment is accurate. Owner will not pay for offsite stored material.
- I. Submit Initial Application for Payment: Administrative actions and submittals that must precede and be approved by the Owner and Engineer prior to the submittal of first Application for Payment include the following:
1. List of subcontractors.
  2. List of major suppliers and fabricators
  3. Schedule of Values.
  4. Schedule of Unit Prices
  5. Contractor's Construction Schedule (preliminary if not final).
  6. Submittal Schedule.

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7. Schedule of preinstallation conferences.
  8. List of Contractor's staff assignments.
  9. List of Contractor's principal consultants.
  10. Copies of building permits.
  11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
  12. Initial progress report.
  13. Certificates of insurance and insurance policies.
  14. Performance and payment bonds.
  15. Initial settlement survey and damage report if required.
- J. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the Work, if applicable.
  3. Administrative actions and submittals that shall proceed or coincide with this application include:
    - a. Occupancy permits and similar approvals.
    - b. Warranties (guarantees) and maintenance agreements.
    - c. Test/adjust/balance records.
    - d. Maintenance instructions.
    - e. Meter readings.
    - f. Start-up performance reports.
    - g. Change-over information, including door lock change over, related to Owner's occupancy, use, operation and maintenance.
    - h. Final cleaning.
    - i. Application for reduction of retainage, and consent of surety.
    - j. Advice on shifting insurance coverage.
    - k. Final progress photographs.
    - l. List of incomplete work, recognized as exceptions to Engineer's Certificate of Substantial Completion.
  4. After the Certificate of Substantial Completion has been executed by all parties concerned and before payment is made the Contractor shall submit the following documents:
    - a. Submit CONSENT OF SURETY TO FINAL REDUCTION IN OR PARTIAL RELEASE OF RETAINAGE, A.I.A. Document G707A, if not previously submitted.
- K. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.

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2. Completion of any contract required training.
3. Completion of Project Closeout Documents.
4. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
5. Updated final statement, accounting for final changes to the Contract Sum.
6. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
7. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
8. AIA Document G707, "Consent of Surety to Final Payment."
9. Evidence that claims have been settled.
10. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
11. Final, liquidated damages settlement statement.
12. Removal of surplus materials, rubbish and similar elements from Owner's property.

**PART 2 - PRODUCTS** (Not Used)

**PART 3 - EXECUTION** (Not Used)

END OF SECTION 01290 (See attached forms)

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**AFFIDAVIT AND WAIVER OF LIEN**

\_\_\_\_\_ being first duly sworn says that he/she makes this affidavit on behalf of \_\_\_\_\_ having entered into an agreement with \_\_\_\_\_, the Owner for \_\_\_\_\_, on the premises of the Owner located at \_\_\_\_\_; that all labor material and services committed for have been fully paid and indebtedness discharged to the date of this affidavit. Furthermore, for and in considerations of \$ \_\_\_\_\_, the undersigned does hereby waive, release and relinquish all claims for right of lien which the undersigned may now have upon the premises above described, for labor and material, general supervision of construction or alteration, and/or otherwise except for claims or right of lien for contract and/or change order work performed to extent that payment is being retained or will subsequently become due.

\_\_\_\_\_  
Name of Firm

\_\_\_\_\_  
Name

\_\_\_\_\_  
Title of Officer

Subscribed and Sworn to before me,

This \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_  
Notary

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**SCHEDULE OF VALUES - EXAMPLE**

A	B	C	D	E	F	G		H	I
Item No.	Description of Work	Scheduled of Value	Work Completed		Materials Presently Stored (Not in D or E)	Total Completed & Stored To Date (D + E + F)	% (C / G)	Balance To Finish (C - G)	Re-retainage (If Variable Rate)
			From Previous application D + E)	This Period					
Division 1.00 - General Requirements									
1.01	Supervision								
1.02	OH&P								
1.03	Temporary Utilities								
1.04	Insurance								
1.05	Payment & Performance Bond								
1.06	Engineering/Surveying								
1.07	Safety								
1.08	Office Rental								
1.09	Equipment & Tool (Small) Retail								
1.10	Projection Documentation								
1.11	Daily Clean-up								
1.12	Dump Fee								
1.13	Final Clean								
1.14	Closeouts/As-builts								
1.15	Etc.								
	TOTALS								
Division 2.00 - Sitework									
2.01	Bond								

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2.02	Mobilization								
<b>SCHEDULE OF VALUES - EXAMPLE</b>									
2.03	Submittals/Shop Drawings								
2.04	Erosion Control BMP's								
2.05	Temporary Ponds								
2.06	Temporary Grassing								
2.07	Slope Matting								
2.08	Clear & Grub								
2.09	Earthwork								
2.10	Construction Entrances								
2.11	Layout & Staking								
2.12	Mass Grading								
2.13	Fine Grade Parking Lot								
2.14	SD2's								
2.15	SD3's								
2.16	Storm Drain Material								
2.17	Storm Drain Install								
2.18	Heavy Duty Asphalt Paving								
2.19	Curb & Gutter								
2.20	Striping & Signage								
2.21	Chain Link Fencing								
2.22	Landscaping								
2.23	Pond As-Built Survey								
2.24	Etc.								
	<b>TOTALS</b>								
Division 3.0 - Allowances									
3.01	See Specifications								

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Application No.:

Period From:

Period to:

**STORED ONSITE MATERIAL EXAMPLE SUMMARY**

A	B	C	D	E	F	G
Item No.	Description of Work	Trade (GC or Sub)	Type of Material	Location Stored	Quantity	Cost
5.15	Stairs & Rails - Material	JM Steel	Stair Pans	Stairwell B-2	4	\$7,500
7.08	Roof Insulation - Material	Roof Plus	3" Roof Insulation	Site (Area B)	100% (Area C-D)	\$38,000
8.07	Wood Doors (Area A)	Door Supply Co.	Doors	Science Lab C-25	35	\$25,000
8.08	Finish Hardware (Area A)	Door Supply Co.	Hardware	Job Trailer	50% (Area A)	\$5,400
9.18	Wood Flooring	Smiths Flooring	Gym Floor	Gymnasium	100	\$30,000
15.22	Plumbing - Fixtures (Material)	PJs Plumbing & Son	Sinks	Plumber Trailer	20	\$4,500
15.58	HVAC - Ductwork (Material)	HVAC Industrial	Duct	Classroom B-12	30% (Area F)	\$5,500
					<b>Total</b>	<b>\$115,900</b>



## **SECTION 01310 - PROJECT MANAGEMENT AND COORDINATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
  - 1. General project coordination procedures.
  - 2. Coordination Drawings.
  - 3. Administrative and supervisory personnel.
  - 4. Project meetings.
  - 5. RFI's (Request for Information).
- B. Each contractor shall participate in coordination requirements. Certain areas of responsibility will be assigned to a specific contractor.
- C. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Division 1 Section "Construction Progress Documentation" for preparing and submitting the Contractor's Construction Schedule.
  - 2. Division 1 Section "Execution Requirements" for procedures for coordinating general installation and field-engineering services, including establishment of benchmarks and control points.
  - 3. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

#### **1.3 DEFINITION**

- A. RFI – Is a request made by the Contractor for further information or clarification during construction.

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**1.4 COORDINATION**

- A. Coordination: Coordinate construction operations included in various Sections of the Specifications to ensure efficient and orderly installation of each part of the Work. Coordinate construction operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
  - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  - 3. Make adequate provisions to accommodate items scheduled for later installation.
  - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
  
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
  - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
  
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
  - 1. Preparation of Contractor's Construction Schedule.
  - 2. Preparation of the Schedule of Values.
  - 3. Installation and removal of temporary facilities and controls.
  - 4. Delivery and processing of submittals.
  - 5. Progress meetings.
  - 6. Preinstallation conferences.
  - 7. Start up and adjustment of systems.
  - 8. Project closeout activities.
  - 9. Warranty work.
  
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
  - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work.
  
- E. Coordinate with Authority Having Jurisdiction (AHJ).

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1. Contractor shall contact and coordinate with all AHJ's, local and others, for required inspections, fees, etc.

**1.5 SUBMITTALS**

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.
  1. Content: Project-specific information, drawn accurately to scale. Do not base Coordination Drawings on reproductions of the Contract Documents or standard printed data. Include the following information, as applicable:
    - a. Indicate functional and spatial relationships of components of engineering, structural, civil, mechanical, and electrical systems.
    - b. Indicate required installation sequences.
    - c. Indicate dimensions shown on the Contract Drawings and make specific note of dimensions that appear to be in conflict with submitted equipment and minimum clearance requirements. Provide alternate sketches to Engineer for resolution of such conflicts. Minor dimension changes and difficult installations will not be considered changes to the Contract.
  2. Indicate relationship of components shown on separate Shop Drawings.
  3. Indicate required installation sequences.
  4. Coordination Drawings Prints: Prepare coordination drawings prints in accordance with requirements of Division 1 Section "Submittal Procedures."
  5. Review: Engineer will review coordination drawings to confirm that the work is being coordinated, but not for the details of the coordination, which are the Contractor's responsibility. If the Engineer determines that the coordination drawings are not being prepared in sufficient scope or detail, or are otherwise deficient, the Engineer will so inform the Contractor, who shall make changes as directed and resubmit.

**1.6 KEY PERSONNEL**

- A. Staff Names: Within 15 (fifteen) days of starting construction operations, submit a list of principal staff assignments and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home, cellular and office telephone numbers. Provide names, email addresses, business addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.
- B. Post copies of list in Project meeting room, in temporary field office, and by each temporary telephone.

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- C. Update list if changes or additions occur and redistribute.

**1.7 ADMINISTRATIVE AND SUPERVISORY PERSONNEL**

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the Work.
  - 1. Include special personnel required for coordination of operations with other contractors.

**1.8 PROJECT MEETINGS**

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
  - 1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
  - 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
  - 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within 3 (three) days of the meeting.
- B. Preconstruction Conference: See preliminary schedule. Hold the conference at the Office of the Owner. Conduct the meeting to review responsibilities and personnel assignments. The Notice to Proceed will not be issued prior to the pre-construction conference.
  - 1. Attendees: Authorized representatives of Owner, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Tentative construction schedule.
    - b. Phasing.
    - c. Critical work sequencing and long lead items.
    - d. Designation of responsible personnel.
    - e. Procedures for processing field decisions and Change Orders.
    - f. RFI procedures.
    - g. Procedures for processing Applications for Payment.
    - h. Distribution of the Contract Documents.
    - i. Procedures for testing and inspections.
    - j. Submittal procedures.

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- k. Review Procurement Schedule.
  - l. Preparation of Record Documents.
  - m. Use of the premises.
  - n. Responsibility for temporary facilities and controls.
  - o. Parking availability.
  - p. Office, work, and storage areas.
  - q. Equipment deliveries and priorities.
  - r. Safety/First aid.
  - s. Security.
  - t. Progress cleaning.
  - u. Working hours.
3. Minutes: Contractor shall record and distribute meeting minutes.
- C. Preinstallation Conferences: Conduct a preinstallation conference at Project site before each construction activity that requires coordination with other construction.
- 1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Engineer of scheduled meeting dates.
  - 2. Preinstallation Conference Schedule:
    - a. Concrete Curb and Gutter and Concrete Sidewalks.
    - b. Asphalt Paving.
    - c. Landscaping / Sodding.
- D. Progress Meetings (OAC's): Conduct progress meetings every two weeks. Coordinate dates of meetings with preparation of payment requests.
- 1. Attendees: In addition to representatives of Owner and Engineer, the contractor, and requested subcontractors shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  - 2. Agenda: Review and correct or approve minutes of previous progress meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
    - a. Contractor's Construction Schedule: Review progress since the last meeting. Determine whether each activity is on time, ahead of schedule, or behind schedule, in relation to Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

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- b. Review present and future needs of each entity present, including the following:
  - 1) Interface requirements.
  - 2) Sequence of operations.
  - 3) Status of submittals (log).
  - 4) Procurement Schedule.
  - 5) Deliveries.
  - 6) Off-site fabrication.
  - 7) Access.
  - 8) Site utilization.
  - 9) Temporary facilities and controls.
  - 10) Work hours.
  - 11) Hazards and risks.
  - 12) Progress cleaning.
  - 13) Quality and work standards.
  - 14) Change Orders status.
  - 15) Pending claims and disputes.
  - 16) RFI status.
  - 17) Review Monthly Pay Application with all related backup information.
  - 18) 30 day look ahead and behind.
  - 19) As-built review.
  - 20) Closeout Document Status.
  - 21) Review Owner furnished items.
- 3. Reporting: Contractor shall record and distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.
  - a. Schedule Updating: Revise Contractor's Construction Schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with each months pay request.

**1.7 REQUESTS FOR INFORMATION (RFIs)**

- A. Procedure: Immediately on discovery of the need for information or interpretation of the Contract Documents, and if not possible to request information at Project meeting, prepare and submit an RFI in the form specified.
  - 1. RFIs shall originate with Contractor. RFIs submitted by entities other than Contractor will be returned with no response.
  - 2. Coordinate and submit RFIs in a prompt manner so as to avoid delays in Contractor's work or work of subcontractors.

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- B. Content of the RFI: Include a detailed, legible description of item needing information or interpretation and the following:
1. Project name.
  2. Date.
  3. Name of Contractor.
  4. Name of Engineer.
  5. RFI number, number sequentially.
  6. Specification Section number and title and related paragraphs, as appropriate.
  7. Drawing number and detail references, as appropriate.
  8. Field dimensions and conditions, as appropriate.
  9. Contractor's suggested solution(s). If Contractor's solution(s) impact the Contract Time or the Contract Sum, Contractor shall state impact in the RFI.
  10. Contractor's signature.
  11. Attachments: Include drawings, descriptions, measurements, photos, Product Data, Shop Drawings, and other information necessary to fully describe items needing interpretation.
    - a. Supplementary drawings prepared by Contractor shall include dimensions, thicknesses, structural grid references, and details of affected materials, assemblies, and attachments.
- C. Engineer's Action: Engineer will review each RFI, determine action required, and return it. RFIs received after 1:00 p.m. will be considered as received the following working day.
1. The following RFIs will be returned without action:
    - a. Request for approval of submittals
    - b. Requests for approval of substitutions.
    - c. Requests for coordination information already indicated in the Contract Documents.
    - d. Requests for adjustments in the Contract Time or the Contract Sum.
    - e. Requests for interpretation of Engineer's actions on submittals.
    - f. Incomplete RFIs or RFIs with numerous errors.
  2. Engineer's action may include a request for additional information, in which case Engineer's time for response will start again.
  3. Engineer's action on RFIs that may result in a change to the Contract Time or the Contract Sum may be eligible for Contractor to submit Change Proposal according to Division 1 Section "Contract Modification Procedures".
    - a. If Contractor believes the RFI response warrants change in the Contract Time or the Contract Sum, notify Engineer in writing within 10 days of receipt of the RFI response.

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- D. On receipt of Engineer's action, update the RFI log and immediately distribute the RFI response to affected parties. Review response and notify Engineer within seven days if Contractor disagrees with response.
  
- E. RFI Log: Prepare, maintain, and submit a tabular log of RFIs organized by the RFI number. Submit log monthly. Include the following:
  - 1. Project name.
  - 2. Name and address of Contractor.
  - 3. Name and address of Engineer.
  - 4. RFI number including RFIs that were dropped and not submitted.
  - 5. RFI description.
  - 6. Date the RFI was submitted.
  - 7. Date Engineer's response was received.
  - 8. Identification of related Minor Change in the Work, Construction Change Directive, and Proposal Request, as appropriate.
  - 9. Identification of related Field Order, Work Change Directive, and Proposal Request, as appropriate.

END OF SECTION 01310



## **SECTION 01320 - CONSTRUCTION PROGRESS DOCUMENTATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for documenting the progress of construction during performance of the Work, including the following:
  - 1. Preliminary Construction Schedule.
  - 2. Contractor's Construction Schedule.
  - 3. Submittals Schedule.
  - 4. Material location reports.
  - 5. Field condition reports.
  - 6. Construction photographs.
  - 7. RFI Log.
- B. Related Sections include the following:
  - 1. Division 1 Section "Summary of Multiple Contracts" for preparing a combined Contractor's Construction Schedule.
  - 2. Division 1 Section "Payment Procedures" for submitting the Schedule of Values.
  - 3. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes.
  - 4. Division 1 Section "Submittal Procedures" for submitting schedules and reports.
  - 5. Division 1 Section "Quality Requirements" for submitting a schedule of tests and inspections.
  - 6. Division 1 Section "Closeout Procedures" for submitting photographic negatives as Project Record Documents at Project closeout.
- C. Preliminary Construction Schedule: Submit 2 (two) printed copies; one a single sheet of reproducible media, and one a print.
- D. Contractor's Construction Schedule: Submit 2 (two) printed copies of initial schedule, one a reproducible print and one a blue- or black-line print, large enough to show entire schedule for entire construction period.

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**1.3 COORDINATION**

- A. Coordinate preparation and processing of schedules and reports with performance of construction activities and with scheduling and reporting of separate contractors.
- B. Coordinate Contractor's Construction Schedule with the Schedule of Values, list of subcontracts, Submittals Schedule, progress reports, payment requests, and other required schedules and reports.
  - 1. Secure time commitments for performing critical elements of the Work from parties involved.
  - 2. Coordinate each construction activity in the network with other activities and schedule them in proper sequence.

**PART 2 - PRODUCTS**

**2.1 SUBMITTALS SCHEDULE**

- A. Submittals Schedule: Comply with requirements in Division 1 Section "Submittal Procedures" for list of submittals and time requirements for scheduled performance of related construction activities.

**2.2 CONTRACTOR'S CONSTRUCTION SCHEDULE, GENERAL**

- A. Procedures: Comply with procedures contained in AGC's "Construction Planning & Scheduling."
- B. Time Frame: Extend schedule from date established for the Notice to Proceed to date of Final Completion.
  - 1. Contract completion date shall not be changed by submission of a schedule that shows an early completion date, unless specifically authorized by Change Order.
- C. Activities: Treat each story or separate area as a separate numbered activity for each principal element of the Work. Comply with the following:
  - 1. Activity Duration: Define activities so no activity is longer than 45 (forty-five) days, unless specifically allowed by Engineer.
  - 2. Submittal Review Time: Include review and resubmittal times indicated in Division 1 Section "Submittal Procedures" in schedule. Coordinate submittal review times in Contractor's Construction Schedule with Submittals Schedule.
  - 3. Startup & Testing Time: Include days for startup and testing.
  - 4. Substantial Completion: Indicate completion in advance of date established for Substantial Completion, and allow time for Engineer's administrative procedures necessary for certification of substantial Completion.

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5. Punch List and Final Completion: Include not more than 30 days for punch list and final completion (include closeout documents).
- D. Milestones: Include milestones indicated in the Contract Documents in schedule, including, but not limited to, the Notice to Proceed, Substantial Completion, and Final Completion.

### **2.3 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Construction Schedule: Submit a comprehensive, fully developed, horizontal Gantt-chart-type, Contractor's Construction Schedule within 10 (ten) days of date established for the Notice to Proceed. Base schedule on the Preliminary Construction Schedule and whatever updating and feedback was received since the start of Project. Dates shown in Section 01010 shall be reflected in schedule. Do not show early completion.
- B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line. The Schedule shall include only one critical path.
1. For construction activities that require 3 months or longer to complete, indicate an estimated completion percentage in 10 (ten) percent increments within time bar.

### **2.4 REPORTS**

- A. Daily Construction Reports: Prepare a daily construction report recording the following information concerning events at Project site”:
1. List of subcontractors at Project site.
  2. List of separate contractors at Project site.
  3. Approximate count of personnel at Project site.
  4. Equipment at Project site.
  5. Material deliveries.
  6. High and low temperatures and general weather conditions.
  7. Accidents.
  8. Meetings and significant decisions.
  9. Unusual events (refer to special reports).
  10. Stoppages, delays, shortages, and losses.
  11. Meter readings and similar recordings.
  12. Emergency procedures.
  13. Orders and requests of authorities having jurisdiction.
  14. Change Orders received and implemented.
  15. Construction Change Directives received and implemented.
  16. Services connected and disconnected.
  17. Equipment or system tests and startups.
  18. Partial Completions and occupancies.
  19. Substantial Completions authorized.

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- B. Material Location Reports: At monthly intervals, prepare a comprehensive list of materials delivered to and stored at Project site. List shall be cumulative, showing materials previously reported plus items recently delivered. Include with list a statement of progress on and delivery dates for materials or items of equipment fabricated away from Project site.
- C. Field Condition Reports: Immediately on discovery of a difference between field conditions and the Contract Documents, prepare a detailed report. Submit with a request for information. Include a detailed description of the differing conditions, together with recommendations for changing the Contract Documents.

**2.4 SPECIAL REPORTS**

- A. General: Submit special reports directly to the Owner/Engineer within one day(s) of an occurrence. Submit copies of the report to all affected by the occurrence.
- B. Reporting Unusual Events: Prepare and submit a report if an unusual event whether related or not to the project to the Owner/Engineer. List all parties involved, event that took place, response by Contractors personnel, results of the events, and any similar pertinent information.
- C. Quality Control reporting: Prepare, track and report all quality control issues as they arise. Include the date of occurrence and anticipated date for correction.

**PART 3 - EXECUTION**

**3.1 CONTRACTOR'S CONSTRUCTION SCHEDULE**

- A. Contractor's Construction Schedule Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule one week before each regularly scheduled progress meeting.
  - 1. Revise schedule immediately after each meeting or other activity where revisions have been recognized or made. Issue updated schedule concurrently with the report of each such meeting.
  - 2. Include a report with updated schedule that indicates every change, including, but not limited to, changes in logic, durations, actual starts and finishes, and activity durations.
  - 3. As the Work progresses, indicate Actual Completion percentage for each activity.
- B. Distribution: Distribute copies of approved schedule to Engineer Owner, separate contractors, testing and inspecting agencies, and other parties identified by Contractor with a need-to-know schedule responsibility.

END OF SECTION 01320

## **SECTION 01322 - PHOTOGRAPHIC DOCUMENTATION**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for the following:
  - 1. Preconstruction photographs.
  - 2. Periodic construction photographs.
  - 3. Final Completion construction photographs.
- B. Related Sections include the following:
  - 1. Division 1 Section "Submittal Procedures" for submitting photographic documentation.
  - 2. Division 1 Section "Payment Procedures" for monthly photographic documentation.

#### **1.3 SUBMITTALS**

- A. Construction Photographs: Submit photographs on monthly intervals with the application for payment.
  - 1. Digital Images: Submit two copies of each complete set of digital image electronic files via email. Identify electronic media with date photographs were taken. Submit images that have same aspect ratio as the sensor, uncropped.

### **PART 2 - PRODUCTS**

#### **2.1 PHOTOGRAPHIC MEDIA**

- A. Digital Images: Provide images in uncompressed JPEG format, produced by a digital camera with minimum sensor size of 6.0 megapixels.

### **PART 3 - EXECUTION**

#### **3.1 CONSTRUCTION PHOTOGRAPHS**

- A. General: Take photographs using the maximum range of depth of field, and that are in focus, to clearly show the Work. Photographs with blurry or out-of-focus areas will not be accepted.
  - 1. Digital Images: Submit digital images exactly as originally recorded in the digital camera, without alteration, manipulation, editing, or modifications using image-editing software.
  - 2. Date and Time: Include date and time in filename for each image.
- B. Preconstruction Photographs: Before starting construction, take digital photographs of Project site and surrounding properties, including existing items to remain during construction, from different vantage points.
  - 1. Flag construction limits before taking construction photographs.
  - 2. Take photographs to show existing conditions adjacent to property before starting the Work.
  - 3. Take photographs of existing buildings either on or adjoining property to accurately record physical conditions at start of construction.
  - 4. Take additional photographs as required to record settlement or cracking of adjacent structures, pavements, and improvements.
- C. Periodic Construction Photographs: Take digital photographs daily, weekly, monthly or as otherwise necessary to show new work and progress of work. Coordinate with cutoff date associated with each application for payment. Provide a minimum of 4 photographs at each site. Select vantage points to show status of construction and progress since last photographs were taken.
  - 1. Identification: Provide the following information with each digital image description in file metadata tag:
    - a. Project Name
    - b. Project Number
    - c. Photograph Number (order)
    - d. Date Taken
    - e. Location of Photograph
  - 2. Progress Photographs: Submit progress photos with monthly pay application. Photos to be submitted in a digital format.
- D. Final Completion Construction Photographs: Take 10 digital photographs at each site after date of Substantial Completion for submission as Project Record Documents.
- E. Additional Photographs: Engineer or Owner may issue requests for additional photographs, in addition to periodic photographs specified.

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1. Three days' notice will be given, where feasible.
2. In emergency situations, take additional photographs within 24 hours of request.
3. Circumstances that could require additional photographs include, but are not limited to, the following:
  - a. Special events planned at Project site.
  - b. Immediate follow-up when on-site events result in construction damage or losses.
  - c. Photographs to be taken at fabrication locations away from Project site.
  - d. Substantial Completion of a major phase or component of the Work.
  - e. Extra record photographs at time of final acceptance.
  - f. Owner's request for special publicity photographs.

END OF SECTION 01322

## **SECTION 01330 - SUBMITTAL PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment and the Schedule of Values.
  - 2. Division 1 Section "Project Management and Coordination" for submitting and distributing meeting and conference minutes and for submitting Coordination Drawings.
  - 3. Division 1 Section "Closeout Procedures" for submitting closeout documents.
  - 4. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 5. Division 2 Sections for requirements for submittals of operation of maintenance data, demonstration and training and special cleaning requirements for products of those sections.

#### **1.3 DEFINITIONS**

- A. Action Submittals: Written and graphic information that requires Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Engineer's approval. Submittals may be rejected for not complying with requirements.

#### **1.4 SUBMITTAL PROCEDURES**

- A. Electronic Submittals: All shop drawings and product data shall be submitted in electronic format to the project email address provided by the Engineer. Material samples and mockups shall be shipped to the Engineer's office via USPS, UPS or FedEx.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.



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1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
  2. Retain subparagraph and associated subparagraph below if one submittal has an impact on another submittal.
  3. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
    - a. Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
    - b. No color selections will be made until all submittals requiring color selection have been approved.
- C. Submittal Schedule: Submit a schedule of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, resubmitting, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making correction or modifications to submittals noted by the Engineers office and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate Submittals Schedule with list of subcontracts, the Schedule of Values, and Contractor's Construction Schedule.
  2. Final Submittal: Submit concurrently with the first complete submittal of Contractor's Construction Schedule prior to submittal of first application for payment.
- D. Processing Time: Allow enough time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Engineer's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow sufficient time for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
  3. Resubmittal Review: Allow sufficient time for review of each resubmittal.
- E. Identification: Place a permanent label or title block on each submittal for identification.
1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Review thoroughly and Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Engineer
    - d. Name and address of Contractor.
    - e. Name and address of subcontractor.

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- f. Name and address of supplier.
  - g. Name of manufacturer.
  - h. Number and title of appropriate Specification Section. Clearly indicate appropriate division number from 16 division format.
    - 1) Example – 08110 Steel Doors Section 2.3.
  - i. Drawing number and details, if necessary.
  - j. Location of product is to be installed, if necessary.
  - k. Remarks.
  - l. Other necessary identification.
- F. Options: Identify options requiring selection by the Engineer.
- G. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals. Engineers review / approval does not relieve the Contractor from any requirements of the contract documents.
- H. Additional Copies: Unless additional copies are required for final submittal, and unless Engineer observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
- I. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form.
- 1. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents and any comments stating noncompliance. Submittals will be returned to the contractor without action if the contractor fails to review the submittal and include his certification.
  - 2. Transmittal Form: Provide locations on form for the following information:
    - a. Project name.
    - b. Date.
    - c. Destination (To:).
    - d. Source (From:).
    - e. Names of subcontractor, manufacturer, and supplier.
    - f. Category and type of submittal.
    - g. Submittal purpose and description.
    - h. Specification Section number and title.
    - i. Drawing number and detail references, if necessary.
    - j. Submittal and transmittal distribution record.
    - k. Transmittal number.
    - l. Remarks.
    - m. Signature of transmitter.
  - 3. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Engineer on previous submittals, and deviations from requirements in the Contract Documents, including minor variations and limitations. Include same label information as related submittal.

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- L. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
  - 1. Note date and content of previous submittal.
  - 2. Note date and content of revisions in label or title block and clearly indicate extent of revision.
  - 3. Resubmit submittals until they are marked “approved” or “approved as noted”.
- M. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- N. Use for Construction: Use only final submittals with mark indicating action taken by Engineer in connection with construction.
- O. Color Selection: No color selections will be made until all submittal requiring colors are submitted and approved.

**PART 2 - PRODUCTS**

**2.1 ACTION SUBMITTALS**

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
  - 1. Electronic Submittals: Submit electronic submittals to Engineers office via email. All reviewed submittals will be returned via email. Verify size of document before emailing to Engineers office. Anything over 10 MB will need to approved by Engineer before submitting.
  - 2. Hard Copies Submittals: The Engineer’s office may request hard copies of shop drawings and product data. No more than two copies will be requested per submittal.
    - a. Distribution of hard copies – If hard copies are requested, the Engineer will retain both copies. Comments will be returned to the contractor by email.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - c. Manufacturer's installation instructions.

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- d. Standard color charts. Note any up-charge for premium or custom colors.
  - e. Manufacturer's catalog cuts.
  - f. Wiring diagrams showing factory-installed wiring.
  - g. Printed performance curves.
  - h. Operational range diagrams.
  - i. Standard product operating and maintenance manuals.
  - j. Compliance with recognized trade association standards.
  - k. Compliance with recognized testing agency standards.
  - l. Application of testing agency labels and seals.
  - m. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
1. Preparation: Fully illustrate compliance with the contract documents. Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Design calculations.
    - i. Compliance with specified standards.
    - j. Notation of coordination requirements.
    - k. Notation of dimensions established by field measurement.
    - l. Relationship to adjoining construction clearly indicated.
    - m. Seal and signature of professional engineer if required.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."
- E. Samples: Prepare physical units of materials or products, including the following:
1. Comply with requirements in other sections for mockups.
  2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated compo-

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- nents; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.
4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Engineer's sample where so indicated. Attach label on unexposed side that includes the following:
  5. Additional Information: On an attached separate sheet, prepared on Contractor's letterhead, provide the following:
    - a. Size limitations.
    - b. Compliance with recognized standards.
    - c. Availability.
    - d. Delivery time.
  6. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least 3 (three) sets of paired units that show approximate limits of the variations.
  7. Number of Samples for Selection: Submit at a minimum of 3 (three) full set[s] of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Engineer will return 1 (one) submittal with options selected.
  8. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
- F. Submittals Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- G. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."
- H. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
- I. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
  2. Number and title of related Specification Section(s) covered by subcontract.

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**PART 3 - EXECUTION**

**3.1 CONTRACTOR'S REVIEW**

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Engineer.
- B. Approval Stamp: Stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

**3.2 ENGINEER'S ACTION**

- A. General: Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken, as follows (see sample at the end of this section):
  - 1. Reviewed: Fabrication/installation may be undertaken. Review does not authorize changes in the contract sum or contract time.
  - 2. Reviewed as Noted: Fabrication/installation may be undertaken subject to compliance with the noted comments. Review does not authorize changes in the contract sum or contract time.
  - 3. Revise and Resubmit: Fabrication/installation may not be undertaken, Revise submittals in accordance with the noted comments. In resubmittal, limit corrections to the items marked and comments noted.
  - 4. Rejected: Fabrication/installation may not be undertaken. See noted reason(s) for rejection.
- C. Informational Submittals: Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Engineer will forward each submittal to appropriate party.
- D. Partial submittals are not acceptable, will be considered nonresponsive, and will be returned without review.
- E. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01330

## **SECTION 01400 - QUALITY REQUIREMENTS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-assurance and -control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's other quality-assurance and -control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-assurance and -control services required by Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. Division 2 Sections for specific test and inspection requirements.

#### **1.3 DEFINITIONS**

- A. **Quality-Assurance Services:** Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and substantiate that proposed construction will comply with requirements.
- B. **Quality-Control Services:** Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that actual products incorporated into the Work and completed construction comply with requirements. Services do not include contract enforcement activities performed by Engineer.

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- C. Mockups: Full-size, physical assemblies that are constructed on-site. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not Samples. Approved mockups establish the standard by which the Work will be judged.
- D. Preconstruction Testing: Tests and inspections that are performed specifically for the Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.
- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- J. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
- K. Extended Warranties: Those warranties required by the Contract Documents with a warranty period greater than the one year general contractor's warranty.

**1.4 CONFLICTING REQUIREMENTS**

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels,



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comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.

- B. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Engineer for a decision before proceeding.

### 1.5 SUBMITTALS

- A. **Qualification Data:** For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. **Schedule of Tests and Inspections:** Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.
  - 4. Identification of test and inspection methods.
  - 5. Number of tests and inspections required.
  - 6. Time schedule or time span for tests and inspections.
  - 7. Entity responsible for performing tests and inspections.
  - 8. Requirements for obtaining samples.
  - 9. Unique characteristics of each quality-control service.
- C. **Reports:** Prepare and submit certified written reports that include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, and telephone number of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.
  - 7. Identification of product and Specification Section.
  - 8. Complete test or inspection data.
  - 9. Test and inspection results and an interpretation of test results.
  - 10. Record of temperature and weather conditions at time of sample taking and testing and inspecting.
  - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  - 12. Name and signature of laboratory inspector.
  - 13. Recommendations on retesting and reinspecting.

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- D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
- E. Contractor must submit an inventory of all attic stock to be turned over to Owner/Engineer and it must be signed off/verified by the Engineer.

**1.6 QUALITY ASSURANCE**

- A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.
- B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. Specialists: Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
  - 1. Requirement for specialists shall not supersede building codes and regulations governing the Work.
- G. Testing Agency Qualifications: An independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

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1. Testing Agencies must be approved in writing by the Owner/Engineer before Contractor actually engages the Agency for services.
- H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- I. Preconstruction Testing: Where testing agency is indicated to perform preconstruction testing for compliance with specified requirements for performance and test methods, comply with the following:
  1. Contractor responsibilities include the following:
    - a. Provide test specimens representative of proposed products and construction.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
    - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
    - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.
    - e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
    - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
  2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Engineer, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- J. Mockups: Not Required.

**1.7 QUALITY CONTROL**

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
  1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
  2. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

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- B. The Contractor will be responsible for the following quality-control testing services and inspections:
1. Soil testing as required by Division 2 “Earthwork”, including NPDES monitoring.
  2. Asphalt testing and concrete pavement testing as required by Division 2 “Asphalt Paving and Concrete Paving, Sidewalks and Curb & Gutters”.
- C. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
3. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
    - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
  4. Contractor shall be responsible for notifying all testing agencies including those provided by the Owner and coordinating all testing and inspections with the project schedule. Notify testing/inspection agencies at least 24 hours in advance of time when work that requires testing or inspection will be performed.
  5. Contractor shall insure that testing and inspections provided by the Owner are done within reasonable working hours and not on overtime hours. Costs associated with overtime hours required by the Owner’s testing agency due to the faulty scheduling of the Contractor will be charged to the Contractor, and the Contract sum will be adjusted by Change Order.
  6. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
  7. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
  8. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  9. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
- D. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections.
- E. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, all cost for retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents are the responsibility of the Contractor.

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- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the Work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field curing of test samples.
  5. Delivery of samples to testing agencies.
  6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and -control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
1. Distribution: Distribute schedule to Owner, Engineer, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

**1.8 SPECIAL TESTS AND INSPECTIONS (Not Required)**

**PART 2 - PRODUCTS (Not Used)**

**PART 3 - EXECUTION**

**3.1 TEST AND INSPECTION LOG**

- A. Prepare a record of tests and inspections. Include the following:
1. Date test or inspection was conducted.
  2. Description of the Work tested or inspected.
  3. Date test or inspection results were transmitted to Engineer.
  4. Identification of testing agency or special inspector conducting test or inspection.

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- B. Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for Engineer's reference during normal working hours.

**3.2 REPAIR AND PROTECTION**

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Provide materials and comply with installation requirements specified in other Specification Sections. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible.
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400.

## **SECTION 01420 - REFERENCES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 DEFINITIONS**

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used in conjunction with Engineer's action on Contractor's submittals, applications, and requests, is limited to Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Engineer, requested by Engineer, and similar phrases.
- D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings; or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at Project site including unloading, temporary storage, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Installer": An installer is Contractor or another entity engaged by Contractor, as an employee, subcontractor, or contractor of lower tier, to perform a particular construction operation, including installation, erection, application, and similar operations.

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- J. The term "experienced," when used with the term "installer," means having successfully completed a minimum of 5 (five) previous projects similar in size and scope to this Project; being familiar with the special requirements indicated; and having complied with requirements of authorities having jurisdiction.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- K. "Project site" is the space available for performing construction activities, either exclusively or in conjunction with others performing other work as part of Project. The extent of Project site is shown on the Drawings and may or may not be identical with the description of the land on which Project is to be built.

### 1.3 INDUSTRY STANDARDS

- A. Applicability of Standards: Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. Conflicting Requirements: Where compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Engineer for a decision before proceeding.
  - 1. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of the requirements. Refer uncertainties to Engineer for a decision before proceeding.
- C. Abbreviations and Names: Abbreviations and acronyms are frequently used in the Specifications and other Contract Documents to represent the name of a trade association, standards-developing organization, authorities having jurisdiction, or other entity in the context of referencing a standard or publication. Where abbreviations and acronyms are used in the Specifications or other Contract Documents, they mean the recognized name of these entities. Refer to Gale Research's "Encyclopedia of Associations" or Columbia Books' "National Trade & Professional Associations of the U.S.," which are available in most libraries.



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**PART 2 - PRODUCTS** (Not Used)

**PART 3 - EXECUTION** (Not Used)

END OF SECTION 01420

## **SECTION 01500 - TEMPORARY FACILITIES AND CONTROLS**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes requirements for temporary facilities and controls, including temporary utilities, support facilities, and security and protection facilities.
- B. Temporary utilities include, but are not limited to, the following:
  - 1. Sanitary facilities, including toilets, wash facilities, and drinking-water facilities.
  - 2. Electric power service if required by Contractor.
  - 3. Water required for construction.
- C. Support facilities include, but are not limited to, the following:
  - 1. Temporary roads and paving.
  - 2. Dewatering facilities and drains.
  - 3. Project identification and temporary signs.
- D. Security and protection facilities include, but are not limited to, the following:
  - 1. Environmental protection.
  - 2. Stormwater control.
  - 3. Tree and plant protection.
  - 4. Barricades, warning signs, and lights.
  - 5. Temporary fencing.

#### **1.3 USE CHARGES**

- A. General: Cost or use charges for temporary facilities are not chargeable to Owner or Engineer and shall be included in the Contract Sum. Allow other entities to use temporary services and facilities without cost, including, but not limited to, the following:
  - 1. Owner's construction forces.
  - 2. Occupants of Project.

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3. Engineer.
4. Testing agencies.
5. Personnel of authorities having jurisdiction.

- B. Electric Power Service: Pay electric power service use charges, whether metered or otherwise, for electricity used by all entities engaged in construction activities at Project site.

#### **1.4 QUALITY ASSURANCE**

- A. Standards: Comply with ANSI A10.6, NECA's "Temporary Electrical Facilities," and NFPA 241.
1. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

#### **1.5 PROJECT CONDITIONS**

- A. Temporary Utilities: At earliest feasible time, when acceptable to Owner, change over from use of temporary service to use of permanent service.
1. Temporary Use of Permanent Facilities: Installer of each permanent service shall assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.
- B. Conditions of Use: The following conditions apply to use of temporary services and facilities by all parties engaged in the Work:
1. Keep temporary services and facilities clean and neat.
  2. Relocate temporary services and facilities as required by progress of the Work.
  3. No temporary living quarters are allowed on site.

### **PART 2 - PRODUCTS**

#### **2.1 MATERIALS**

- A. General: Provide new materials. Undamaged, previously used materials in serviceable condition may be used if approved by Engineer. Provide materials suitable for use intended.
- B. Chain-Link Fencing: Minimum 2-inch (50-mm), 0.148-inch- (3.76-mm-) thick, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized

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steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts.

- C. Portable Chain-Link Fencing: Minimum 2-inch (50-mm) 9-gage, galvanized steel, chain-link fabric fencing; minimum 6 feet (1.8 m) high with galvanized steel pipe posts; minimum 2-3/8-inch- (60-mm-) OD line posts and 2-7/8-inch- (73-mm-) OD corner and pull posts, with 1-5/8-inch- (42-mm-) OD top and bottom rails. Provide galvanized steel bases for supporting posts.
- D. Water: Potable.

## 2.2 EQUIPMENT

- A. General: Provide equipment suitable for use intended.
- B. Field Offices: NOT REQUIRED
- C. Common-Use Field Offices: NOT REQUIRED
- D. Owner's Field Offices: NOT REQUIRED
- E. Utility Vehicle (UTV): NOT REQUIRED
- F. Fire Extinguishers: Hand carried, portable, UL rated. Provide class and extinguishing agent as indicated or a combination of extinguishers of NFPA-recommended classes for exposures.
  - 1. Comply with NFPA 10 and NFPA 241 for classification, extinguishing agent, and size required by location and class of fire exposure.
- G. Self-Contained Toilet Units: Single-occupant units of chemical, aerated recirculation, or combustion type; vented; fully enclosed with a glass-fiber-reinforced polyester shell or similar nonabsorbent material.

## PART 3 - EXECUTION

### 3.1 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

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**3.2 TEMPORARY UTILITY INSTALLATION**

- A. General: Engage appropriate local utility company to install temporary service or connect to existing service. Where utility company provides only part of the service, provide the remainder with matching, compatible materials and equipment. Comply with utility company recommendations.
  - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
  - 2. Provide adequate capacity at each stage of construction. Before temporary utility is available, provide trucked-in services.
  - 3. Obtain easements to bring temporary utilities to Project site where Owner's easements cannot be used for that purpose.
  
- B. Water Service: Use of Owner's existing water service facilities will be permitted, as long as facilities are cleaned and maintained in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use. Utility use to be paid by contractor.
  - 1. Provide rubber hoses as necessary to serve Project site.
  - 2. Where installations below an outlet might be damaged by spillage or leakage, provide a drip pan of suitable size to minimize water damage. Drain accumulated water promptly from pans.
  
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking-water fixtures. Comply with regulations and health codes for type, number, location, operation, and maintenance of fixtures and facilities.
  - 1. Disposable Supplies: Provide toilet tissue, paper towels, paper cups, and similar disposable materials for each facility. Maintain adequate supply. Provide covered waste containers for disposal of used material.
  - 2. Toilets: Install self-contained toilet units. Shield toilets to ensure privacy.

**3.3 SUPPORT FACILITIES INSTALLATION**

- A. Temporary Roads and Paved Areas: Construct and maintain temporary roads and paved areas adequate to support loads and to withstand exposure to traffic during construction period and as required by authorities having jurisdiction. Locate temporary roads and paved areas in same location as permanent roads and paved areas. Extend temporary roads and paved areas, within construction limits indicated, as necessary for construction operations.
  - 1. Coordinate elevations of temporary roads and paved areas with permanent roads and paved areas.
  - 2. Prepare subgrade and install subbase and base for temporary roads and paved areas according to Division 2 Section "Earthwork."

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3. Recondition base after temporary use, including removing contaminated material, regrading, proofrolling, compacting, and testing.
  4. Remove and replace paving, curbs and fencing damaged by construction operations.
- B. Traffic Controls: Provide temporary traffic controls at junction of temporary roads with public roads. Include warning signs for public traffic and "STOP" signs for entrance onto public roads. Comply with requirements of authorities having jurisdiction.
- C. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Containerize and clearly label hazardous, dangerous, or unsanitary waste materials separately from other waste. Comply with Division 1 Section "Execution Requirements" for progress cleaning requirements.
1. If required by authorities having jurisdiction, provide separate containers, clearly labeled, for each type of waste material to be deposited.

**3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION**

- A. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction in ways and by methods that comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects. Avoid using tools and equipment that produce harmful noise. Restrict use of noisemaking tools and equipment to hours that will minimize complaints from persons or firms near Project site.
- B. Stormwater Control: Provide earthen embankments and similar barriers in and around excavations and subgrade construction, sufficient to prevent flooding by runoff of stormwater from heavy rains.
- C. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from construction damage. Protect tree root systems from damage, flooding, and erosion.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements for erecting structurally adequate barricades. Paint with appropriate colors, graphics, and warning signs to inform personnel and public of possible hazard. Where appropriate and needed, provide lighting, including flashing red or amber lights.
- E. Temporary Enclosures: Provide temporary enclosures for protection of construction, in progress and completed, from exposure, foul weather, other construction operations, and similar activities. Provide temporary weathertight enclosure for building exterior.
1. Where heating or cooling is needed and permanent enclosure is not complete, provide insulated temporary enclosures. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

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2. Install tarpaulins securely using fire-retardant-treated wood framing and other materials.
3. Where temporary wood or plywood enclosure exceeds 100 sq. ft. (9.2 sq. m) in area, use fire-retardant-treated material for framing and main sheathing.

**3.5 OPERATION, TERMINATION, AND REMOVAL**

- A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability of temporary facilities to essential and intended uses.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage caused by freezing temperatures and similar elements.
  1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
  2. Prevent water-filled piping from freezing. Maintain markers for underground lines. Protect from damage during excavation operations.
- C. Temporary Facility Changeover: Except for using permanent fire protection as soon as available, do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- D. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
  1. Materials and facilities that constitute temporary facilities are the property of Contractor. Owner reserves right to take possession of Project identification signs.
  2. At Substantial Completion, clean and renovate permanent facilities used during construction period. Comply with final cleaning requirements in Division 1 Section "Closeout Procedures."

END OF SECTION 01500

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**SECTION 01700 - EXECUTION REQUIREMENTS**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
  - 1. Construction layout.
  - 2. Field engineering and surveying.
  - 3. General installation of products.
  - 4. Progress cleaning.
  - 5. Starting and adjusting.
  - 6. Protection of installed construction.
  - 7. Correction of the Work.
- B. Related Sections include the following:
  - 1. Division 1 Section "Project Management and Coordination" for procedures for coordinating field engineering with other construction activities.
  - 2. Division 1 Section "Submittal Procedures" for submitting surveys.
  - 3. Division 1 Section "Cutting and Patching" for procedural requirements for cutting and patching necessary for the installation or performance of other components of the Work.
  - 4. Division 1 Section "Closeout Procedures" for submitting final property survey with Project Record Documents, recording of Owner-accepted deviations from indicated lines and levels, and final cleaning.

**PART 2 - PRODUCTS** (Not Used)

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, in-



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investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.

1. Before construction, verify the location and points of connection of utility services.
- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, and water-service piping; and underground electrical services.
  2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
1. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  2. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
  3. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
  4. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

### 3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
1. Notify Engineer and Owner not less than 5 (five) days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Engineer's or Owner's written permission.

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- C. **Field Measurements:** Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- D. **Space Requirements:** Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- E. **Review of Contract Documents and Field Conditions:** Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Engineer. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents.

### **3.3 CONSTRUCTION LAYOUT**

- A. **Verification:** Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify Engineer promptly.
- B. **General:** Engage a land surveyor/professional engineer to lay out the Work using accepted surveying practices.
  - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
  - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
  - 3. Inform installers of lines and levels to which they must comply.
  - 4. Check the location, level and plumb, of every major element as the Work progresses.
  - 5. Notify Engineer when deviations from required lines and levels exceed allowable tolerances.
  - 6. Close site surveys with an error of closure equal to or less than the standard established by authorities having jurisdiction.
- C. **Site Improvements:** Locate and lay out site improvements, including pavements, grading, fill and topsoil placement, utility slopes, and invert elevations.

### **3.4 FIELD ENGINEERING**

- A. **Identification:** Owner will identify existing benchmarks, control points, and property corners.
- B. **Reference Points:** Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.

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1. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

### **3.5 INSTALLATION**

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
  1. Make vertical work plumb and make horizontal work level.
  2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
  3. Conceal pipes, ducts, and wiring in finished areas, unless otherwise indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
  1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Engineer.
  2. Allow for building movement, including thermal expansion and contraction.
- G. Joints: Make joints of uniform width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.
- H. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

### **3.6 OWNER-INSTALLED PRODUCTS (NOT REQUIRED)**

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**3.7 PROGRESS CLEANING**

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
  - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
  - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F (27 deg C).
  - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
  - 1. Remove liquid spills promptly.
  - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
  - 1. Thoroughly clean piping, conduit, and similar features before applying paint or other finishing materials. Restore damaged pipe covering to its original condition.
- H. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- I. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

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- J. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- K. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

**3.8 STARTING AND ADJUSTING**

- A. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- B. Adjust operating components for proper operation without binding. Adjust equipment for proper operation.
- C. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- D. Manufacturer's Field Service: If a factory-authorized service representative is required to inspect field-assembled components and equipment installation, comply with qualification requirements in Division 1 Section "Quality Requirements."

**3.9 PROTECTION OF INSTALLED CONSTRUCTION**

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Comply with manufacturer's written instructions for temperature and relative humidity.

**3.10 CORRECTION OF THE WORK**

- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
  - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
- B. Restore permanent facilities used during construction to their specified condition.
- C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.
- D. Repair components that do not operate properly. Remove and replace operating components that cannot be repaired.

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- E. Remove and replace chipped, scratched, and broken glass or reflective surfaces.

END OF SECTION 01700

## **SECTION 01731 - CUTTING AND PATCHING**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes procedural requirements for cutting and patching.
- B. Related Sections include the following:
  - 1. Division 2 Sections for specific requirements and limitations applicable to cutting and patching individual parts of the Work.

#### **1.3 DEFINITIONS**

- A. Cutting: Removal of existing construction necessary to permit installation or performance of other Work.
- B. Patching: Fitting and repair work required to restore surfaces to original conditions after installation of other Work.

#### **1.4 SUBMITTALS**

- A. Cutting and Patching Proposal: Submit a proposal describing procedures at least 10 days before the time cutting and patching will be performed, requesting approval to proceed. Include the following information:
  - 1. Extent: Describe cutting and patching, show how they will be performed, and indicate why they cannot be avoided.
  - 2. Changes to Existing Construction: Describe anticipated results. Include changes to structural elements and operating components as well as changes in building's appearance and other significant visual elements.
  - 3. Products: List products to be used and firms or entities that will perform the Work.
  - 4. Dates: Indicate when cutting and patching will be performed.

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5. Utilities: List utilities that cutting and patching procedures will disturb or affect. List utilities that will be relocated and those that will be temporarily out of service. Indicate how long service will be disrupted.
6. Structural Elements: Where cutting and patching involve adding reinforcement to structural elements, submit details and engineering calculations showing integration of reinforcement with original structure.
7. Engineer's Approval: Obtain approval of cutting and patching proposal before cutting and patching. Approval does not waive right to later require removal and replacement of unsatisfactory work.

**1.5 QUALITY ASSURANCE**

- A. Structural Elements: Do not cut and patch structural elements in a manner that could change their load-carrying capacity or load-deflection ratio.
- B. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety.
  1. Primary operational systems and equipment.
  2. Air or smoke barriers.
  3. Fire-protection systems.
  4. Control systems.
  5. Communication systems.
  6. Electrical wiring systems.
  7. Operating systems of special construction in Division 13 Sections.
- C. Miscellaneous Elements: Do not cut and patch the following elements or related components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety.
  1. Water, moisture, or vapor barriers.
  2. Membranes and flashings.
  3. Exterior curtain-wall construction.
  4. Equipment supports.
  5. Piping, ductwork, vessels, and equipment.
- D. Visual Requirements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch construction exposed on the exterior or in occupied spaces in a manner that would, in Engineer's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.



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**1.6 WARRANTY**

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during cutting and patching operations, by methods and with materials so as not to void existing warranties.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. General: Comply with requirements specified in other Sections of these Specifications.
- B. Existing Materials: Use materials identical to existing materials. For exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible.
  - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will match the visual and functional performance of existing materials.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine surfaces to be cut and patched and conditions under which cutting and patching are to be performed.
  - 1. Compatibility: Before patching, verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
  - 2. Proceed with installation only after unsafe or unsatisfactory conditions have been corrected.

**3.2 PREPARATION**

- A. Temporary Support: 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 and patching operations.
- C. Adjoining Areas: Avoid interference with use of adjoining areas or interruption of free passage to adjoining areas.
- D. Existing Services: Where existing services are required to be removed, relocated, or abandoned, bypass such services before cutting to interruption of services to occupied areas.

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- E. Maintain all existing exits and corridors in operation throughout construction.

### 3.3 PERFORMANCE

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.
  - 1. Cut 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.
- B. Cutting: Cut existing construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction. If possible, review proposed procedures with original Installer; comply with original Installer's written recommendations.
  - 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots as small as possible, neatly to size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
  - 2. Existing Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
  - 3. Masonry: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
  - 4. Excavating and Backfilling: Comply with requirements in applicable Division 2 Sections where required by cutting and patching operations.
  - 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting. Patch back surrounding surfaces.
  - 6. Proceed with patching after construction operations requiring cutting are complete.
- C. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections of these Specifications.
  - 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate integrity of installation.
  - 2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.

END OF SECTION 01731

## **SECTION 01770 - CLOSEOUT PROCEDURES**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
  - 1. Inspection procedures.
  - 2. Project Record Documents.
  - 3. Operation and maintenance manuals.
  - 4. Warranties.
  - 5. Instruction of Owner's personnel.
  - 6. Final cleanup.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
  - 2. Division 1 Section "Construction Progress Documentation" for submitting Final Completion construction photographs and negatives.
  - 3. Division 1 Section "Execution Requirements" for progress cleaning of Project site.
  - 4. Division 1 Section "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
  - 5. Division 1 Section "Operation and Maintenance Data" for operation and maintenance manual requirements.
  - 6. Division 2 Sections for specific closeout and special cleaning requirements for products of those Sections.
- C. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following.
  - 1. Prepare a list of items to be completed and corrected (General Contractors Punch List), the value of items on the list, and reasons why the Work is not complete.
  - 2. Advise Owner of pending insurance changeover requirements.
  - 3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.

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4. Obtain and submit releases permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
  5. Prepare Project Record Documents (As Builts), Closeouts Documents, Final Completion construction photographs, damage or settlement surveys, property surveys, and similar final record information.
  6. Terminate and remove temporary facilities from Project site.
  7. Complete final cleanup requirements.
  8. There shall be no rejected work items.
- D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Engineer, that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.

### **1.3 FINAL COMPLETION**

- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
  2. Submit certified copy of Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit all required warranties.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Engineer will certify an approved final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.
1. Re-inspection: Request re-inspection when the Work identified in previous inspections as incomplete is completed or corrected. Contractor shall reimburse the Owner for final re-inspections for time incurred in re-inspections at the rate of \$135.00 per hour for each inspector on team.

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**1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)**

- A. Preparation: Submit an electronic copy of the punch list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
1. Organize list of spaces in sequential order, starting with exterior areas first and proceeding from lowest floor to highest floor.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. List whom is responsible for each item.
  4. Date when item will be complete.
  5. Note any incomplete item and state why.

**1.5 WARRANTIES**

- A. Submittal Time: Upon issuance of Substantial Completion and prior to requesting final inspection, submit all contract-required warranties. All warranties required by the Contract Documents shall commence on the date of the Final Completion of the Work unless otherwise noted. Items that are incomplete at Substantial Completion or that are in non conformance with the project requirements shall be listed by the Engineer to be re-evaluated at Final Completion. The warranties for any listed item will begin at Final completion not at Substantial.
- B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.
- C. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
1. Bind warranties and bond in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8- ½ by 11-inch (215-by-280-mm) paper.
  2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
  3. Identify each binder on the front and spine with the typed or printed title “WARRANTIES”, Project name, and name of Contractor.
  4. Provide three (3) copies of the warranty binder & an electronic copy.
- D. Provide additional copies of each warranty to include in operation and maintenance manuals.

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**1.6 CLOSEOUT DOCUMENTS – PROVIDE (3) THREE HARD COPIES & AN ELECTRONIC COPY**

- A. Submit closeout documents in an organized heavy-duty, 3-ring, loose-leaf binder, in thickness necessary to accommodate contents. Identify on the cover of the binder the following:

Title:  
Owner's Name:  
Project Name:  
Project Address:  
Engineer's Name:  
Engineer's Name:  
General Contractor's Name:

- B. Include as the first sheet of the binder a Table of Contents. The remainder of the binder shall be divided into sections. Provide plastic-covered tabs, clearly labeled, to separate each area of the Closeout Documents. The sections of the binder shall be as follows:

1. Section 1 – Contact List
  - a. The contact list shall include the company name and or individual of each subcontractor and or individual that performed work on the project. It should also include a contact name, phone number (office & cellular), fax number, e-mail address and job performed.
2. Section 2 - Warranties
  - a. See Section 01740 – Warranties for warranty requirements.
3. Section 3 – Release of Lien and Affidavit
  - a. Provide a properly executed Final Waiver of Lien from each subcontractor, sub- subcontractor and or individual performing work on the Project.
4. Section 4 – Operation and Maintenance Manuals
  - a. The Operation and Maintenance Manuals shall be submitted in separate binders. Include in this binder a transmittal letter showing that the Operation and Maintenance Manuals have been delivered to the Engineer and who received and signed for the delivery and the date delivered. The Operation and Maintenance Manuals delivered to the Engineer shall be as follows:
    1. Assemble a complete set of operation and maintenance data indicating the operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:
      - a. Operation Data:
        1. Emergency instructions and procedures.
        2. System, subsystem, and equipment descriptions, including operating standards.

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3. Operating procedures, including startup, shutdown, seasonal, and weekend operations.
      4. Description of controls and sequence of operations.
      5. Piping diagrams.
    - b. Maintenance Data:
      1. Manufacturer's information, including list of spare parts.
      2. Name, address, and telephone number of installer or supplier.
      3. Maintenance procedures.
      4. Maintenance and service schedules for preventive and routine maintenance.
      5. Maintenance record forms.
      6. Sources of spare parts and maintenance materials.
      7. Copies of maintenance service agreements.
      8. Copies of warranties and bonds.
  2. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.
5. Section 5 – Project Record Documents (As-Builts)
- a. The Project Record Documents shall be submitted in a separate package (provide one hard copy with an electronic copy). Include in this binder a transmittal letter showing that the Project Record Documents have been delivered to the Engineer and who received and signed for the delivery and the date delivered. The "As-Built" drawings and specifications shall comply with the following:
    1. General: Do not use Project Record Documents for construction purposes. Protect Project Record from deterioration and loss. Provide access to Project Record Documents for Engineer's reference during normal working hours.
    2. Record Drawings: Maintain and submit one set of black-line white prints of Contract Drawings and Shop Drawings.
      - a. Mark Record Prints (As-Builts) to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is installer, subcontractor, or similar entity, to prepare the marked-up Record Prints.
      - b. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
      - c. Accurately record information in an understandable drawing technique.

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- d. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
  - e. Content: Types of items requiring marking include, but are not limited to, the following:
    - i. Post all Addenda on Drawings
    - ii. Dimensional changes to Drawings
    - iii. Revisions to details shown on Drawings
    - iv. Depths of foundations below first floor
    - v. Locations and depths of underground utilities
    - vi. Revisions to routing of piping and conduits
    - vii. Revisions to electrical circuitry
    - viii. Actual equipment locations
    - ix. Duct size and routing
    - x. Locations of concealed internal utilities
    - xi. Changes made by Change Order or Field Order
    - xii. Changes made following Engineer's written orders
    - xiii. Details not on the original Contract Drawings
    - xiv. Field record for variable and concealed conditions
    - xv. Record information on the Work is shown only schematically
  - f. Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked show cross-reference on Contract Drawings.
  - g. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
  - h. Mark important additional information that was either shown schematically or omitted from original Drawings.
  - i. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
  - j. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
6. Section 6 – Project Record Documents (Specifications)
- a. Record Specifications: Submit one hard copy and an electronic copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
    - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.



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2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
  3. Note related Change Orders, where applicable.
7. Section 7 – Permits and Reports
- a. Provide a copy of all permits and inspection reports that were required during the construction of the project. Including, but not limited to Building Permit, Building Inspector inspection reports, Fire Marshall Inspection Reports, Utility Inspections, Equipment Start-Up Reports, etc.
8. Section 8 – Termite Control - NOT APPLICABLE
9. Section 9 – Spare Parts and Maintenance Stock
- a. Provide a signed transmittal letter indicating that all spare parts and maintenance stock of materials has been delivered as required by various Sections of the Specifications. The transmittal letter shall indicate what items have been delivered, the quantity, where delivered, who received and the date received.

**PART 2 - PRODUCTS**

**2.1 MATERIALS**

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

**PART 3 - EXECUTION**

**3.1 DEMONSTRATION AND TRAINING**

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
  1. Provide instructors experienced in operation and maintenance procedures.
  2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
  3. Schedule training with Owner with at least 7 (seven) days' advance notice.
  4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.

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- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
  2. Review of documentation.
  3. Operations.
  4. Adjustments.
  5. Troubleshooting.
  6. Maintenance.
  7. Repair.

**3.2 FINAL CLEANING**

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturers written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits.
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Clean exposed exterior to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - f. Remove debris and surface dust from limited access spaces, including trenches and manholes.
    - g. Remove labels that are not permanent.
    - h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.

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- i. Leave Project clean and ready for use.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01770

## **DIVISION 02**

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**SECTION 02230  
SITE CLEARING**

1. SCOPE:

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

- 1. Protecting existing trees, shrubs, groundcovers, plants and grass to remain.
- 2. Removing existing trees, shrubs, groundcovers, plants and grass that interfere with work to be done or are noted to be removed.
- 3. Clearing and grubbing.
- 4. Stripping and stockpiling topsoil.
- 5. Removing above- and below-grade site improvements.
- 6. Disconnecting, capping or sealing and removing site utilities.
- 7. Temporary erosion and sedimentation control measures.

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

- A. Except for stripped topsoil or other materials indicated to remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site and disposed of in a legal and lawful manner. Stripped topsoil shall only be taken off site with the Owner's express written consent and only after all site needs are met.

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1.5 SUBMITTALS

- A. Photographs or videotape, sufficiently detailed, of existing conditions of trees and plantings, adjoining construction, and site improvements that might be misconstrued as damage caused by site clearing.
- B. Record drawings, according to Division 1 Section "Project Record Documents," identifying and accurately locating capped utilities and other subsurface structural, electrical, and mechanical conditions.

1.6 QUALITY ASSURANCE

- A. Contractor shall verify that all site clearing occurs within the boundary/property lines, particularly in areas where clearing approaches adjacent common property lines or noted buffers. Limit clearing to areas noted on the plans and to areas required for the installation of utilities.

1.7 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
  - 3. Provide trained flagmen and install traffic control devices. Operate warning lights in accordance with authorities having jurisdiction and to warn motorists of construction activity.
- B. Improvements on Adjoining Property: If necessary, Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner.
  - 1. Do not proceed with work on adjoining property until directed by Architect.
- C. Salvageable Improvements: Carefully remove items indicated to be salvaged and store onsite where designated or deliver to the Owner at an offsite location as directed.
- D. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing. Georgia "Call Before You Dig" Utilities Protection Center: 811. The Contractor shall also engage the services of a local Utility Locator Service firm to identify items within the project site perimeters that are not identified by the Utility Protection Center. The Bibb County School System's Maintenance Department shall also be available to provide additional locate services if needed. Damages to utilities caused by the Contractor shall be repaired by the Contractor at no additional cost to the Owner.

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- E. Do not commence site clearing operations until temporary erosion and sedimentation control measures are in place. Those measures that cannot be installed prior to site clearing must be installed concurrent with site clearing such that all cleared areas are fully contained at the end of each day's activities.

2. PRODUCTS:

2.1 SOIL MATERIALS

- A. Satisfactory Soil Materials: Requirements for satisfactory soil materials are specified in Division 02 Section "Earthwork."
  - 1. Obtain approved borrow soil materials off-site when satisfactory soil materials are not available on-site.

3. EXECUTION:

3.1 PREPARATION

- A. Contractor shall be responsible for all construction layout work.
- B. Protect and maintain benchmarks and survey control points from disturbance during construction.
- C. Locate and clearly flag trees and vegetation to remain or to be relocated.
- D. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner
- E. Provide surface water control during construction operations to direct runoff water to sediment ponds and barriers and to prevent damage to adjacent properties.

3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion and sedimentation control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to requirements of authorities having jurisdiction, sediment and erosion control Drawings, and in response to intermediate construction conditions.
- B. Inspect, repair, and maintain erosion and sedimentation control measures during construction until permanent vegetation has been established. Provide inspections in

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accordance with NPDES Permit No. GAR 100001. Maintain erosion controls on a daily basis.

- C. Contractor shall remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

3.3 TREE PROTECTION

- A. Erect and maintain temporary fencing around tree protection zones before starting site clearing. Remove fence when construction is complete.
  - 1. Do not store construction materials, debris, or excavated material within fenced area.
  - 2. Do not permit vehicles, equipment, or foot traffic within fenced area.
  - 3. Maintain fenced area free of weeds and trash.
- B. Do not excavate within tree protection zones, unless otherwise indicated.
- C. Where excavation for new construction is required within tree protection zones, hand clear and excavate to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.
  - 1. Cover exposed roots with burlap and water regularly.
  - 2. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
  - 3. Coat cut faces of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other approved coating formulated for use on damaged plant tissues.
  - 4. Backfill with soil as soon as possible.
- D. Repair or replace trees and vegetation indicated to remain that are damaged by construction operations, in a manner approved by Architect.
  - 1. Employ an arborist, licensed in Georgia, to submit details of proposed repairs and to repair damage to trees and shrubs.
  - 2. Replace trees that cannot be repaired and restored to full-growth status, as determined by Architect.

3.4 UTILITIES

- A. Locate, identify, disconnect, and seal or cap off utilities indicated to be removed.
  - 1. Arrange with utility companies to shut off indicated utilities.
- B. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:



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1. Notify Architect not less than two days in advance of proposed utility interruptions.
  2. Do not proceed with utility interruptions without Architect's written permission.
- C. Excavate for and remove underground utilities indicated to be removed.
- D. Disconnect, demolish, and remove piped utility systems, equipment, and components indicated to be removed.
1. Piping to Be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
  2. Piping to Be Abandoned in Place: Drain piping and cap or plug piping with same or compatible piping material.
  3. Equipment to Be Removed: Disconnect and cap services and remove equipment.
- E. If pipe, insulation, or equipment to remain is damaged in appearance or is unserviceable, remove damaged or unserviceable portions and replace with new products of equal capacity and quality.

3.5 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction.
1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
  2. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new construction.
  3. Use only hand methods for grubbing within tree protection zone.
  4. Dispose of all vegetation removed in a legal and lawful manner off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.
  2. After fill placement, grade surface to meet adjacent contours and to provide surface drainage.

3.6 TOPSOIL STRIPPING

- A. Remove sod, grass, brush, roots, wood, glass, stones, broken concrete, brick, concrete block, etc. before stripping topsoil.
- B. Strip topsoil, root zones, and cultivated material to whatever depths are encountered, from building pad and pavement areas and from all other cut and fill areas.

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1. Remove subsoil and nonsoil materials from topsoil, including trash, debris, weeds, roots, and other waste materials.
- C. Stockpile stripped topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  1. Do not stockpile topsoil within tree protection zones.
  2. Dispose of excess topsoil as specified in Division 31 Section - Earthwork.
- D. Allow testing company to review topsoil stripping and stockpiling. Stockpile cleanest topsoil for respreading on landscape and lawn areas.
- E. At completion of grading operations, minimum topsoil depth shall be 4 inches at all landscape areas including: ditches, grass swales, landscape areas and slopes. Contractor shall stockpile sufficient topsoil to provide the specified minimum depth. If adequate quantity of topsoil is not available from onsite, furnish topsoil from offsite as directed by Architect. Refer to Allowances and Unit Prices for requirements.

3.7 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Sawcut and remove all slabs, paving, curbs, gutters, and aggregate base as indicated.
  1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.
  2. Paint cut ends of steel reinforcement in concrete to remain to prevent corrosion.
- C. Use of explosives will not be permitted.

3.8 DISPOSAL

1. Disposal: Remove obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property. Burial of debris on-site shall not be allowed. No burning will be allowed.

END OF SECTION 02230

**SECTION 02300  
EARTHWORK**

1. GENERAL:

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

1. Preparing subgrades for walks, pavements, parking areas, driveways, lawns and grasses, and exterior plants.
2. Excavating and backfilling for buildings and structures.
3. Excavating and backfilling for utility trenches.
4. Excavating and backfilling pits for buried utility structures.
5. Removing sediment from temporary storage areas.
6. Spreading and finish grading of topsoil on all disturbed areas to be landscaped

- B. Related Sections include the following:

1. Division 01 Section "Allowances", if any, for quantity allowance provisions related to unit-price rock excavation and authorized additional excavation.
2. Division 01 Section "Unit Prices", if any, for unit-price rock excavation and authorized additional excavation provisions.
3. Division 01 Section "Temporary Facilities and Controls" for temporary controls, utilities, and support facilities.
4. Section 02230 "Site Clearing" for temporary erosion and sedimentation control measures, site stripping, grubbing, stripping and stockpiling topsoil, and removal of above- and below-grade improvements and utilities.
5. Section 02900 "Finishing Lawn and Landscape Areas" for finish grading, including preparing and placing topsoil and planting soil for lawns.

1.2 UNIT PRICES

- A. Unit Prices for Earthwork: NOT USED.
- B. Quantity Allowances for Earthwork: NOT USED.

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1.3 DEFINITIONS

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
  - 1. Initial Backfill: Backfill placed beside and over pipe to a minimum of 12 inches in a trench, including haunches to support sides of pipe.
  - 2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Bedding Course: Course placed over the excavated subgrade in a trench before laying pipe.
- C. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill. Offsite borrow areas shall be approved by the Geotechnical firm prior to use.
- D. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
  - 1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Architect. Authorized additional excavation and replacement material will be paid for according to Contract provisions for allowances and unit prices.
  - 2. Bulk Excavation: Excavation more than 6 feet in width and more than 30 feet in length.
  - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Architect. Unauthorized excavation, as well as remedial work directed by Architect, shall be without additional compensation.
- E. Fill: Soil materials used to raise existing grades.
- F. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation (Mass Rock) or 1 cu. yd. for footing, trench, and pit excavation (Trench Rock) that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings:
  - 1. Excavation of Footings and Trenches (Trench Rock): Late-model, track-mounted hydraulic excavator; having a bucket equipped with rock teeth, and having a curling force rating of not less than 40,000 pounds; measured according to SAE J-1179.
    - a. Trench rock shall consist of rock associated with linear excavations for storm or utility pipes or footings with a width of six feet (6') or less.
  - 2. Bulk Excavation (Mass Rock): Late-model, track-mounted dozer (D8K or larger or equivalent); pulling a single tooth ripper with a minimum drawbar pull of not less than 80,000 pounds; measured according to SAE J-732. Single tooth ripper shall be pulled across the rock surface at least two times in 8 directions of the compass, for a total of 16 passes.

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- a. Bulk excavation (mass rock) shall consist of rock associated with linear excavations that have a width greater than six feet (6') and all surface rock encountered that requires removal in order to achieve finished grades or subgrades.
  3. Any material that may be classified as rock shall be evaluated by the Geotechnical Engineer or his representative during the above noted classification evaluation and prior to excavation. No claims for payment of rock excavation will be paid for unless the classification and evaluation of the material is witnessed and verified by a representative of the Geotechnical Testing Company and witnessed by a representative of the Owner and Architect.
- G. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- H. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below base, drainage fill, or topsoil materials.
- I. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- J. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

1.4 SUBMITTALS

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
1. Classification according to ASTM D 2487 of each on-site and borrow soil material proposed for fill and backfill.
  2. Laboratory compaction curve according to ASTM D 698 for on-site soil material proposed for fill and backfill.
- B. Preexcavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces that might be misconstrued as damage caused by earthwork operations. Submit before earthwork begins.
- C. Photographic documentation of each section of storm drainage taken structure to structure at time pipe is bedded in stone shall be provided to the Owner prior to spreading of topsoil.

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1.5 REGULATORY REQUIREMENTS

- A. Verify and comply with all Federal, OSHA, State, County, City or local requirements concerning earthwork, excavation, and related activities.
- B. **WARNING: NO PERSON(S) SHALL ENTER MANHOLES OR OTHER UNDERGROUND STRUCTURES, TRENCHES, OR EXCAVATIONS WITHOUT PROTECTIVE BREATHING APPARATUS AND AT LEAST ONE OTHER PERSON PRESENT FOR SAFETY AND MONITORING AT ALL TIMES. CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE OSHA RULES AND REGULATIONS.**

1.6 QUALITY ASSURANCE

- A. **Blasting:** Comply with applicable requirements in NFPA 495, "Explosive Materials Code."
- B. **Geotechnical Testing Agency Qualifications:** An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548. Soil tests, field density tests, and testing of footing subgrades, observation and report of predensification shall be made by a Geotechnical Testing Agency (Geotechnical Engineer) and paid for in accordance with Division 1 Section "Testing Laboratory Services".
- C. Perform excavation work in compliance with applicable requirements of governing authorities having jurisdiction.
  - 1. Protect structures, utilities, sidewalks, pavement and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
  - 2. The Contractor, and all sub-contractors, shall be responsible for all safety measures, procedures, or devices as required by OSHA, Federal, State or local authorities. No person shall enter a manhole or other underground structure without protective breathing apparatus, and at least one other person present for safety. All earthwork, trenching, and grading operations shall conform to minimum OSHA requirements for safety, shoring, bracing, and protective measures.
- D. Barricade open excavations occurring as part of this work and post with warning lights.
  - 1. Operate warning lights as recommended by authorities having jurisdiction.

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1.7 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated.
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Architect's written permission.
  - 3. Contact the Georgia Utility Protection Center at 1-800-282-7411 to acquire a Digging Permit. It is also recommended that the Contractor also engage the services of a local Utility Locate Service firm to identify items within the project site perimeters that are not identified by the Utility Protection Center. The Bibb County School System's Maintenance Department will also be available to provide additional locate services upon request. Damages to utilities caused by the contractor shall be repaired by the Contractor at no additional cost to the Owner.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

2. PRODUCTS:

2.1 MATERIALS

- A. Satisfactory (suitable) soil materials are limited to soils classified in accordance with ASTM D 2487 Soil Classification Groups GC, SC, CL, GW, GP, GM, SW, SP, SM and ML or a combination of these groups; free of non-soil materials and rock fragments, larger than 2.5 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter. Satisfactory soils shall have a liquid limit less than 40, plastic index less than 25 and a Standard Proctor maximum dry density (ASTM D-698) greater than 90 pounds per cubic foot.
- B. Unsatisfactory Soils: Soil Classification Groups OL, CH, MH, OH, and PT according to ASTM D 2487 or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 3 percent of optimum moisture content at time of compaction. Rework of these soils shall be at the Contractor's expense.
- C. Unsuitable soil/materials are soils or materials defined as Soil Classification Groups OL, CH, MH, OH and PT and/or that are not suitable or appropriate for their intended use as determined by the Testing Agency or the Engineer of Record.
- D. Base Course: Graded, crushed aggregate base conforming to Georgia Department of Transportation specifications.

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- E. Backfill and Fill Materials for Trench Backfill: Satisfactory, suitable soils are defined in Section 312300 Paragraph 2.1A with the following exceptions:
  - 1. Initial Backfill: Initial backfill shall not contain non-soil and rock fragments exceeding one inch in any dimension.
  - 2. Final Backfill: Final backfill shall not contain non-soil and rock fragments exceeding 2 inches in any dimension.
- F. Floor Slab Base Material: Floor slab base material shall be #89 crushed stone.
- G. Drainage Course: Washed, #57 Stone meeting the Georgia Department of Transportation Specifications for Road and Bridge Construction Section 800 (latest edition).

2.2 ACCESSORIES

- A. Warning/Detection Tape: Tape shall be composed of a solid aluminum foil encased in a protective plastic jacket. Colors may be solid or striped. Tape shall be permanently printed with no surface printing allowed. Tape width shall be a minimum of 3 inches, and shall be buried at a depth between one and two feet deep. Detection tape shall be installed over all water and sanitary sewer mains, sanitary service laterals and storm drainage. Tape shall be colored as follows:
  - 1. Blue: Water systems.
  - 2. Green: Sewer systems.
  - 3. Green: Storm Sewer Systems.
- B. Tracer Wire: Buried water, sewer and electrical utility lines shall also have a tracer wire placed in the trench or excavation during backfill at a minimum of six (6) inches deep.

3. EXECUTION:

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.
- B. Preparation of subgrade for earthwork operations including removal of vegetation, topsoil, debris, obstructions, and deleterious materials from ground surface is specified in Division 31 Section "Site Clearing."
- C. Protect and maintain erosion and sedimentation controls, which are specified in Division 31 Section "Site Clearing," during earthwork operations.



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3.2 SHORING AND BRACING

- A. Stability of Excavations: Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions or stability of material excavated.
- B. Maintain sides and slopes of excavations in safe condition until completion of backfilling.
- C. Shoring and Bracing: Provide materials for shoring and bracing, such as sheet piling, uprights, stringers and cross-braces, in good serviceable condition.
- D. Establish requirements for trench shoring and bracing to comply with local codes and authorities having jurisdiction.
- E. Maintain shoring and bracing in excavations regardless of time period excavations will be open. Carry down shoring and bracing as excavation progresses.

3.3 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout and damage by rain or water accumulation.
  - 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
  - 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.
- C. Convey water removed from excavations and rain water to collecting or run-off areas. Establish and maintain temporary drainage ditches and other diversions outside excavation limits for each structure. Construct temporary drainage ditches to divert groundwater and subsurface water away from building and paving areas. Do not use footing excavations as temporary drainage ditches. Do not permit construction drainage onto adjacent property.

3.4 EXPLOSIVES

- A. There shall be no explosives used on this project site.

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3.5. EXCAVATION, GENERAL

- A. Classified Excavation: Excavate to subgrade elevations. Material to be excavated will be classified as earth and rock. Do not excavate rock until it has been classified and cross sectioned by the Geotechnical Engineer. The Contract Sum will be adjusted for rock excavation according to the provisions of the Contract.
  - 1. Earth excavation includes excavating pavements and obstructions visible on surface; underground structures, utilities, and other items indicated to be removed; together with soil, boulders, and other materials not classified as rock or unauthorized excavation.
    - a. Intermittent ram hammering; or ripping of material not classified as rock excavation is earth excavation.
  - 2. Rock excavation includes removal and off-site disposal of rock. Remove rock to lines and subgrade elevations indicated to permit installation of permanent construction.

3.6 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 0.10 feet. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.

3.7 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

3.8 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
  - 1. Beyond building perimeter, excavate trenches to allow installation of top of pipe at elevations indicated or below frost line, whichever is deeper.
- B. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated or required for safety purposes.
  - 1. Clearance: 12 inches each side of pipe or conduit unless pipe is in rock, in which case excavation shall be 6 inches clear on each side of pipe.

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- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  - 1. Allow for bedding courses as required for each item.
    - a. Sanitary Sewer Bedding – See Details.
    - b. Storm Drainage – See Details.
    - c. Provide photographic documentation of all pipe runs, structure to structure, at time of installation and prior to backfilling with soil.
  - 2. DO NOT BED OR BACKFILL STORMWATER POND OUTFLOW STORM SEWER PIPES AND STORM SEWER PIPES WITH A SLOPE GREATER THAN 5 PERCENT WITH STONE.

3.9 SUBGRADE INSPECTION, PREDENSIFICATION, PROOFROLLING AND TEST PITS

- A. Notify Geotechnical Engineer when excavations have reached required subgrade and when fill areas have been cleared and grubbed and topsoil removed.
- B. If Geotechnical Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
- C. Excavate test pits as directed by Geotechnical Engineer to determine limits of unsuitable materials and soft, loose soils and areas of potential rock. Excavate unsuitable materials and unsatisfactory materials as directed by Geotechnical Engineer.
- D. The entire stripped subgrade for building, sidewalks, paving and fill areas shall be scarified and compacted and then proof-rolled as recommended by the Geotechnical Engineer. The compaction efforts shall be sufficient to densify the subgrade of areas to receive fill to a minimum density of 98% in accordance with ASTM-D-698 for a depth of 12 inches. All at grade areas and cut surfaces shall be scarified and compacted to at least 98% of the same criteria.
- E. Proof-roll subgrade below the building slabs and pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
  - 2. Proof-roll with a loaded 10-wheel, tandem-axle dump truck or other rubber tired equipment weighing 15 to 20 tons.
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Geotechnical Engineer, and replace with compacted backfill or as directed.

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- F. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Geotechnical Engineer, without additional compensation.

3.10 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Architect.
  - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Architect.

3.11 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of trees to remain.

3.12 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, dampproofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash and debris.
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.
- B. Place backfill on subgrades free of mud, frost, snow, ice, vegetation, or other deleterious matter.

3.13 UTILITY TRENCH BACKFILL

- A. Do not backfill trenches until tests and inspections have been made and backfilling authorized by the Engineer or authorities having jurisdiction.

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- B. Do not backfill storm drain lines until bedded pipe is photographically documented.
- C. Place backfill on subgrades free of mud, frost, snow or ice.
- D. All storm drain trenches shall be backfilled with stone per the details shown on the Drawings. **DO NOT BED OR BACKFILL STORMWATER POND OUTFLOW STORM SEWER PIPES AND STORM SEWER PIPES WITH A SLOPE GREATER THAN 5 PERCENT.**
- E. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- F. Place and compact initial backfill of satisfactory soil, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the utility pipe or conduit.
  - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of utility piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- G. Backfill voids with satisfactory soils while installing and removing shoring and bracing.
- H. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- I. Install warning/locator tape directly above utilities, one to two feet below finished grade.

3.14 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 5 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.
  - 2. Under walks and pavements, use satisfactory soil material.
  - 3. Under steps and ramps, use satisfactory soil material.
  - 4. Under building slabs, use satisfactory soil material, to floor slab base material.
  - 5. Under footings and foundations, use satisfactory soil material.
- C. Place soil fill on subgrades free of mud, frost, snow, ice, vegetation or deleterious matter.

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3.15 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 3 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace or scarify and air dry otherwise satisfactory soil material that exceeds optimum moisture content by 1 percent and is too wet to compact to specified dry unit weight.

3.16 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure to prevent wedging.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698 and not less than the following percentages of relative density, determined in accordance with ASTM D 2049 for soils which will not exhibit a well-defined moisture-density relationship.
  - 1. Footings, Utility Trenches, Building and Pavement Structural Fill Zones, Building Slabs, Steps and Pavements: Compact to at least 98 percent of the Standard Proctor Maximum Dry Density.
  - 2. P.E. Field, Lawn or Landscape Areas Outside of Building and Pavement Structural Fill Zones: Compact each layer of backfill or fill soil material to 95%.
  - 3. Base Material for Building Slab: Compact with mechanical equipment to consolidate and smooth stone material. Allow testing company to review completed areas prior to proceeding with construction.

NOTE: Structural Fill Zone for building and pavement areas shall be defined by the area directly beneath the building and pavement plus extending 25 feet horizontally beyond the limits of each area and also the area encompassed by a 1 to 1 slope down to residual soils beginning at the 25 foot point.

3.17 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated, allowing for minimum depth of topsoil. Compact with uniform levels or slopes between points where elevations are shown or between such points and existing grades.

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1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
1. Curbs, Walks, Lawns, and Unpaved Areas: Plus or minus 1/2 inch. Backfill against curbs and pavement edges flush to provide smooth finish in areas to grassed. Grade areas to receive sod to allow for 1-1/2 inch thickness.
  2. Pavements: Plus or minus 1/2 inch.
- C. Grading Inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.
- 3.18 GRADING OF ALL LAWN AND LANDSCAPE AREAS (UNDER DIVISION 31 SECTION "EARTHWORK")
- A. General: Uniformly grade areas including adjacent transition areas. Smooth finish surfaces within specified to within plus or minus 0.10' between points where elevations are shown or between such points and existing grades. Grade areas adjacent pavement to slope as indicated on the drawings and to prevent ponding of water or sudden changes of grade.
- B. Topsoil Placement:
1. All areas of the site that are graded and are to be landscaped, seeded or sodded shall have a uniform layer of topsoil spread prior to final grading. Smooth and compact finished surface with uniform levels between points where elevations are shown or between such points and existing grades. Topsoil thickness shall be as follows:
    - a. Lawn and Landscape Areas Around Building (areas to be sodded): 6 inches of topsoil.
    - b. Slopes: 4 inches of topsoil.
  2. Grade elevation of topsoil relative to walks, curbs, paved surfaces, and drainage structures, manhole tops, valve boxes, etc. to conform to the following criteria.
    - a. Sodded Lawn Areas - One and one-half inches below finish grade to allow for placement of sod.
- C. Temporary and Permanent Grassing shall be performed in accordance with Division 32 Section "Landscape Work."

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3.19 BASE COURSE

- A. Place base course on subgrades free of mud, frost, snow, ice, vegetation or deleterious matter.
- B. On prepared subgrade, place base course under pavements as follows:
  - 1. Place base course material over subgrade course under hot-mix asphalt pavement.
  - 2. Shape base course to required crown elevations and cross-slope grades.
  - 3. Place base course 8 inches or less in compacted thickness in a single layer, unless mandated otherwise by Authorities having jurisdiction.
  - 4. Where indicated on the Drawings, place base course that exceeds 8 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  - 5. Compact base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 100 percent of maximum dry unit weight according to ASTM D 1557.
- C. Pavement Shoulders: Place shoulders along edges of base course to prevent lateral movement. Construct shoulders, at least 12 inches wide, of satisfactory soil materials and compact simultaneously with each subbase and base layer to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

3.20 FIELD QUALITY CONTROL:

- A. Quality Control Testing During Construction: Allow testing service to inspect and approve subgrades and fill layers before further construction work is performed. An experienced geotechnical engineer shall observe the pre-densification of the building and parking areas. One copy of results of all Compaction Test and observations of pre-densification shall be submitted to Owner, Architect and Engineer.
  - 1. Testing company shall perform field density tests in accordance with ASTM D 2937 (thin-walled tube method), ASTM D 2922 (nuclear method), or sand cone testing method ASTM D 1556.
  - 2. Pavement Subgrade Areas and Building Slab Subgrade: Make at least one field density test for each one foot lift for every 3,000 sq. ft. of building subgrade area and 5,000 sq. ft. in pavement subgrade areas.
  - 3. Lawn/P.E. Fields: Make at least one field density test for each one foot lift for every 7,500 sq. ft. of subgrade area.
  - 4. Topsoil Thickness: Test topsoil thickness one test per 5,000 sq. ft. of lawn/P.E. field area.
- B. Footing Subgrades: All footing subgrades shall be examined by an experienced geotechnical engineer or his representative immediately prior to placement of reinforcing steel. Auger and penetrometer testing, augmented by hand probing, shall be performed on all footings in accordance with the following:



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1. Auger and penetrometer testing: Minimum of one test for each 25 lineal feet of footing subgrade.
  2. Probe rod testing: Minimum of one test for each spread footing and one test for each 10 lineal feet of continuous footing.
- C. If in opinion of Engineer, based on testing service reports and inspection, subgrade or fills which have been placed are below specified density, provide additional compaction to meet the requirements specified herein. Re-testing of areas shall be at the Contractor's expense.

3.21 PROTECTION

- A. Protect Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
1. Scarify or remove and replace soil material to depth required; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.22 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Disposal: Remove waste material, trash, and debris, and legally dispose of it off Owner's property.

3.23 INSUFFICIENT FILL MATERIAL

- A. If the quantity or classification of onsite grading material is insufficient to meet project specifications or requirements for each phase of work, the Contractor shall obtain the required borrow material from offsite sources. No additional payment will be made to balance the earthwork or to compensate the Contractor for furnishing and placing suitable materials obtained from offsite sources.

3.24 EXCESS CUT MATERIAL

- A. If the quantity of grading material is in excess of the quantities necessary to provide subgrade and finish grade elevations indicated on the drawings for each phase of work, the excess material shall be disposed of offsite. No additional payment will be made for offsite disposal.

END OF SECTION 02300

**SECTION 02510**  
**SITE WATER DISTRIBUTION & FIRE PROTECTION**

1. SCOPE:

1.1 RELATED DOCUMENTS

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

1.2 SCOPE

- A. This section of the Specifications describes products to be incorporated into the water lines buried 5 feet beyond the building and requirements for the installation and use of these items. The Contractor shall furnish all products and perform all labor necessary to fulfill the requirements of these Specifications. Refer to Drawings for meter and backflow preventer requirements. Contractor shall pay cost for meters and connections to existing mains. Contractor shall furnish and install all backflow preventers with vaults and covers per Macon Water Authority Standards and Requirements and the Drawings. Contractor shall also have the backflow preventer(s) tested and certified prior to final inspection.
- B. Contractor shall coordinate all connections to water main with Macon Water Authority.
- C. The piping serving the fire protection system shall be installed by a fire protection contractor with a certificate of competency issued by the Georgia State Fire Marshall's Office or a Georgia State licensed Utility Contractor.

1.3 APPLICABLE STANDARDS

- A. Supply all products and perform all work in accordance with applicable American Society for Testing and Material (ASTM), American Water Works Association (AWWA), American National Standards Institute (ANSI), National Fire Protection Association (NFPA), National Sanitation Foundation (NSF), or other recognized standards. Latest revisions of all standards are applicable. If requested by the Owner, submit evidence that manufacturers have consistently produced products of satisfactory quality and performance for a period of at least two years.
- B. Comply with FMG's "Approval Guide" or UL's "Fire Protection Equipment Directory" for fire-service-main products.

1.4 MANUFACTURERS

- A. Whenever a product is identified in the Specifications by reference to manufacturers' or vendors' names, trade names, catalog numbers, etc., the Contractor may freely choose from

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those referenced products which ones he wishes to provide. Otherwise products shall meet the criteria set forth in the specifications for each item.

### 1.5 WARRANTY

- A. Water distribution systems installed by Contractors which are accepted by the Owner for ownership, operation and maintenance shall be warranted and guaranteed for a period of one year from the date of final acceptance that the completed system is free from all defects due to faulty products or workmanship, and that the Contractor shall make such corrections as may be necessary by reason of such defects upon notice by the Owner.

### 1.6 CONSTRUCTION DRAWINGS

- A. The term construction drawings shall mean drawings, prints, descriptive literature, test reports, samples, calculations, schedules, material lists and information and items of similar meaning.

### 1.7 SUBMITTALS REQUIRED

- A. The Contractor shall furnish to the Engineer, Owner and local water purveyor for review in accordance with the procedure outlined below, drawings and descriptive literature for all manufactured or fabricated products. Additional information such as special drawings, schedules, calculations and curves, shall be provided as specifically requested by the Engineer and/or Owner.

### 1.8 CONTRACTOR'S REVIEW

- A. The Contractor shall review and check drawings and submittals. He shall indicate his review by initials and date. The Contractor shall furnish the Engineer with a minimum of five copies of all submittals. A transmittal form shall accompany each submittal or group of submittals.

### 1.9 ENGINEER'S REVIEW

- A. All submittals will be reviewed, stamped, and dated by the Engineer before they are returned to the Contractor.
- B. One copy of reviewed submittals will be returned to the Contractor and the remaining copies retained by the Engineer.
- C. Submittals requiring minor corrections will be so noted. Drawings must be resubmitted for review prior to installation or use of products.

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1.10 CITY REVIEW

- A. All submittals will be reviewed, stamped and dated by the local water purveyor for compliance with their specifications.
- B. Where water purveyor's specified/accepted products differ from this specification, the Engineer shall determine the specified product to be installed.

1.11 DRAWINGS FOR CONSTRUCTION

- A. Drawings or other submittals not bearing the Engineer's review notation shall not be issued to subcontractors or utilized for construction purposes. The Contractor shall maintain at the job site a complete set of construction drawings bearing the Engineer's review.

2. PRODUCTS:

2.1 GENERAL

- A. Furnish all pipe, fittings, valves, tapping sleeves and valves, hydrants, and all other materials required for completion of the work. Furnish materials in accordance with the following:

2.2 PIPE

- A. 4 INCH - 8 INCH PVC: PVC pipe shall be AWWA C-900, ASTM D1784. Gaskets shall meet requirements of ASTM F477 and joints shall meet ASTM D3139. Domestic water mains (4 inch) shall be DR-18. Fire protection mains shall be DR-14. This piping may be used on site, only not within R.O.W. or vaults. Tracer wire for PVC Pipe: No. 12 bare copper wire.
- C. 4 INCH - 12 INCH - DUCTILE IRON PIPE (DIP): Ductile iron pipe shall conform to AWWA C151 and shall Pressure Class 350 and shall meet all Macon Water Authority specifications. Sizes will be as shown on the Drawings. Pipe and fittings shall be cement lined in accordance with AWWA C104. Pipe and fittings shall be furnished with a bituminous outside coating. Ductile iron pipe shall be utilized for all mains in R.O.W. and through meter and backflow preventer vaults.
  - 1. Joints shall be push-on type for pipe and standard mechanical or flanged restrained joints for fittings unless otherwise noted. Push-on and mechanical joints shall conform to AWWA C153 with gasket conforming to AWWA C111.
  - 2. Provide the appropriate gaskets for mechanical or flange joints. Gaskets for flange joints shall be made of 1/8-inch thick cloth reinforced rubber; gaskets may be ring type or full face type and must comply with the indicated water pressures in this specification.
  - 3. Provide the necessary bolts for mechanical or flange connections. Bolts for flange connections shall be steel with American Regular unfinished square or hexagon

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heads. Nuts shall be steel with American Standard Regular hexagonal dimensions, all as specified in ANSI B 17.2. All bolts and all nuts shall be threaded in accordance with ANSI B.1.1. Coarse Thread Series, Class 2A and 2B fit.

4. All pipe shall be furnished in lengths of at least 18 feet.

D. Warning tape for all pipe shall be per Division 31 Section "Earthwork."

E. Acceptance of all pipe will be on the basis of the Engineer's review and the manufacturer's written certification that the pipe was manufactured and tested in accordance with the applicable standards.

### 2.3 DUCTILE IRON FITTINGS AND ACCESSORIES

A. Fittings shall be restrained joint ductile iron furnished in accordance with ANSI Specifications A21.10 (AWWA C110), latest revision, and shall be a minimum of 250 psi pressure class rating. Joints shall be mechanical joint with retainer glands with set screws. Cement mortar lining shall be furnished for all pipe.

1. Mechanical joints shall be ductile iron compact pattern in accordance with AWWA C153.

2. Glands, gaskets and bolts shall conform to AWWA C111.

B. 3 INCH AND SMALLER GATE VALVES (GV): Gate valves 3 inches and smaller shall have bronze body, bronze rising stem, solid wedge and threaded bronze bonnet in accordance with UL 262 and FMG Approved with 175 psi working pressure.

C. 4 - 12 INCH GATE VALVES (GV): Gate valves shall be mechanical joint end, resilient seat, iron body, bronze mounted, non-rising stem with O-ring stemseals, open left. Gate valves 3" through 12" shall be designed for a water working pressure of 200 psi and a test pressure of 400 psi. Valves 14" and larger shall be designed for a water working pressure of 150 psi and a test pressure of 300 psi. Valves 4" through 12" will be designed for installing in a vertical position. Valves larger than 12" will be designed for a horizontal installation and equipped with bevel gearing, gear case, tracks, rollers, scrapers and by-pass valves.

D. Gate valves shall be UL listed and FMG Approved and conform to AWWA standard specification C-509, latest revision for "Ordinary Water Works Service," with interior coating complying with AWWA C550.

E. Valve Boxes (VB): All gate valves shall be equipped with valve boxes. Valve boxes shall comply with AWWA M44 for cast iron valve boxes. Valve boxes shall be heavy roadway type. The valve boxes shall be cast iron two-piece slip or screw type with drop covers marked "WATER." The valve boxes shall be adjustable to 6 inches up or down from the nominal required cover over the pipe. Typical valve box details are shown on the plans.

1. All valve boxes shall be equipped with concrete collar as detailed on the plans.

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2. Provide one operating wrench with stem of length to operate the deepest buried valve, and socket matching valve operating nut.
- F. Tapping Sleeves and Valves (TS&V): Tapping sleeves shall be of the split sleeves, stainless steel, mechanical joint type. Valves shall be gate valves furnished in accordance with the specifications shown above, with flanged connection to the tapping sleeve and mechanical joint connection to the branch pipe. The necessary bolts, glands, and gaskets shall be furnished.
- G. OS&Y, Rising Stem, Resilient Seated Gate Valves: Shall conform to AWWA C500 and shall be allowed for use in the backflow preventers, only.
- H. Fire Hydrants (FH): All fire hydrants shall conform to the requirements of AWWA C 502 UL 246 and FMG Approved for 150 psi working pressure. Hydrants shall be the compression type, closing with line pressure. The valve opening shall be 5-1/4 inches. Hydrants shall conform to Macon Water Authority's standards and specifications.
1. In the event of a traffic accident, the hydrant barrel shall break away from the standpipe at a point above grade and in a manner which will prevent damage to the barrel and stem, preclude opening of the valve, and permit rapid and inexpensive restoration without digging or cutting off the water.
  2. The means for attaching the barrel to the standpipe shall permit facing the hydrant a minimum of eight different directions.
  3. Hydrants shall be fully bronze mounted with all working parts of bronze. Valve seat ring shall be bronze and shall screw into a bronze retainer.
  4. All working parts, including the seat ring shall be removable through the top without disturbing the barrel of the hydrant.
  5. The operating nut shall match those on the existing hydrants. The operating threads shall be totally enclosed in an operating chamber separated from the hydrant barrel by a rubber O-ring stem seal and lubricated by a grease or oil reservoir. A stop nut shall be positioned in the top operating mechanism so that the valve cannot contact the bottom of the shoe when fully open.
  6. Hydrant shall be a non-freezing design and provided with a simple, positive, and automatic drain which shall be fully closed whenever the main valve is opened.
  7. Hose and pumper connections shall be breech-locked, pinned, and then caulked with lead; or threaded and pinned, to seal them permanently into the hydrant barrel. Each hydrant shall have two 2-1/2 inch hose connections, and one pumper connection. Equip each connection with cap and chain. Threads shall match Macon Water Authority's standards.
  8. Hydrants shall be furnished with a mechanical joint shoe connection to the spigot of the 6-inch hydrant lead.
  9. Minimum depth of bury shall be 4.0 feet. Provide extension section where necessary for vertical installation and in accordance with manufacturer's recommendations.

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10. All outside surfaces of the barrel above grad shall be painted with two coats enamel paint to match water company standards.
  - I. Water Meters and Backflow Preventers: Refer to Drawings for requirements. Contractor shall pay all cost for meters and backflow preventers.
  - J. Concrete Vaults: Furnish concrete vaults w/lid and access hatches per Macon Water Authority Standards.
  - K. Post Indicators: Indicator post for underground gate valves in the firemain shall be U.L. listed, FM approved, cast iron body with steel operating rod with locking lug, operating handle and indicator target protected by plexiglass cover. Body and operating rod length shall be field adjustable to the required depth of bury. Indicator posts shall be Stockham G-951, Nibco NIP-1A or American/Darling 1P71. Post indicators shall be equipped with padlocks provided by the Contractor. Keys shall be turned over to the Owner.
  - L. Tamper Switches: Tamper switches for post indicators shall be designed for installation on indicator valves with cased aluminum housing with red finish; U.L. Listed, F.M. approved. The switch shall operate when the valve is intentionally or accidentally closed. Tamper switches for backflow preventer valves shall be designed for installation on operating stem and yoke valves and shall be U.L. Listed, F.M. approved. The switch shall open when the valve is intentionally or accidentally closed. Connect to alarm devices to building fire alarm as specified in Division 13 Section "Fire Alarm."
  - M. Fire Department Connections (Siamese Connections): Fire Department connections shall be freestanding with cast-bronze body, thread inlets according to NFPA 1963 and matching Macon-Bibb County Fire Department hose threads and threaded bottom outlet. Include lugged caps, gaskets, and chains; lugged swivel connection and drop clapper for each hose connection inlet; brass sleeve meeting Macon Bibb County Fire Department's height requirements; and round escutcheon plate with marking "AUTO SPKR" and/or "STANDPIPE." Fire department connections shall comply with UL 405.
3. EXECUTION:
- A. Unloading: Furnish equipment and facilities for unloading, handling, distributing and storing pipe, fittings, valves and accessories. Make equipment available at all times for use in unloading. Do not drop or dump materials. All materials dropped or dumped will be subject to rejection without additional justification.
  - B. Handling: Handle pipe, fittings, valves and accessories carefully to prevent shock or damage. Handle pipe by rolling on skids, forklift, or front loader. Do not use material damaged in handling.

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- C. Distribution: Distribute and place pipe and materials to not interfere with traffic. Do not string pipe more than 300 feet beyond the area where pipe is being laid. Do not obstruct drainage ditches.
- D. Storage: Store all pipe which cannot be distributed along the route. Make arrangements for the use of suitable storage areas. Do not interfere with other contractors right to access.
- E. Construction Along Highways, Streets and Roadways: Install pipe lines and accessories along highways, streets and roadways in accordance with the applicable regulations of the City, and/or the Department of Transportation with reference to construction operations, safety, traffic control, road maintenance and repair.
- F. Protection of Traffic: Provide and maintain suitable signs, barricades and lights for protection of traffic.
  - 1. Replace all highway signs removed for construction as soon as possible. Do not close or block any highway, street, or roadway without first obtaining permission from the proper authorities.
  - 2. Provide flagmen to direct and expedite the flow of traffic.
- H. Construction Operations: Perform all work along highways, streets and roadways to least interfere with traffic.
- I. Stripping: Where the pipe line is laid along road shoulders, strip and stockpile all sod, topsoil and other material suitable for shoulder restoration.
- J. Trenching, Laying and Backfilling: Do not open the trench any further ahead of pipe laying operations than is necessary. Backfill and remove excess material immediately behind laying operations. Complete excavation and backfill for any portion of the trench in the same day.
- K. Shaping: Reshape damaged slopes, side ditches, and ditch lines immediately after completing backfilling operations. Replace topsoil, sod and any other materials removed from shoulders.
- L. Excavated Materials: Do not place excavated material along highways, streets and roadways in a manner which obstructs traffic. Sweep all scattered excavated material off of the pavement.
- M. Drainage Structures: Keep all side ditches, culverts, cross drains, and other drainage structures clear of excavated material and free to drain at all times.
- N. Maintaining Highways, Streets, Roadways and Driveways: Maintain streets, highways, and roadways in suitable condition for movement of traffic until completion and final



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acceptance of the work. Use steel running plate to maintain traffic until pavement replacement is completed.

1. NOTE: Traffic must be maintained at all times. When one lane is closed, flagmen must be utilized to maintain traffic flow.
  2. Repair all driveways that are cut or damaged immediately. Maintain them in a suitable condition for use until completion and final acceptance of the work.
- O. Existing Underground Utilities and Obstructions: It is the responsibility of the Contractor to locate all existing utilities along the path of his construction. The drawings shall indicate underground utilities or obstructions that are known to exist. Where these or unforeseen underground utilities are encountered, the location and alignment of the water main may be changed, upon written approval of the Engineer and Owner, to avoid interference.
- P. Connections to Existing Pipe Lines: Before laying pipe, the Contractor shall locate the points of connection to existing pipe lines and uncover as necessary for the Engineer and Owner to confirm the nature of the connection to be made. The Contractor shall furnish materials and make the connection to all existing pipe lines. The Contractor will be observed during construction of tie-ins by the Utility Owner and the Engineer. The Contractor shall use all available practices and resources to minimize the time the customers are without water. The Contractor shall notify Water Purveyor's Customers of Water outages at least 24 hours in advance.
- Q. Laying Pipe
1. General: Unless specifically indicated on the plans or called for in the specifications, water lines shall be constructed with restrained joint fittings and mechanical joint valves.
  2. Field Inspection: All pipe and accessories shall be laid, jointed, tested for defects and for leakage with pressure and chlorinated in the manner herein specified in the presence of the Engineer or his authorized representative and subject to their approval.
- R. Handling Pipe and Accessories
1. Care: Pipe, fittings, valves and other accessories shall be unloaded at the point of delivery, hauled to and distributed at the site of the project by the contractor; they shall at all times be handled with care to avoid damage. In loading and unloading they shall be lifted by hoists or slid or towed on skid-ways in such a manner as to avoid shock. Under no circumstances shall they be dropped. Pipe handled on skidways must not be skidded or rolled against pipe already on the ground.
  2. At Site of Work: In distributing the material at the site of the work, each piece shall be unloaded opposite or near the place where it is to be laid in the trench and shall be laid on high ground so that it will not be in a drainage way.

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3. Bell Ends, How Faced: Pipe shall be placed on the site of the work parallel with the trench alignment and with the bell ends facing the direction in which the work will proceed, unless otherwise directed by the Engineer.
4. Pipe Kept Clean: The interior of all pipe, fittings and other accessories shall be kept free from dirt and foreign matter at all times.

S. Alignment and Grade

1. General: All pipe shall be laid and maintained in the required lines and grades, with fittings and valves at the required locations, with joints centered and spigots home, and with all valve stems plumb.

T. Depth of Pipe: The top of the barrel of the pipe shall have a minimum cover of forty-eight inches. A greater depth of cover is required in certain sections of the main, such as railroad crossings, valve locations and other sections of special construction, and within State and Federal highway rights-of-way.

U. Excavation and Preparation of Trench

1. See Division 31 Section "Earthwork" for additional requirements.
2. Description: The trench shall be dug to the alignment and depth required and not to exceed 200 feet in advance of the pipe laying. The trench shall be braced if work therein cannot proceed safely and efficiently. It is essential that the discharge from any pumps be led to natural drainage channels, to drains or to storm sewers.
3. Pipe Foundation: The pipe shall be laid upon a sound earthen foundation cut true and even so that the barrel of the pipe will have a bearing for its full length.
4. Care of Surface Materials for Re-Use: If local conditions permit their re-use, all surface materials suitable for re-use in restoring the surface shall be kept separate from the general excavation material.
5. Trenching by Machine or by Hand: The use of trench digging machinery will be permitted except in places where operation of same will cause damage to existing structures above or below ground; in which case hand methods shall be employed. Excavation shall be made by ladder type machine or backhoe.

V. Pipe Installation

1. Manner of Hauling Pipe and Accessories: Proper implements, tools and facilities shall be provided and used by the contractor for the safe and convenient execution of the work. All pipe, fittings and valves shall be carefully lowered into the trench piece by piece by means of derrick ropes or other suitable tools or equipment, in such manner as to prevent damage to pipe to pipe or accessories be dropped or dumped into the trench.
2. Inspection: Before lowering and while still suspended, the pipe shall be inspected for defects. Any defective, damaged or unsound pipe shall be rejected.

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3. Pipe Kept Clean: All foreign matter or dirt shall be removed from the pipe, and it shall be kept clean by approved means during and after laying.
4. Laying of the Pipe: The spigot shall be centered in the bell, the pipe forced "home" and brought into true alignment; it shall be secured there by earth carefully tamped under and on each side of it, excepting at the bell holes. Care shall be taken to prevent dirt from entering the joint space. No "blocking up" of pipe or joints will be permitted. The joint shall be made as hereinafter described.
5. Install continuous underground warning tape during backfilling of trench for underground water distribution in addition to copper tracer wire. Locate below finished grade, directly over piping. Underground warning tapes are specified in Division 31 Section "Earthwork."
6. Trench Water Entering Pipe: At times when pipe laying is not in progress, the open ends of the pipe shall be closed by approved means and no trench water shall be permitted to enter the pipe.
7. Cutting Pipe: Cutting of pipe for inserting valves, fittings or closure pieces shall be done in a neat workmanlike manner without damage to the pipe.
8. Bell Ends Face Direction of Laying: Unless otherwise directed, pipe shall be laid with bell ends facing in the direction of laying; and for lines on an appreciable slope, bells shall, at the discretion of the engineer face up-grade.
9. Permissible Deflections at Joints: Wherever necessary to deflect pipe from a straight line, either in the vertical or horizontal plane to avoid obstructions, the degree of deflection shall be according to manufacturer's recommendations.
10. Unsuitable Conditions for Laying Pipe: No pipe shall be laid in water, or when the trench conditions or the weather is unsuitable for such work.
11. Jointing Pipe-Mechanical Joints: The following steps shall be taken in making mechanical joints:
  - a. All lumps, blisters and excess coal-tar enamel shall be removed from socket and spigot of the pipe.
  - b. Wash socket and plain end with soapy water containing chloride solution; then slip gland and gasket over plain end. The small side of gasket and lip gland shall face bell.
  - c. Paint gasket with soapy solution containing chlorine.
  - d. Push gasket into position, being sure it is evenly seated in socket.
  - e. Slide gland into position; insert bolts and run nuts up finger tight.
  - f. Tighten bolts to uniform tightness with correct ratchet wrench. The first bolt tightened shall be the bottom bolt, then top. All other bolts shall be tightened in sequence at 180 degrees apart.
11. Setting Valves, Valve Boxes and Fittings:
  - a. General: Gate valves and pipe fittings shall be set and jointed to new pipe in the manner heretofore specified for cleaning, laying and jointing pipe.
12. Valve Boxes: Cast iron valve boxes shall be firmly supported, and maintained centered and plumb over the wrench nut of the gate valve, with box cover.
13. Plugging Dead Ends: Standard plugs shall be inserted into the bells of all dead ends of pipes, tees or crosses and spigot ends shall be capped. Plugs or caps shall be jointed to the pipe or fittings in the manner specified above.

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14. Thrust Blocking: Concrete having compressive strength of not less than 1500 psi shall be used as a cradle or thrust blocking where shown on the plans or where directed by the Engineer. Bends exceeding 22-1/4 degrees, crosses with one opening plugged, and all tees shall be backed with concrete as a thrust block. Blocking shall be placed between solid ground and the fitting to be anchored; the area of bearing on the pipe and on ground in each instance shall be that shown on the plans. The blocking shall be so placed that the pipe fitting joints will be accessible for repair. No extra payment will be made for the thrust blocks.

W. Pressure and Leakage Tests

1. Pressure During Test: Immediately after the pipe has been laid and backfilled, but prior to the placement of pavement, each valved section of newly laid pipe shall be subjected to a leakage and pressure test. For any section being tested the pressure applied shall be such that at the highest point in the section, the pressure shall be 200 pounds per square inch. Test shall be conducted as per NFPA-13. Test on fire protection supply shall be witnessed by Fire Marshall, Owner and Architect/Engineer.
2. Procedures: Each valved section of pipe shall be slowly filled with water and the specified test pressure, measured at the point of highest elevation shall be supplied by means of a pump connected to the pipe in a satisfactory manner. The pump, pipe connection, and all necessary apparatus, gauges, and meters shall be furnished by the contractor. The contractor shall furnish all necessary labor and assistance in conducting the tests. The owner will furnish, through connections made by the contractor to existing mains, water for filling the lines for making the test.
3. Expelling Air Before Tests: Before applying the specified test pressure, all air shall be expelled from the pipe. To accomplish this, taps shall be made, if necessary, at points of highest elevation and afterward tightly plugged.
4. Examination Under Pressure: At intervals during the test, the route of the pipe line shall be inspected to locate any leaks or breaks. Any cracked or defective joints, cracked or defective pipe, fittings or valves discovered in consequence of this pressure test shall be removed and replaced with sound material in the manner provided and the test shall be repeated until satisfactory results are obtained.
5. Leakage: No detectable leakage will be allowed during the pressure testing.

X. Backfilling, Cleaning Up and Maintaining Surfaces

1. Time of Backfilling: As soon as practicable after the completion of laying and jointing of the pipe, the trench shall be backfilled, and at no time shall the completed backfilling of the trench be more than 300 feet behind the pipe laying.
2. Backfill Procedure at Pipe Zone: Select backfill material free from rock fragments shall be deposited in the trench simultaneously on both sides of the pipe for the full width of the trench and to an elevation of twelve inches above the top of the barrel of the pipe. The backfill material shall be moistened if necessary, tamped in thin

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- (about 4-inch) layers and thoroughly compacted under and on each side of the pipe to provide solid backing against the external surface of the pipe.
3. Backfill Procedure Above the Pipe Zone: Succeeding layers of backfill may contain coarser materials and shall be compacted thoroughly to the natural ground surface. Refer to Division 31 Section "Earthwork" for requirements of trench compaction.
  4. PVC Pipe Location: Install #12 bare copper locator wire approximately 2 feet below finished grade for all PVC pipes installed under this section. This tracer wire shall be in addition to warning tape specified in Division 31 "Earthwork."
  5. Restoration of Surfaces: The contractor shall replace all curbing, sidewalks, gutters, shrubbery, fences, sod, and other surfaces disturbed to a condition equal to that before the work began, furnishing all labor and materials incidental thereto and complete the work in a manner satisfactory to the Engineer. Replacement to street base and surface removed to permit installation of pipe lines shall be provided for elsewhere in these specifications.
  6. Backfill Under Paved Streets: Backfill under paved streets shall be thoroughly compacted, and as shown on the detailed drawings.
  7. Surplus Earth: Surplus excavated materials from trenches in streets or at railroad crossings shall be disposed of by the contractor at this expense and in a manner satisfactory to the Engineer.
  8. Cleaning Up: Surplus pipe line materials, tools, surplus excavated materials, rubbish, and temporary structures shall be removed by the contractor and the construction site shall be left clean, to the satisfaction of the engineer. The line shall be cleaned up immediately after satisfactory pressure test has been made.
  9. Maintenance of Surfaces: Following the certification of completion by the Engineer, the contractor shall maintain the surface of the unpaved trenches, adjacent curbs, sidewalks, gutters and other surfaces disturbed for a period of three months thereafter.
  10. All materials and labor required for the maintenance of the trenches and adjacent structures shall be supplied by the contractor and the work shall be done in a manner satisfactory to the Engineer.
  11. Disinfection of Mains: The contractor shall disinfect all new mains, furnishing all labor, equipment and material necessary for the complete disinfection of the mains as hereinafter provided. Mains shall be disinfected by the application of a chlorinating agent into the water used for the initial filling of the mains. The chlorinating agent may be chlorine gas-water mixture, calcium hypo-chlorite in water, or chlorinated lime of known chlorine content in water and shall be fed through a suitable solution feed device. The chlorinating agent shall be applied at or near the beginning point from which the main is being filled and shall be injected into the main through a corporation cock tapped into the horizontal exit of the newly laid main. The water being used to fill the line shall be controlled to flow into the section to be sterilized very slowly and the rate of application of the chlorinating agent shall be in such proportion to the rate of the water entering the pipe that the chlorine dose applied to the water shall be at least 50 ppm. The chlorine treated water shall be retained in the new main at least 24 hours and a 10 ppm of residual chlorine shall remain after the 24 hour period. Following chlorination all treated

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water shall be flushed from the mains until replacement water shall have a chlorine content of not more than 0.1 ppm in excess of the residual in water from the supplying main and in any event not less than 0.2 ppm. Samples of the water shall be taken from several points in the new lines and submitted to a State Approved lab for bacteriological analysis. Should the analysis show contamination, the system shall be re-chlorinated and further samples taken and submitted for analysis until no contamination is indicated.

END OF SECTION 02510

**SECTION 02630  
STORM DRAINAGE**

1. GENERAL:

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this Section.
- B. Georgia Department of Transportation Specifications and Details, latest edition or revision.

1.2 SUMMARY

- A. This Section includes gravity-flow, non-pressure storm drainage with the following components:
  - 1. Cleanouts.
  - 2. Drains.
  - 3. Precast concrete drainage structures.
- B. Related Sections include the following:
  - 1. Division 02 Section "Earthwork" for excavation, trenching, and backfilling requirements.

1.3 DEFINITIONS

- A. RCP: Reinforced Concrete Pipe.
- B. HDPE: High Density Polyethylene Plastic Pipe/Smooth Interior (and exterior) Corrugated Polyethylene Pipe.

1.4 PERFORMANCE REQUIREMENTS

- A. Gravity-Flow, Drainage Piping: Pipe shall be as specified under Part 2 - Products.

1.5 SUBMITTALS

- A. Product Data: For the following:
  - 1. Special pipe fittings.

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2. Drains.
3. Channel drainage systems.
4. Storage and leaching chambers.

B. Shop Drawings: For the following:

1. Drainage Structures: Include elevations, sections, details, frames and covers, reinforcing, thickness grate type for each type structure indicated on the plans.

C. Field quality-control test reports.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Protect pipe, pipe fittings, and seals from dirt and damage.
- B. Handle manholes according to manufacturer's written rigging instructions.
- C. Handle stormwater inlets according to manufacturer's written rigging instructions.

1.7 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:

2. PRODUCTS:

2.1 MANUFACTURERS

- A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:
  1. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, manufacturers that offer products complying with the specifications.
  2. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 PIPING MATERIALS

- A. 12 Inch and Smaller Storm Sewers: Pipe and fittings shall meet all the requirements of HDPE (Smooth Interior Corrugated Polyethylene Pipe) as per AASHTO M294. Joints and fittings for HDPE shall be as specified below.



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B. 15 Inch and Larger Storm Sewers: Refer to drawings for areas where a specified type of pipe must be used. Unless a specific type of pipe is called for on the Drawings, the Contractor shall have the option of installing one of the types of storm sewers listed below.

1. Reinforced Concrete Pipe (RCP): Reinforced concrete pipe (RCP) shall meet the requirements of ASTM Designation C-76, Class III and the latest revisions thereof. Pipe joints shall be either tongue and groove with mortar joint or "O" ring type joints. Pipe shall meet GA D.O.T. Specifications and shall be stamped by D.O.T.
2. Smooth Interior Corrugated Polyethylene Pipe (HDPE), 4"-36":
  - a. Polyethylene Pipe shall be high density polyethylene corrugated pipe with an integrally formed smooth interior.
  - b. This specification is applicable to nominal sizes 4-36 inch diameter. Requirements for test methods, dimensions, and markings are those found in AASHTO Designations M252 and M294.
  - c. Pipe and fittings shall be made of polyethylene compounds which meet or exceed the requirements of Type III, Category 4 or 5, Grade P33 or P34, Class C per ASTM D1248 with the applicable requirements defined in ASTM D1248. Clean, reworked material may be used.  
 Minimum parallel plate pipe stiffness values shall be as follows:

Diameter	Pipe Stiffness*
4"	50 psi
6"	50 psi
8"	50 psi
10"	50 psi
12"	45 psi
15"	42 psi
18"	40 psi
24"	34 psi
30"	28 psi
36"	22 psi

\*Per ASTM Test Method D2412

- d. The pipe and fittings shall be free of foreign inclusions and visible defects. The ends of the pipe shall be cut squarely and cleanly so as not to adversely effect joining.
- e. The nominal size for pipe and fittings is based on the nominal inside diameter of the pipe. Corrugated fittings may be either molded or fabricated by the manufacturer. Fittings supplied by manufacturers other than the supplier of the pipe shall not be permitted without the approval of the Project Engineer.

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- f. Joints shall be made with silt tight and soil tight couplings with o-ring gasket.
- g. Installation shall be in accordance with ASTM Recommended Practice D2321 or as specified by the Project Engineer or local approving agency.
- 3. Smooth Interior and Exterior Polyethylene Pipe (HDPE), 42"-60":
  - a. Polyethylene Pipe shall be high density polyethylene corrugated pipe with an integrally formed smooth interior and exterior, in accordance with AASHTO M294M and AASHTO MP7.
  - b. This specification is applicable to nominal sizes 42"-60" diameter. Requirements for test methods, dimensions, and markings are those found in AASHTO Designations.
  - c. Pipe and fittings shall be made of polyethylene compounds which meet or exceed the requirements of Type III, Category 4 or 5, Grade P33 or P34, Class C per ASTM D1248 with the applicable requirements defined in ASTM D1248. Clean, reworked material may be used.

Minimum parallel plate stiffness values shall be as follows:

Diameter	Pipe Stiffness*
42"	19 psi
48"	17 psi
60"	14 psi

\*Per ASTM Test Method D2412

- d. The pipe and fittings shall be free of foreign inclusions and visible defects. All holes of any kind in the corrugation crests or sidewalls shall be considered unacceptable. The ends of the pipe shall be cut squarely and cleanly so as not to adversely effect joining.
  - e. The nominal size for the pipe and fittings is based on the nominal inside diameter of the pipe. Corrugated fittings may be either molded or fabricated by the manufacturer. Fittings supplied by manufacturers other than the supplier of the pipe shall not be permitted without the approval of the Project Engineer.
  - f. Joints shall be made with watertight couplings with o-ring gasket.
  - g. Installation shall be in accordance with ASTM Recommended Practice D2321 or as specified by the Project Engineer or local approving agency.
- C. Cast-in-place concrete shall have minimum compressive strength of 3000 psi at 28 days. Slump shall be 3" + 1". Reinforcing shall be sufficient to match ASTM C478.
- D. Brick: Brick for manholes and catch basins shall be first quality, sound, hard burned, perfect shaped brick, presenting a smooth regular shape. Brick shall not absorb more than 16 percent of water by weight when submerged in water for 24 hours, having been in a thoroughly dry state prior to placing in water. Where pre-cast structures are not feasible for use or at the Contractor's options, brick shall be used to form structures to the dimensions indicated for each structure on the detail sheets.

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- E. Mortar: All cement used in mortar shall conform to ASTM Designation C150, and the latest revision thereof. All mortar used shall be composed of one part Portland Cement and two parts of fine sand.
- F. Cast Iron: Cast iron for manhole frames and covers and catch basin frames and grates, and manhole steps shall conform to the shape and dimensions shown on the Plans, and shall be clean and perfect, free from sand and blow holes or other defects. Cast iron shall conform to ASTM Designation A-48-74 for Class No. 30 gray cast iron.
- G. Precast Concrete Structures: Precast concrete storm drainage structures shall conform to the requirements of ASTM C478. Dimensions and reinforcement steel shall be as shown on the details and as required by ASTM C478. Submit shop drawings of precast structures for review.
- H. Drainage Structures: Drainage structures shall be installed at locations indicated on the Drawings. Refer to Drawings for details.

2.3 CLEANOUTS

- A. Cleanouts: Shall be as shown on the plan details for storm sewer with countersunk, tapered-thread, brass closure plug, and concrete collar.
  - 1. Top-Loading Classification(s): Heavy duty.
  - 2. Sewer Pipe Fitting and Riser to Cleanout: Shall be as shown on the Drawings.

2.4 DRAINAGE STRUCTURES

- A. Standard Precast Concrete Drainage Structures: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
  - 1. Base Section: 6-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section and having separate base slab or base section with integral floor.
  - 2. Riser Sections: 6-inch minimum thickness, lengths to provide depth indicated, and diameter provided for piping and deflections as shown on plans.
  - 3. Top Section: Provide necessary adapters, brick construction, precast concrete trays and intermediate tops necessary to accommodate inlet tops as shown on the details.
  - 4. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
  - 5. Steps: Cast or anchor steps into sidewalls at 12- to 16-inch intervals. Omit steps if total depth from floor of catch basin to finished grade is less than 48-inches. Steps shall be as shown in the detail Drawings.
  - 6. Pipe Connections: All pipe connection to precast concrete structures shall be grouted in place on both interior and exterior with full bed of grout.

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2.5 STORMWATER INLETS

- A. Curb Inlets: Made with vertical curb opening, of materials and dimensions according to details. Curb inlet hoods shall be of "City of Macon" standards, unless shown otherwise.
- B. Drop Inlets: Made with horizontal opening, of materials and dimensions according to details. Include heavy-duty frames and grates with H-20 load rating.
- C. Junction Boxes: Heavy-duty frames and grates (H-20 Load Rating) according to details.
- D. Catch Basins: Shall be constructed as indicated by Georgia Department of Transportation Standard Details (included by reference).
- E. Area Drains: Shall be as detailed on the Drawings.

2.6 PIPE OUTLETS

- A. Headwalls: Pre-Cast or Cast-in-place reinforced concrete, with apron and tapered sides, per details on the plans, or as referenced by Georgia Department of Transportation Standards.

3. EXECUTION:

3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Division 31 Section "Earthwork."

3.2 PIPING APPLICATIONS

- A. Gravity-Flow, Nonpressure Sewer Piping: Use the following pipe materials previously specified for each run of pipe. Where a specific type of pipe has not been identified, the Contractor may freely choose from the available listed products.

3.3 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take design considerations into account. Install piping as indicated.
- B. Install piping beginning at low point, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install

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gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.

- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into stormwater structure is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow, nonpressure drainage piping according to the following:
  - 1. Install piping pitched down in direction of flow, at slope indicated.
  - 2. Install PE corrugated sewer piping according to CPPA's "Recommended Installation Practices for Corrugated Polyethylene Pipe and Fittings."
  - 3. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

### 3.4 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure drainage piping according to the following:
  - 1. Join corrugated PE piping according to CPPA 100 and the following:
    - a. Use silttight couplings for Type 1, silttight joints.
    - b. Use soiltight couplings for Type 2, soiltight joints.
    - c. Joints for 42-60" pipe shall be watertight.
  - 2. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasket joints.

### 3.5 CLEANOUT INSTALLATION

- A. Install cleanouts and riser extension from sewer pipe to cleanout at grade. Use cast-iron soil pipe fittings in sewer pipes at branches for cleanouts and cast-iron soil pipe for riser extensions to cleanouts. Install piping so cleanouts open in direction of flow in sewer pipe.
- B. Set cleanout frames and covers in earth in cast-in-place concrete block, 18 by 18 by 6 inches deep. Set with tops flush with surrounding earth grade.

### 3.6 DRAINAGE STRUCTURE INSTALLATION

- A. Construct catch basins to sizes and shapes indicated by each size and type of pipe specified.

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- B. Set frames and grates to elevations indicated, secure to structure with full bed of mortar.

3.7 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping from building and downspouts as indicated on Civil and building Plumbing Plans.
  - 1. Use commercially manufactured wye fittings for piping branch connections.
  - 2. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making branch connections. Remove debris or other extraneous material that may accumulate.

3.8 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
  - 1. Defects requiring correction include the following:
    - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    - c. Crushed, broken, cracked, or otherwise damaged piping.
    - d. Infiltration: Water leakage into piping.
    - e. Exfiltration: Water leakage from or around piping.
  - 2. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
  - 3. Reinspect and repeat procedure until results are satisfactory.
- B. Contractor shall clean and pump out pipes and provide qualified personnel as necessary for all inspections by Owner, Architect or Engineer.

3.9 CLEANING

- A. Clean interior of piping of dirt and superfluous materials.
- B. Clean all structures of dirt and superfluous materials.

END OF SECTION 02630

**SECTION 02741  
ASPHALT CONCRETE PAVING**

1. GENERAL:

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this section.
- B. Georgia Department of Transportation Specifications, latest edition.

1.2 RELATED SECTIONS

- A. Division 31 Section "Earthwork" for subgrade and aggregate base courses.

1.3 DESCRIPTION OF WORK

- A. Extent of asphalt concrete paving work is shown on the drawings. This work shall include the base and asphaltic concrete paving of the thicknesses and types shown on the drawings for all areas noted on the plans to be paved.

1.4 SUBMITTALS

- A. Material Certificates: Provide copies of materials certificates signed by material producer and Contractor, certifying that each material item complies with, or exceeds, specified requirements.

1.5 JOB CONDITIONS

- A. Base course may be placed when air temperature is above 30 F (-1 C) and rising.
- B. Grade Control: Establish and maintain required lines and elevations.

2. PRODUCTS:

2.1 MATERIALS

- A. General: Use locally available materials and gradations which exhibit a satisfactory record of previous installations. All materials shall meet Georgia Department of Transportation Specifications.
- B. Base Course: Crushed aggregate base conforming to the Georgia Department of Transportation Specifications.

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- C. Asphalt Cement: AASHTO M 226 (ASTM D 3381) for viscosity-graded material and AASHTO M 20 (ASTM D 946) for penetration-graded material.
- D. Tack Coat: Tack coat shall conform to the Georgia Department of Transportation Specifications.
- E. On Site Lane Marking Paint:
  - 1. Modified acrylic latex emulsion. Federal Specification No. TT-P-1952B for all striping not indicated to be thermoplastic.
  - 2. Thermoplastic striping in accordance with Georgia Department of Transportation Specifications for all crosswalks.

2.2 ASPHALT-AGGREGATE MIXTURE

- A. Provide plant-mixed, hot-laid asphalt-aggregate mixture complying with Georgia Department of Transportation Standard Specification Section 402 and the Drawings.

3. EXECUTION:

3.1 SURFACE PREPARATION

- A. Compact base course to 100 percent of its maximum dry density as determined by the Modified Proctor ASTM D 1557.
- B. Proof roll prepared base surface to check for unstable areas and areas requiring additional compaction immediately prior to paving.
- C. Notify Engineer of unsatisfactory conditions. Do not begin paving work until deficient base areas have been corrected and are ready to receive paving.
- D. Tack Coat: Apply in accordance with Ga. Department of Transportation Specification Section 413.

3.2 PLACING MIX

- A. Base Course: Place base course on a prepared subgrade in layers of uniform thickness, conforming to indicated cross-section and thickness, maintain optimum moisture content for compacting base material during placement operations.
- B. Asphaltic Concrete: Place asphalt concrete mixture on prepared surface, spread and strike-off. Spread mixture at minimum temperature of 225° F (107° C). Place inaccessible and small areas by hand. Place each course to required grade, cross-section, and compacted thickness.



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- C. Paver Placing: Place in strips not less than 10' wide, unless otherwise acceptable to Engineer. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete base course for a section before placing surface course.
- D. Joints: Make joints between old and new pavements, or between successive days' work, to ensure continuous bond between adjoining work. Construct joints to have same texture, density and smoothness as other sections of asphalt concrete course.

### 3.3 ROLLING

- A. General: Begin rolling when mixture will bear roller weight without excessive displacement.
- B. The layers shall be rolled to produce a minimum density equivalent to 95 percent of the laboratory design density, as determined by the Marshall Stability test method and obtain a minimum Marshall stability value of 1,500 pounds.
- C. Compact mixture with hot hand tampers or vibrating plate compactors in areas inaccessible to rollers.
- D. Breakdown Rolling: Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
- E. Second Rolling: Follow breakdown rolling as soon as possible, while mixture is hot. Continue second rolling until mixture has been thoroughly compacted.
- F. Finish Rolling: Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained maximum density.
- G. Patching: Remove and replace paving areas mixed with foreign materials and defective areas. Cut-out such areas and fill with fresh, hot asphalt concrete. Compact by rolling to maximum surface density and smoothness.
- H. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- I. Erect barricades: to protect paving from traffic until mixture has cooled enough not to become marked.

### 3.4 TRAFFIC AND LANE MARKINGS

- A. Cleaning: Sweep and clean surface to eliminate material and dust.

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- B. Pavement Striping within Parking Area Excluding Crosswalks: Use traffic lane-marking paint, factory-mixed, quick-drying, and non-bleeding (Fed. Spec. No. TT-P-1952B). Striping lane widths shall be as noted on the Drawings.
- C. Pavement Striping within D.O.T. right-of-way shall be thermoplastic and shall comply with Georgia Department of Transportation Specifications.
- D. Color: On-Site Parking & Arrows: White  
Other On-Site Striping: Refer to Drawings for color, size and type
- E. Do not apply traffic and lane markings until layout and placement has been verified with Engineer.
- F. Apply pavement markings with mechanical equipment to produce uniform straight edges. Apply in 2 coats at manufacturer's recommended rates.

3.5 FIELD QUALITY CONTROL

- A. General: Testing Company shall test aggregate base density and in-place asphalt concrete courses for compliance with requirements for compaction, thickness and surface smoothness. Repair or remove and replace unacceptable paving as directed by Engineer.
- B. Quality Control Testing during Construction: Allow testing service to inspect and approve subgrades before further construction work is performed. An experienced geotechnical engineer shall observe the proof-rolling of the aggregate base immediately prior to paving. One copy of results of all Compaction Test and observations of proof-rolling shall be submitted to Owner, Architect and Engineer.
  - 1. Testing company shall perform field density tests in accordance with ASTM D 2937 (drive cylinder method), ASTM D 2167 (rubber balloon method), as applicable, or nuclear method ASTM D 2922.
  - 2. Pavement Base Material: Make at least one field density test for each 5,000 sq. ft. of pavement base area.
- C. Testing company shall perform a minimum of 10 asphalt core test at locations directed by Engineer.
- D. Thickness: In-place compacted thickness will not be accepted if exceeding following allowable variation from required thickness:
  - 1. Base Course: 1/2"
  - 2. Binder & Surface Course: 1/4"

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- E. Surface Smoothness: Test finished surface of each asphalt concrete course for smoothness, using 10' straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces will not be accepted if exceeding the following tolerances for smoothness.
  - 1. Wearing Course Surface: 3/16".
- F. Check surface areas at intervals as directed by Engineer.
- G. Correcting Deficient Paving: If test results determine that the average thickness of base or binder and surface course exceeds the allowable variation, the Contractor shall resurface the entire paving area with surface course materials at no expense to the Owner. The minimum thickness for asphaltic resurfacing shall be 1 inch.

END OF SECTION 02741

**SECTION 02751  
CONCRETE PAVING, SIDEWALKS & CURB AND GUTTERS**

1. GENERAL:

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specifications, apply to this section.

1.2 DESCRIPTION OF WORK

- A. Extent of concrete curb and gutters and concrete paving is shown on the drawings.
- B. Prepared subgrade is specified in Division 02 Section "Earthwork."
- C. Concrete and related materials are specified herein.

1.3 QUALITY ASSURANCE

- A. Codes and Standards: Comply with local governing regulations if more stringent than herein specified.
- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products who complies with ASTM C94 requirements for production facilities.

1.4 SUBMITTALS

- A. Furnish samples, manufacturer's product data, test reports, and materials' certifications as required in referenced sections for concrete.

1.5 PREINSTALLATION CONFERENCE

- A. Contractor shall conduct preinstallation conference at project site to comply with requirements in Division I Section "Project Management and Coordination."

1.6 JOB CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.
- B. Utilize flagmen, barricades, warning signs and warning lights as required.

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2. PRODUCTS:

2.1 MATERIALS

- A. Forms: Steel, wood, or other suitable material of size and strength to resist movement during concrete placement and to retain horizontal and vertical alignment until removal. Use straight forms, free of distortion and defects.
  - 1. Use flexible spring steel forms or laminated boards to form radius bends as required.
- B. Coat forms with a non-staining form release agent that will not discolor or deface surface of concrete.
- C. Expansion Joint Materials: Recycled rubber one-half inch in thickness.

2.2 CONCRETE MIX, DESIGN AND TESTING

- A. Design mix to produce normal-weight concrete consisting of Portland cement, aggregate, air-entraining admixture and water to produce the following properties:
  - 1. Compressive Strength:
    - a. Pedestrian sidewalks, plazas, courtyards and curb and gutter: 3000 psi
    - b. Vehicular driveways: 4000 psi
  - 2. Compressive strength shown above is required minimum at 28 days, unless otherwise noted.
  - 3. Slump Range: 3" to 5".
  - 4. Air Content: 5% to 8%.
  - 5. Fiber Mesh: 1.5 pounds polypropylene fiber per cubic yard.
  - 6. NO WATER SHALL BE ADDED ON-SITE.
  - 7. Curing compound shall be used on all concrete paving, sidewalks and curb and gutter. Curing compound shall be 1100-Clear as manufactured by W.R. Meadows or equal.

2.3 REINFORCEMENT

- A. Shall be as indicated on the drawings.

3. EXECUTION:

3.1 SURFACE PREPARATION

- A. Remove loose material from compacted subbase surface immediately before placing concrete.

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- B. Proof-roll prepared subbase surface to check for unstable areas and need for additional compaction. Do not begin paving work until such conditions have been corrected and area ready to receive paving.

3.2 FORM CONSTRUCTION

- A. Set forms to required grades and lines with gutter pitched to drain in locations indicated by the grades shown on the plans. Rigidly brace and secure all forms. Install sufficient quantity of forms to allow continuous progress of work and so that forms can remain in place at least 24 hours after concrete placement.
- B. Check completed formwork for grade and alignment to following tolerances:
  - 1. Top of forms not more than 1/8" in 10'.
  - 2. Vertical face on longitudinal axis, not more than 1/4" in 10'.
- C. Clean forms after each use, and coat with form release agent as often as required to ensure separation from concrete without damage.

3.3 CONCRETE PLACEMENT

- A. Do not place concrete until subbase and forms have been checked for line and grade. Moisten subbase if required to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- B. Place concrete using methods which prevent segregation of mix. Consolidate concrete along face of forms and adjacent to transverse joints. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocation of joint devices.
- C. Use bonding agent at locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- D. Deposit and spread concrete in a continuous operation between transverse joints, as far as possible. If interrupted for more than 1/2-hour, place a construction joint.
- E. Curbs and Gutters: Automatic machine may be used for curb and gutter placement at Contractor's option. If machine placement is to be used, submit revised mix design and laboratory test results which meet or exceed minimum specified. Machine placement must produce curbs and gutters to required cross-section, lines, grades, finish, and jointing as specified for formed concrete. If results are not acceptable, remove and replace with formed concrete as specified.

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3.4 JOINTS

- A. General: Construct expansion, weakened-plane (contraction), and construction joints true-to-line with face perpendicular to surface of concrete. Construct transverse joints at right angles to the centerline, unless otherwise indicated.
- B. When joining existing structures, place transverse joints to align with previously placed joints, unless otherwise indicated.
- C. Weakened-Plane (Contraction) Joints: Provide weakened-plane (contraction) joints at 15 feet on center. Construct weakened-plane joints for a depth equal to at least 1/4 concrete thickness, as follows:
  - 1. Tooled Joints: Form weakened-plane joints in fresh concrete by grooving top portion with a recommended cutting tool and finishing edges with a jointer.
  - 2. Inserts: Use embedded strips of metal to form weakened-plane joints. Set strips into plastic concrete and carefully remove strips after concrete has hardened.
- D. Construction Joints: Place construction joints at end of placements and at locations when placement operations are stopped for a period of more than 1/2-hour, and at every third contraction joint.
  - 1. Construct joints as shown or, if not shown, use standard metal keyway-section forms.
  - 2. Where load transfer-slip dowel devices are used, install so that one end of each dowel bar is free to move.
- E. Expansion Joints: Provide premolded recycled rubber for expansion joints abutting concrete curbs, catch basins, manholes, inlets, structures, walks and other fixed objects, unless otherwise indicated.

3.5 CONCRETE FINISHING

- A. After striking-off and consolidating concrete, smooth surface by screeding and floating. Use hand methods only where mechanical floating is not possible. Adjust floating to compact surface and produce uniform texture.
- B. After floating, test surface for trueness with a 10' straightedge. Distribute concrete as required to remove surface irregularities and refloat repaired areas to provide a continuous smooth finish.
- C. Work edges of slabs, gutters, back top edge of curb, and formed joints with an edging tool, and round to 1/2" radius, unless otherwise indicated. Eliminate tool marks on concrete surface.

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- D. Do not remove forms for 24 hours after concrete has been placed. After form removal, clean ends of joints and point-up any minor honeycombed areas. Remove and replace areas or sections with major defects, as directed by Architects.
- E. All horizontal surfaces shall be given a broom finish as described in this Project Manual.
- F. All vertical surfaces and non-walking surfaces shall be given a rubbed finish as described in Division 32 Section "Cast-in-Place Concrete."
- G. All concrete paving, sidewalks and curb and gutters shall receive concrete curing compound applied as per manufacturer's recommendations.

3.6 REPAIRS AND PROTECTIONS

- A. Repair or replace broken or defective concrete, as directed by Architect.
- B. Allow testing company to drill test cores where directed by Architect, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with Portland cement concrete bonded to pavement with epoxy adhesive.
- C. Protect concrete from damage until acceptance of work. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Sweep concrete curb and gutter and pressure wash sidewalks to remove stains, discolorations, dirt and other foreign material just prior to final inspection.

END OF SECTION 02751



**SECTION 02900  
FINISHING LAWN AND LANDSCAPE AREAS**

1. GENERAL:

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Special Conditions and Division 1 Specification Sections, apply to this work.
- B. Division 02 Section - "Earthwork"
- C. Division 02 Section - "Landscape Work"

1.2 DESCRIPTION

- A. This section includes provisions for the following items:
  - 1. Fine grading of all areas to be landscaped.
  - 2. Cleanout of sediment filled areas around inlets and in detention ponds.
  - 3. Finish grade at all sidewalks and paved areas.
  - 4. Finish grade at all storm structures, electrical manholes, sanitary manholes and curbs.
  - 5. Finish grades of swales, berms, landscape islands, and all other yard areas.
- B. The following sections contain requirements that relate to this section:
  - 1. Division 02 Section "Earthwork"

1.3 QUALITY CONTROL

- A. General: Review plans to familiarize equipment operators, foremen, and superintendent of requirements for final grading.
- B. Visit site to review conditions prior to starting work. Starting work shall mean that conditions are acceptable as they exist.

1.4 JOB CONDITIONS

- A. Utilities: Determine location of underground utilities, manholes, water valves, sanitary cleanouts, and perform work in a manner which will avoid possible damage. Hand rake and hand excavate, as required.

1.5 SEQUENCING AND SCHEDULING

- A. Do not begin finish grading operations until conditions allow for permanent vegetative

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covers to be planted.

- B. Proceed with final grassing and mulching as rapidly as portions of the site are fine graded.
- C. Maintain finish grading and final grassing to prevent washing and rill erosion until a complete stand of grass is growing and accepted by the Owner.

2. PRODUCTS: Not Used.

3. EXECUTION:

3.1 PREPARATION, GENERAL:

- A. Review plans to identify low points, catchment areas, swales, conveyances, berms, diversions, detention ponds, cut and fill slopes, etc.
- B. Review graded site to identify all areas which hold water or store sediment.
- C. Review plans to identify all paved areas, utility boxes, manholes, sanitary cleanouts, storm water cleanouts, valve boxes, utility vaults, etc.
- D. Review installed location of each item and check elevations as necessary to identify each item that needs to be adjusted to grade and coordinate rework of paving and utilities or mark utility for future grade adjustments.

3.2 LOW POINTS & CATCHMENT AREAS

- A. Clean out around each inlet to ensure that sediment build up from construction is removed and firm ground is exposed.
- B. Backfill around all inlets to compensate for removal of sediment and to build up the grade to allow positive drainage to the inlet.
- C. In low points and catchment areas formed by a series of inlets, transition grade between inlets and at each end of the catchment areas to allow for high points that break the water to the inlet.

3.3 SWALES AND CONVEYANCES

- A. Remove all sediment build up from construction from all swales prior to beginning work.
- B. Smooth grade swales and conveyances shown on plans to remove high points and backfill low points.
- C. Swales and conveyances shall be graded to prevent standing water.

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- D. Swales within catchment areas shall be graded with high points between inlets as described above.

3.4 BERMS & DIVERSIONS

- A. Grade berms and diversions to the width and height indicated on the plans.
- B. Finish grading of berms and diversions shall include correcting all points weakened during construction activities by concentrated runoff, construction traffic, etc.
- C. Finish grading of berms and diversions shall include rounding out the tops of berms to prevent sharp grade transitions which will hamper later maintenance.

3.5 DETENTION / SEDIMENT PONDS

- A. Finishing of detention pond areas shall include dewatering, to allow for the required planting of the pond areas.
- B. Contractor shall provide pumps, etc. to accomplish dewatering.

3.6 CUT & FILL SLOPES

- A. Smooth grade and compact all cut and fill slopes to remove all rill erosions and washes.
- B. Reapply erosion control blankets, as necessary.

3.7 GRADING ADJACENT PAVED AREAS

- A. Finish grading adjacent paved areas, curbs and walkways shall be subject to the following criteria:
  - 1. Sodded Areas: Set 1- ½" below.
  - 2. Seeded Areas: Set ½" below.

3.8 YARD AREAS

- A. Yard areas shall be graded to avoid any sudden changes in grade, waviness, moguls, hillocks, low points, etc., unless specifically noted on the plans.
- B. All yard areas shall be graded to allow lawn maintenance equipment to freely operate with "skinning" the ground or jostling and bounding the operator.

3.9 MANHOLES, INLETS, VAULTS, VALVE BOXES & CLEANOUTS

- A. All manholes, inlets, valve boxes and cleanouts shall be set flush with finish grade unless specifically detailed to protrude above finished grade.

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- B. Finish grader shall coordinate with installer to correct faulty grades or grade to top elevations of structures.
- C. Water Vaults shall be set above grade to prevent water from entering and flooding these vaults.
- D. Electrical and telecommunications vaults shall be set flush with grade, unless otherwise indicated on electrical drawings.

END OF SECTION 02900

**SECTION 02920  
LANDSCAPE WORK**

**1. GENERAL**

- A. Related Work: Section 02300 – Earthwork
- B. Description:
1. This section includes provisions for the following items:
    - Preparation of areas to be landscaped
    - Temporary Seeding
    - Permanent Seeding and Sodding
    - Soil Amendments
- C. The Contractor shall design and install a complete lawn irrigation system to irrigate all selected areas of the site as indicated on the Drawings. Refer to Specification Section 02541 for requirements.
- D. Source Quality Control:
1. General: Ship landscape materials with certificates of inspection required by governing authorities. Comply with regulations applicable to landscape materials.
  2. Do not make substitutions: If specified materials are not obtainable, submit proof of non-availability to Architect, together with proposal for use of equivalent material.
  3. Analysis and Standards: Package standard products with manufacturer's certified analysis. For other materials, provide analysis by recognized laboratory made in accordance with methods established by the Association of Official Agriculture Chemists, wherever applicable.
- E. Submittals:
1. General: Submit the following in accordance with Conditions of the Contract and Division 1 Specification Sections.
  2. Plant and Material Certifications and Tests:
    - a. Certificates of inspection as required by governmental authorities.
    - b. Manufacturer's or vendor's certified analysis for soil amendments and fertilizer materials.
    - c. Label data substantiating that planting materials comply with specified requirements.
    - d. Test topsoil under direction of Architect. Supply written analysis stating N, P, and K requirements, organic matter content, and pH value of soil.

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3. Maintenance Instructions: Typewritten instructions recommending procedures to be established by Owner for maintenance of landscape work for one full year. Submit prior to expiration of required maintenance period(s).

F. Delivery, Storage and Handling:

1. Packaged Materials: Deliver packaged materials in containers showing weight, analysis, and name of manufacturer. Protect materials from deterioration during delivery, and while stored at site.
2. Sod: Time delivery so that sod will be placed or planted within 24 hours after harvesting. Protect sod against drying and breaking of rolled strips. Keep sprigs moist and covered.
3. Trees and Shrubs: Store trees and shrubs in secure area until planting. Protect from extreme weather.

G. Job Conditions:

1. Utilities: Determine location of underground utilities and perform work in a manner which will avoid possible damage. Hand excavate, as required. Maintain grade stakes set by others until removal is mutually agreed upon by parties concerned.
2. Excavation: When conditions detrimental to growth are encountered, such as rubble fill, adverse drainage conditions, or obstructions, notify Architect before planting.

H. Sequencing and Scheduling:

1. Proceed with, and complete, landscape work as rapidly as portions of site become available.
2. Areas seeded with temporary grassing, shall be tilled to not less than 6 inches and the soil reconditioned as provided herein prior to establishing permanent vegetation.
3. Areas outside of the limits specified above shall be completed and permanent vegetation established as soon as practical.
4. The Contractor shall perform all necessary work including, but not limited to, rough grading, fine grading, hand raking, fertilizing, pulverizing, seeding, and mulching to establish temporary and permanent vegetation on lawn areas disturbed by construction.

2. PRODUCTS:

- A. Topsoil: Topsoil will be respread over areas to be landscaped under Section 02300 Earthwork.
- B. Soil Amendments:

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1. Lime: Natural dolomitic limestone containing not less than 85 percent of total carbonates with a minimum of 30 percent magnesium carbonates, grounds so that not less than 90 percent passes a 10 mesh sieve and not less than 50 percent passes a 100-mesh sieve. Lime shall be applied at the rate of 2 tons per acre.
2. Commercial Fertilizer: Complete fertilizer of neutral character with some elements derived from organic sources and containing the following percentages of available plant nutrients:
  - a. For lawns, provide fertilizer with percentage of nitrogen required to provide not less than 1 pound of actual nitrogen per 1,000 sq. ft. of lawn area and not less than 4 percent phosphoric acid and 2 percent potassium. Provide nitrogen in a form that will be available to lawn during initial period of growth; at least 50 percent of nitrogen to be organic form.
  - b. Fertilizer shall be 10:10:10 and shall be uniformly applied to the surface of the ground at the rate of 1,000 pounds per acre.
  - c. For trees and shrubs, provide a controlled release fertilizer in granular form with a N-P-K of 12-6-6 or approved equal.

C. Grass Materials:

1. General: Grass materials shall conform to the following requirements for the specified areas.
2. Seed for Lawn and Disturbed Areas:
  - a. Common Bermuda Grass Seed: Bermuda grass seed shall be planted at the rate of 40 pounds per acre.
  - b. Rye Grass: Minimum germination of 85% and a maximum weed content of 0.5% by weight. Rye grass when required due to seasonal limitations shall be applied at the rate of 40 pounds per acre.
3. Mulching Material: Mulching material shall be Wheat Straw, reasonably free from weeds, foreign matter detrimental to plant life. Mulch material shall be uniformly spread at the rate of 5,000 pounds per acre.
4. Sod: Provide strongly rooted sod, free of weeds and undesirable native grasses, and machine cut to pad thickness of  $\frac{3}{4}$  inch (plus or minus  $\frac{1}{4}$  inch), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant).
  - a. Provide sod of uniform pad sizes with maximum 5 percent deviation in either length or width. Broken pads or pads with uneven ends will not be acceptable. Sod pads incapable of supporting their own weight when suspended vertically with a firm finger grasp on upper 10 percent of pad will be rejected.
  - b. Provide sod composed principally of the following: Tift 419 Bermuda Sod.

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- D. Weed Barrier: Weed Barrier fabric shall be installed in all shrub bed areas. Weed Barrier shall be 5 oz./sq. yard fabric as manufactured by Dewitt, Fabriscape, or Rolanka International.
- E. Mulch-Landscape Beds: Organic mulch free from deleterious materials and suitable for top dressing of trees, shrubs, or plants and consisting of the following:
  - a. Pine Tree Straw free from sticks, trash, foreign matter, etc.
- F. Trees and Shrubs: Trees and shrubs shall be free from disease and pests, and shall comply with the latest edition of the Publication ANSI 2260.1 “American Standards for Nursery Stock”, by the American Association of Nurserymen.

3. EXECUTION:

- A. Preparation, General:
  - 1. Mix specified soil amendments and fertilizers with topsoil at rates specified. Delay mixing of fertilizer if planting will not follow placing of planting soil within a few days.
  - 2. For lawns, mix planting soil either prior to planting or apply on surface of topsoil and mix thoroughly before planting.
    - a. Mix lime with dry soil prior to mixing of fertilizer.
    - b. Prevent lime from contacting roots of acid-loving plants.
  - 3. Preparation for planting lawns: Where lawns are to be planted, prepare soil for lawn planting as follows: Till to a depth of not less than 6 inches. Apply soil amendments and initial fertilizers as specified. Remove high areas and fill in depressions. Till soil to a homogenous mixture of fine texture, free of lumps, clods, stones, roots and other extraneous matter.
    - a. Prior to preparation of planting areas, remove existing grass, vegetation and turf. Do not turn existing vegetation over into soil being prepared for lawns.
    - b. Allow for sod thickness in areas to be sodded.
    - c. Apply specified commercial fertilizer at rates specified and thoroughly mix into upper 4 inches of topsoil. Delay application of fertilizer if lawn planting will not follow within a few days.
    - d. Prior to applying soil amendments, fine grade lawn areas to smooth, even surface with loose, uniformly fine texture. Roll, rake, and drag lawn areas, remove ridges and fill depressions, as required to meet finish grades. Limit fine grading to areas which can be planted immediately after grading. Fine grading shall include, but not be limited to, pulverizing with a Gill Pulverizer or equal equipment and shaping with a tractor and box blade and hand rakes. Remove stones, pebbles, earth clods and etc. larger than 3/4 inch diameter.



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- e. Moisten prepared lawn areas before sodding if soil is dry. Water thoroughly and allow surface moisture to dry before planting lawns. Do not create a muddy soil condition.
  - f. Restore lawn areas to specified condition, if eroded or otherwise disturbed after fine grading and prior to planting. Mulch seeded lawn areas with hay applied at the rate of 5,000 pounds per acre.
- B. Sodding New Lawns: Refer to Landscaping Plans for areas to be sodded.
1. Lay sod within 24 hours from time of stripping. Do not plant dormant sod or if ground is frozen.
  2. Lay sod to form a solid mass with tightly fitted joints. Butt ends and sides of sod strips; do not overlap. Stagger strips to offset joints in adjacent courses. Work from boards to avoid damage to subgrade or sod. Tamp or roll lightly to ensure contact with subgrade. Work sifted soil into minor cracks between pieces of sod; remove excess to avoid smothering of adjacent grass.
  3. Anchor sod on slopes with wood pegs to prevent slippage.
  4. Water sod thoroughly with a fine spray immediately after planting.
- C. Planting Trees and Shrubs: Prepare shrub and tree pits as indicated on the drawings. Place topsoil mixture in pit and place plants to proper height. Backfill around plants creating saucer. Stake and mulch plants as indicated.
- D. Maintenance:
1. Begin maintenance of seeded areas, sod, trees and shrubs immediately after each area is planted and continue until Substantial Completion. If sod is not fully established at the time of Substantial Completion, continue maintenance until an acceptable lawn is established.
  2. Maintain all landscape areas not less than 60 days after Substantial Completion.
  3. Maintain all lawn areas and plants by watering, fertilizing, weeding, mowing, trimming, applying herbicide and other operations such as rolling, regrading and replanting as required to establish a smooth, acceptable lawn, free of eroded or bare areas and free of weeds. It is intended of these specifications to produce a stand of grass that is alive and growing, without any bare spots larger than one foot. The Contractor shall repeat all work as necessary to produce a satisfactory stand.
  4. Watering: Provide and maintain temporary piping, hoses and lawn-watering equipment to convey water from sources and to keep planted areas uniformly moist to a depth of 4 inches (100 mm).
    - a. Water grass at the minimum rate of 1-1/2 inch per week.
  5. Mow grass as soon as there is enough top growth to cut with mower set at specified height for principal species planted. Repeat mowing as required to maintain specified height without cutting more than 40 percent of the

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- grass height. Remove no more than 40 percent of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet.
6. Postfertilization: Apply fertilizer to lawn after first mowing and when grass is dry. Use fertilizer that will provide actual nitrogen of at least 1 lb. per 1000 sq. ft. of lawn area.
- E. Cleanup and Protection: During landscape work, keep pavements clean and work area in an orderly condition.
1. Protect landscape work and materials from damage due to landscape operations, operations by other contractors and trades, and trespassers. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged landscape work as directed.
- F. Inspection and Acceptance: When landscape work is completed, including maintenance, Architect will, upon request, make an inspection to determine acceptability.
1. Landscape work may be inspected for acceptance in portions as agreeable to Architect, provided each portion of work offered for inspection is complete, including maintenance.
    - a. When inspected work does not comply with requirements, replace rejected work and continue specified maintenance until reinspected by Architect and found to be acceptable.
  2. As soon as all work is complete, a final inspection of the work will be made, provided a written request for such inspection is given to the Owner. If the work is found to be satisfactory and in accordance with all requirements of the contract documents, the work will be accepted.
    - a. Areas that fail to meet qualifications set forth shall be replaced, at no additional cost to the Owner, until a satisfactory product is established.

END OF SECTION 02920

**SECTION 02940**  
**EROSION, SILTATION AND DUST CONTROL**

1. GENERAL:

1.1 RELATED SECTIONS:

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

1.2 SCOPE:

- A. This work shall consist of control measures during construction until final acceptance to control water runoff, erosion, siltation, and unreasonable amounts of dust. Permanent measures, which will remain in place after completion, are shown on the plans. Temporary measures are also shown on the plans or required by notes on the plans or project specifications. Measures to adequately control erosion and siltation throughout project construction, at different stages of construction, are required whether or not shown on the plans. This control shall be accomplished through the use of berms, dikes, sediment basins, sediment barriers, sediment traps, slope drains, grasses, and other devices.
- B. All requirements of complying with NPDES General Permit No. GAR 100001 are listed in the Drawings and shall be the sole responsibility of General Contractor including all filing with GA EPD and fees to state and local governments.

1.3 GENERAL:

- A. Comply with all applicable federal, state (GA Erosion and Sedimentation Control Act) and local ordinances.
- B. In general, the work required to accomplish the planned facilities will be performed in a way which will minimize even temporary increase in suspended matter or pollutants in local streams or storm drains.
- C. Clearing and grubbing operations shall be so scheduled and performed that grading operations and permanent erosion control features can follow immediately thereafter, if the Project conditions permit; otherwise temporary erosion control measures will be required between successive construction stages, as described in Division 31 Section "Site Clearing."
- D. During construction the Contractor shall maintain careful scheduling and performance to ensure that land stripped of its natural ground cover is exposed only in small quantities and for durations not exceeding 14 days. Areas left exposed for periods greater than 14 days shall be seeded with temporary grass and/or mulched.

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- E. The erosion control measures described herein shall be continued until the permanent drainage facilities have been constructed and until the grass on planted slopes is sufficiently established to be an effective erosion deterrent.
- F. The Contractor shall be responsible for maintenance of erosion control measures until final stabilization of the site, and the Contractor shall remove and dispose of erosion control devices after maintenance responsibilities are concluded.

1.4 SEDIMENT BARRIERS:

- A. Temporary sediment barriers shall be installed where shown on the plans or directed by the Engineer. Sediment barriers shall be fabric fence. Sediment shall be removed periodically during construction to ensure continued satisfactory performance as intended.

1.5 TEMPORARY GRASSING AND MULCHING:

- A. Where staged construction or other conditions prohibit the completion of the project in a continuous manner the Contractor shall temporary grass and/or temporary mulch all areas disturbed.
- B. Temporary grass shall consist of sowing a quick growing species of grass suitable to the area and season. Seeding shall be done in accordance with the Landscape Work Section and the Drawings.
- C. Temporary mulch shall be applied to deter surface erosion. The mulched areas may be placed on slopes as steep as 2:1 using a tractor to imbed the mulch into the slope.

1.6 CONSTRUCTION IN STREAM BEDS:

- A. Unless otherwise approved in writing by the Engineer, construction operations in rivers, streams and impoundments shall be restricted to those areas which must be entered for the construction of temporary or permanent structures. As soon as conditions permit, rivers, streams, and impoundments shall be promptly cleared of all false work, piling which are to be removed, debris, and other obstructions placed therein or caused by the construction operations. Frequent fording of live streams with construction equipment will not be permitted; therefore, temporary bridges or other structures shall be used whenever an appreciable number of stream crossings are necessary. Unless otherwise approved in writing by the Engineer, mechanized equipment shall not be operated in live streams except as may be required to construct channel changes and temporary or permanent structures, and to remove temporary structures.

1.7 RUN OFF, EROSION AND SEDIMENTATION CONTROLS:

- A. During construction, route run off through sedimentation barriers, check dams and sediment basins.

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- B. The Contractor shall maintain sedimentation devices in functional condition. Sediment ponds, sediment barriers, sediment traps, and check dams shall be cleaned out when these devices are at last 60 percent of their capacity. Defective materials in the barriers and check dams shall be replaced.
- C. Silts and deposits removed from control barriers shall be placed in eroded areas, compacted and stabilized with vegetation.
- D. The Contractor shall establish sediment barriers at the toe of slopes under construction. These barriers may be relocated and reused after permanent slope stabilization becomes established. As they are relocated, any defective material in the barrier shall be replaced. In addition, all debris and silt at the previous location shall be removed.

1.8 DUST CONTROL:

- A. Dust shall be controlled by keeping dry areas damp by sprinkling with water, or other means.

1.9 EROSION CONTROL BLANKETS:

- A. 4:1 – 2:1 Slopes: Use straw fiber blankets sewn between two photo-degradable nets. Blankets shall be S150 as manufactured by North American Green, Curlex II as manufactured by American Excelsior Company, or Landlok S2 as manufactured by SI Geosolutions.
- B. Waterways and Swales: Use blankets of curled wood or coconut fiber matrix sewn between two heavy-weight, UV stabilized nets. Blankets shall be C125 as manufactured by North American Green, Curlex III as manufactured by American Excelsior Company, or Landlok C2 as manufactured by SI Geosolutions.

END OF SECTION 02940

# **DIVISION 10**

**SECTION 10530  
ALUMINUM WALKWAY CANOPY**

1. GENERAL:

1.1 RELATED DOCUMENTS

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

1.2 ENGINEERING DESIGN CRITERIA

- A. International Building Code 2015
- B. ASCE 7-10, Minimum Design Loads for Buildings and Other Structures
- C. Aluminum Design Manual 2015
- D. AWS D1.2 – 2014, Structural Welding Code – Aluminum
- E. Local governing codes and standards for site location

1.3 GENERAL DESCRIPTION OF WORK

- A. Work in this section shall include design, fabrication, and installation of pre-engineered, pre-finished aluminum protective covers. All work shall be in accordance with the shop drawings and this specification section.

1.4 SUBMITTALS

- A. Shop Drawings – Submit complete shop drawings including:
  - 1. Overall canopy layout dimensions
  - 2. Cut section details including elevation, bent layout dimensions, canopy connection details, and wall connection details
  - 3. Flashing details pertaining to aluminum canopy
  - 4. Concrete footing and/or canopy anchorage details
- B. Product Data – Submit manufacturer's product information, specifications, and installation instructions for the aluminum canopy.
- C. Samples – Submit color selection samples of actual coated aluminum material or actual anodized aluminum material.

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- D. Certification – Provide Professional Engineer certification that the proposed canopy design and layout meets or exceeds all applicable loadings (ex: wind load, rain live load, dead load, snow load) for the job location (Macon, GA) in accordance with IBC 2015 and ASCE 7-10.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Minimum five years' experience in design, fabrication, and production of aluminum protective covers.
- B. Components shall be assembled in shop to greatest extent possible to minimize field assembly.
- C. Aluminum protective cover, including material and workmanship, shall be warranted from defects for a period of one year from date of completion of aluminum protective cover installation.

2. PRODUCTS AND MATERIALS:

2.1 ACCEPTABLE MANUFACTURERS

- A. Mitchell Metals, LLC, 1761 McCoba Drive Smyrna, GA 30080, Phone: 770.431.7300, [www.mitchellmetals.net](http://www.mitchellmetals.net)
- B. Dittmer Architectural Aluminum, 1006 Shepard Road, Winter Springs, FL 32708 Phone: 407.699.1755, [www.dittdeck.com](http://www.dittdeck.com)
- C. Peachtree Protective Covers, 3255 S. Sweetwater Road, Lithia Springs, GA 30122, Phone: 800.341.3325, [www.peachtreecovers.com](http://www.peachtreecovers.com)
- D. Equivalent systems by other manufacturers will be approved for substitution by addendum if the following conditions are met:
  - 1. Other manufacturers must have submitted requested information and have been qualified to bid no less than 10 days prior to bid closing date.
  - 2. Manufacturer must submit complete company literature and information to the architect for review
  - 3. Manufacturer must submit complete proposed canopy system details, including sizes and strength values of all members to be used.

2.2 DESIGN & ASSEMBLY

- A. Aluminum protective cover shall be mechanically fastened using internally welded brackets and concealed 300 series stainless steel fasteners. Welded connections can be used if shipping allows.



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- B. Canopy shall use perimeter extruded gutter and extruded decking running perpendicular to length of sidewalk. Beams are to be notched to receive the extruded gutter to allow decking to sit flush to the top of the beam. Extruded Decking shall be a roll-locked design where the extruded cap and pan shall interlock to make a rigid structure. Crimped decking is not allowed.
- C. False fascia and extruded decking running parallel to length of sidewalk will be allowed if canopy spans exceed limitations of perpendicular decking and perimeter gutter. If used, pans are to be welded at ends to prevent water leakage. Standard T- flashing shall be used where decking is separated at a drain beam. The false fascia is to be secured using a rivet every 4'-0" on center connecting the fascia to the edge pans. Tie back straps are to be installed connecting the top of the fascia to the decking at 8'-0" on center.
- D. Canopies shall drain from the decking to the perimeter gutter, into the drain beam and discharge at the bottom of the column. For canopies where decking is run parallel to sidewalk, the canopies shall drain from the decking into the drain beam and discharge at the bottom of the column.
- E. Deflector plates are to be installed at the bottom of the column to discharge the water away from the column. The deflector plates are to be caulked inside the column and fastened to the column using a single rivet.
- F. Columns are to be locked into the column foundation using a single piece of ½" rebar, approximately 7" long, running through the bottom of the column below finished floor.

## 2.3 MATERIALS

### A. Columns

- 1. Columns are to be radius cornered aluminum tubular extrusions. Size of column used shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum column size shall be 4"x 4" at 0.125" thick.
- 2. Provide clear acrylic protection or bituminous paint protection between the aluminum column and the concrete foundation.
- 3. Tombstone shaped water outlet holes are to be cut at the bottom of all draining columns with deflector plates installed inside. Circular drain holes are not allowed.

### B. Beams

- 1. Beams are to be open topped aluminum tubular extrusions.
- 2. Size of beam used shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum beam size shall be 4"x 6" at 0.125" thick.

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C. Decking

1. Decking shall be a rigid roll-locked design that is self-flashing and utilizes interlocking sections.
2. Extruded decking shall exceed loading requirements in section 1.2 – Engineering Design Criteria. Minimum 3” x 6” cap and pan.
3. Where decking is run parallel to walkway, the ends of the pans shall be welded closed where decking does not terminate into a drain beam.

D. Gutter

1. Gutter shall be radius cornered aluminum extrusion that exceeds loading requirements in section 1.2 – Engineering Design Criteria. Minimum gutter size shall be 4”x 6” at 0.093” thick.

E. False Fascia

1. False Fascia shall be aluminum extrusion that exceeds loading requirements in section 1.2 – Engineering Design Criteria. Minimum fascia size shall be 1”x 6” at 0.070” thick.

F. Flashing

1. Flashing shall be made of aluminum sheet painted to match the color of the canopy. Minimum flashing thickness shall be 0.040” thick.

2.4 FASTENERS

- A. All framing fasteners shall be 300 series stainless steel with neoprene washers. All rivets are 3/16” aluminum. All decking fasteners shall be long life coated steel with a 300 series stainless steel cap and neoprene washer.

2.5 FINISHES

A. Factory applied baked enamel

1. Enamel is to comply with AAMA 2603.
2. Color is to be as selected by architect from manufacturer’s standard color chart.

3. INSTALLATION AND EXECUTION:

3.1 ERECTION

- A. Canopies are to be installed according to approved shop drawings and plans.

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- B. The entire structure shall be installed straight, true, and plumb according to standard construction procedures.
- C. Canopies shall be installed with minimal slope to allow water flow from top of canopy to draining columns and eliminate ponding.
- D. Non-draining columns shall have weep holes installed at top of concrete to remove condensation from post. Minimum weep hole size shall be ¼” in diameter.
- E. All joints, corners, and connections shall be tight and clean.
- F. All exposed fasteners are to be painted to match the canopy color.
- G. Decking is to be aligned and secured to aluminum frame structure.

3.2 COLUMN FOUNDATIONS

- A. Styrofoam blockouts shall be provided by the canopy manufacturer and installed by the General Contractor.
- B. General Contractor shall pour the required concrete foundation size around the Styrofoam blockouts provided by the manufacturer.
- C. Canopy installer is to remove the Styrofoam after concrete foundation has cured, set column in cavity, and fill with minimum 2000 psi grout to level of finished concrete slab.
- D. Slab mounting of aluminum columns is allowed upon the architect’s approval (if slab mounting resists applicable loading). ½” x 4 ½” Stainless Steel wedge anchors shall be used when slab mounting aluminum columns. Design of attachment surfaces for slab mounting is not covered in this specification and scope of work.
- E. Foundation/Footing design and installation is not covered in this specification and scope of work.

3.3 CLEANING

- A. All canopy surfaces exposed are to be cleaned after installation is complete.
- B. Surplus materials and debris shall be removed from the jobsite after installation is complete.

3.4 PROTECTION

- A. General Contractor shall ensure protection of installed aluminum canopies from other construction so that canopies are without damage at time of substantial completion of project.

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END OF SECTION 10530