



CITY OF
FORESTPARK

**CONTRACT DOCUMENTS
AND
TECHNICAL SPECIFICATIONS**

**FOREST PARK DOWNTOWN STREETScape
PHASE 2A – MAIN STREET**

PROJECT NO.: 05192022



*ENGINEERING * LAND PLANNING * SURVEYING *
*CONSTRUCTION MANAGEMENT * LANDSCAPE ARCHITECTURE*
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INVITATION TO BID



CITY OF
FORESTPARK

FOREST PARK DOWNTOWN STREETScape PHASE 2A – MAIN STREET

PROJECT NO.: 05192022

DATE: May 19, 2022

Sealed unit price bids will be received by the City of Forest Park Georgia from prospective contractors for the City’s “**Forest Park Downtown Streetscape Phase 2A – Main Street**” project. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. This project includes but is not limited to providing the construction of a complete streetscape and roadway on Main Street in Forest Park Georgia.

The activity is proposed to be funded with local City of Forest Park funds. The selected contractor must comply with local and state laws including but not limited to provisions covering construction contracts.

Bidders must comply with the City of Forest Park’s “Local, Small Business, Diversity Program”. There is a participation goal for this project. The City wants to ensure that Bidders are non-discriminatory in their process of selecting sub-contractors. The City also wants to encourage Bidders to utilize local, veteran-owned, minority, women, and disadvantaged business enterprises whenever possible.

Complete sets of the Contract Documents, Technical Specifications and the Contract Drawings may be obtained from the Issuing Office from the City’s preferred website: <https://www.forestparkga.gov/rfps>. Documents are also available at: <https://www.bidnetdirect.com/georgia/cityofforestpark> and at the Georgia Procurement Registry website located at: <https://ssl.doas.state.ga.us/PRSapp/PRindex.jsp>. Bidders are solely responsible for maintaining a complete set of Contract Documents, Technical Specifications, Contract Drawings, and project Addenda or Modifications to assure that they

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possess all project changes and addendums prior to bidding. **Any project Addenda or modifications will be available only on the City's preferred website: <https://www.forestparkga.gov/rfps>.**

A **Mandatory Pre-Bid Conference** will be held at **11:00AM on Thursday, May 26, 2022** at the City of Forest Park City Hall, City Council Meeting Room located at 745 Forest Parkway, Forest Park GA, 30297. A site tour is scheduled immediately following the Pre-Bid Conference.

Any questions pertaining to the requirements of the Contract Documents and Technical Specifications, either procedural or technical, shall be in writing and are to be submitted to the City of Forest Park; Attention: A. Girard Geeter - Procurement Manager, via email at **procurement@forestparkga.gov** by **5:00PM on Friday, June 3, 2022**, Reference: "**Forest Park Downtown Streetscape Phase 2A – Main Street**". Sealed Bids will be received by the City of Forest Park at Forest Park City Hall, City Council Meeting Room located at 745 Forest Parkway, Forest Park GA, 30297 until **2:00PM on Tuesday, June 21, 2022** and then publicly opened and read aloud.

No bid may be modified, withdrawn, or canceled for a period of sixty (60) days after the time designated for the receipt of Bids or until the Bidder is notified by the City; whichever is sooner. The City reserves the right to accept or reject any and all bids and to waive irregularities, technicalities, and formalities.

Each bid shall be accompanied by a Bid Bond in an amount of not less than five percent (5%) of the total bid amount. The Bid Bond may be in the form of a bond issued by a surety acceptable to the City or a cashier's check made payable to the City of Forest Park, Georgia. The entire Bid Bond shall be forfeited to the City of Forest Park as liquidated damages if the bidder fails to execute the Contract and provide Performance and Payment Bonds within fifteen (15) days after being notified that he has been awarded the Contract.

The successful bidder will be required to furnish a contract Performance Bond and a Payment Bond, each in the sum of one hundred percent (100%) of the total amount of the Bid and provide insurance coverage as required in the Contract Documents.

Note: For more information, please refer to the Instruction to Bidders and the Contract Documents, which govern and supersede this Invitation to Bid.

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ARTICLE 1 – DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
- A. *Owner* - City of Forest Park, Georgia
 - B. *Issuing Office (City of Forest Park)* – The office from which the Bidding Documents are to be issued and where the bidding procedures are to be administered.
 - C. *Contract Bid Number* – The official number associated with the contract bid as determined by the date of release for the official bid by the City of Forest Park.
 - D. *Plan Holders List* – All Bidders must attend the Mandatory Prebid Conference to be included on the Plan Holders List. The City of Forest Park will maintain the official Plan Holders List for this project. Bids received from Bidders not listed on the Plan Holders List will not be accepted.
 - E. *Owner’s Representative* – Falcon Design Consultants, LLC, an independent consulting engineering firm, is the City of Forest Park’s appointed Owner’s Representative for this project.
 - F. *Design Engineer* – Robert and Company., an independent engineering design firm, is the design Engineer of record for this project.

ARTICLE 2 – COPIES OF BIDDING DOCUMENTS

- 2.01
- A. Complete sets of the Bidding Documents in the number and for the amount stated in the Advertisement or Invitation to Bid are to be obtained from the Issuing Office. The Issuing Office will maintain the official Plan Holders List for this project
 - B. Complete sets of the Contract Documents, Technical Specifications and the Contract Drawings may be obtained from the Issuing Office from the City’s preferred website: <https://www.forestparkga.gov/rfps>. Documents are also available at: <https://www.bidnetdirect.com/georgia/cityofforestpark> and at the Georgia Procurement Registry website located at: <https://ssl.doas.state.ga.us/PRSapp/PRindex.jsp>.
 - C. Bidders are solely responsible for maintaining a complete set of Contract Documents, Technical Specifications, Contract Drawings, and project Addenda or Modifications to assure that they possess all project changes and addendums prior to bidding.
 - D. All bid documents will be posted online at the sites shown in Article 2.01 – Paragraph B.
- 2.02 Complete sets of Bidding Documents shall be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

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2.03 Owner and Engineer, in making copies of Bidding Documents available on the above terms, do so only for the purpose of obtaining Bids for the Work and do not authorize or confer a license for any other use.

ARTICLE 3 – QUALIFICATIONS OF BIDDERS

3.01 To demonstrate Bidder’s qualifications to perform the Work, Bidder shall submit written evidence with bid such as financial data, previous experience, present commitments, and such other data as may be called for below.

- A. Required Bidder Qualification Statement with Supporting Data (Business License, Corporate Resolution to Bid, Financial Statement, Current Workload, etc.)
- B. Required Bidder Georgia Department of Transportation Prequalification Certification for Roads

ARTICLE 4 – EXAMINATION OF BIDDING DOCUMENTS, OTHER RELATED DATA, AND SITE

4.01 *Subsurface and Physical Conditions*

- A. The Supplementary Conditions identify:
 - 1. Those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site, including but limited to a geotechnical report.
 - 2. Those drawings known to Owner of physical conditions relating to existing surface or subsurface structures at the Site (except Underground Facilities).
- B. Copies of reports and drawings, if any, referenced in Paragraph 4.01.A will be made available by Owner to any Bidder upon written request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein as provided in Paragraph 4.02 of the General Conditions has been identified and established in Paragraph 4.02 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 *Underground Facilities*

- A. Information and data shown or indicated in the Bidding Documents with respect to existing Underground Facilities at or contiguous to the Site is based upon information and data furnished to Owner and Engineer by owners of such Underground Facilities, including Owner, or others.

4.03 *Hazardous Environmental Condition*

- A. The Supplementary Conditions identify any reports and drawings known to Owner relating to a Hazardous Environmental Condition identified at the Site.

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- B.** Copies of reports and drawings referenced in Paragraph 4.03.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the “technical data” contained therein as provided in Paragraph 4.06 of the General Conditions has been identified and established in Paragraph 4.06 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any “technical data” or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions, and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated subsurface or physical conditions appear in Paragraphs 4.02, 4.03, and 4.04 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work, appear in Paragraph 4.06 of the General Conditions. On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to excavation and utility locates.

4.05 It is the responsibility of each Bidder before submitting a Bid to:

- A.** examine and carefully study the Bidding Documents, and the other related data identified in the Bidding Documents;
- B.** visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;
- C.** become familiar with and satisfy Bidder as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work;
- D.** consider the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs;
- E.** agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents;

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- F. become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
- G. promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder;
- H. determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work; and
- I. refer to the submittal checklist and submit bid documents in the order according to the submittal checklist.

4.06 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in the Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 – MANDATORY PRE-BID CONFERENCE

5.01 A **MANDATORY PRE-BID CONFERENCE** will be held at **11:00AM on Thursday, May 26, 2022** at the City of Forest Park City Hall, City Council Meeting Room located at 745 Forest Parkway, Forest Park GA, 30297. A site tour is scheduled immediately following the Pre-Bid Conference. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are required to attend and participate in the conference since this meeting is mandatory. Engineer will transmit to all prospective Bidders such Addenda as Engineer considers necessary in response to questions arising at the conference. Oral statements may not be relied upon and will not be binding or legally effective.

ARTICLE 6 – SITE AND OTHER AREAS

6.01 The Site is identified in the Bidding Documents. Easements for permanent structures or permanent changes in existing facilities are to be obtained and paid for by Owner unless otherwise provided in the Bidding Documents. All additional lands and access thereto required for temporary construction facilities, construction equipment, or storage of materials and equipment to be incorporated in the Work are to be obtained and paid for by Contractor.

ARTICLE 7 – INTERPRETATIONS AND ADDENDA

7.01 All questions pertaining to the requirements of the Contract Documents and Technical Specifications, either procedural or technical, shall be in writing and are to be submitted to the City of Forest Park; Attention: **A. Girard Geeter** via email to the Procurement

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Department at procurement@forestparkga.gov. Interpretations or clarifications considered necessary by the City in response to such questions will be issued by Addenda to all parties recorded by Issuing Office on the Plan Holders List as having attended the Mandatory Prebid Conference. Questions received after **5:00PM on Friday, June 3, 2022** may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

- 7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer and all Addenda will be transmitted to all bidders listed on the Plan Holders List.

ARTICLE 8 – BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of 5 percent of Bidder's maximum Bid price and in the form of a certified check, bank money order, or a Bid bond (on the form attached) issued by a surety meeting the requirements of Paragraphs 5.01 and 5.02 of the General Conditions.

- 8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited. Such forfeiture shall be Owner's exclusive remedy if Bidder defaults. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of even days after the Effective Date of the Agreement or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

- 8.03 Bid security of other Bidders whom Owner believes do not have a reasonable chance of receiving the award will be returned within seven days after the Bid opening.

ARTICLE 9 – CONTRACT TIMES

- 9.01 The number of consecutive calendar days within which, or the dates by which, the Work is to be substantially completed and ready for final payment are set forth in the Agreement.

ARTICLE 10 – LIQUIDATED DAMAGES

- 10.01 Provisions for liquidated damages, if any, are set forth in the Agreement.

ARTICLE 11 – SUBSTITUTE AND “OR-EQUAL” ITEMS

- 11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or those substitutes or “or-equal” materials and equipment approved by Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or “or-equal” item. No item of

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material or equipment will be considered by Engineer as a substitute or “or-equal” unless written request for approval has been submitted by Bidder and has been received by Engineer at least 10 days prior to the date for receipt of Bids. Each such request shall conform to the requirements of Paragraph 6.05 of the General Conditions. The burden of proof of the merit of the proposed item is upon Bidder. Engineer’s decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 – SUBCONTRACTORS, SUPPLIERS AND OTHERS

12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.

12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in Paragraph 6.06 of the General Conditions.

12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 – LOCAL, SMALL BUSINESS, DIVERSITY PROGRAM

13.01 The City of Forest Park has implemented a Local, Small Business, Diversity Program to promote full and open competition in all city contracts. LSBDD participation goals are set on a contract-by-contract basis for each specific prime contract with subcontracting possibilities. The City wants to ensure that Proponents are non-discriminatory in their process of selecting sub-contractors. The City also wants to encourage Proponents to utilize local, veteran-owned, minority, women, and disadvantaged business enterprises whenever possible.

Included in this RFQB are subcontracting/subconsultant forms that all Bidders will be required to complete along with their Bids (in addition to general contractor forms). All forms included in this solicitation must be completed for Bidder to be considered

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responsive.

Each Bidder must propose to achieve the LSBDD participation goal that is equal or greater than the percentage required. Each Bidder will be required to submit evidence demonstrating that “good faith efforts” were made if you cannot meet the goal.

These forms are requirements under the City of Forest Park’s Local, Small Business, Diversity Program, and it is a requirement to comply with making the “good faith effort” to achieve the goal. Failure to complete these forms will deem you non-responsive.

The participation goal for this procurement is 25 percent (25%)

A business is considered Local if they meet the following:

1. The business or supplier must operate and maintain a regular place of business within the geographical boundaries of the city;
2. The business or supplier must provide a copy of a current occupational tax certificate;
3. The business or supplier must have paid all real and personal taxes (if any) owed the city and not otherwise owe the city any funds; and
4. The business or supplier must certify its compliance with the Georgia Security and Immigration Act.

A Small Business means a locally based business whose average annual gross receipts or number of employees averaged over the past five years must not exceed the size standards as defined pursuant to 15 C.F.R § 121.201 et al., who demonstrates that individual owner’s personal net worth and does not exceed \$750,000.00, exclusive of the individual’s ownership interest in their primary residence and the value of the LSBDD.

13.02 LSBDD Required Forms –

To be submitted with Bid:

1. LSBDD-1 Covenant of Non-Discrimination: The signed agreement stating that the firm will not discriminate on the basis of a firm’s size (revenue or employee count) with regard to prime contracting, subcontracting, or partnering opportunities.
2. LSBDD-2 Sub-Contractor Contact Form: A list of all firms contacted to participate as LSBDD sub-contractors/suppliers on a contract.
3. LSBDD-3 LSBDD Sub-Contractor/Supplier Utilization Form: A list of all firms procured as LSBDD sub-contractors/suppliers to be utilized on a contract.
4. LSBDD-4 Statement of Good Faith Efforts (Including the Checklist): Documented efforts to seek and procure the utilization of LSBDD’s as sub-

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contractors/suppliers on a contract where a goal is required.

To be submitted post-award:

5. LSBE-5 Post Award Monthly LSBSD Participation Report – Contract Goal:
Report detailing percentage of LSBSD participation (work performed) and payments to VOB/MBE/WBE/DBE subcontractors on a monthly basis.
6. LSBD-6 Request for Subcontractor Removal/Substitution Form: Required to fill out and obtain approval if a LSBSD subcontractor is being substituted following post bid.

13.03 Supplements

1. Form LSBSD-1, Covenant of Non-Discrimination
2. Form LSBSD-2, Sub-Contractor Contact Form – Contract Goal
3. Form LSBSD-3, Local, Small Business, Diversity Project Participation Plan
4. Form LSBSD-4, Statement of Good Faith Efforts
5. Form LSBSD-5, Post-Award-Monthly LSBSD Participation Report Contract Goal
6. Form LSBSD-6, Subcontractor Removal/Substitution Form

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FORM LSBD-1

COVENANT OF NON-DISCRIMINATION

The undersigned understands that it is the policy of the City of Forest Park (COFP) to promote full and equal business opportunity for all persons doing business with the City. The undersigned covenants that we have not discriminated on the basis of a firm's revenue, employee count, social or economic disadvantages, minority, gender, or veteran status, with regard to prime contracting, subcontracting or partnering opportunities. The undersigned further covenants that we have completed truthfully and fully the required forms LSBD-2, LSBD-3 and LSBD-4. Set forth below is the signature of an officer of the Bid entity with the City of Forest Park to bind the entity.

I, _____ (Name, Title), on behalf of _____ (Company),
by my signature below, do hereby promise:

1. To adopt the policies of the City of Forest Park relating to equal opportunity in contracting on projects and contracts funded, in whole or in part, with funds of COFP;
2. Not to otherwise engage in discriminatory conduct; To provide a discrimination-free working environment;
3. That this Covenant of Non-Discrimination shall be continuing in nature and shall remain in full force and effect without interruption; and
4. That this Covenant of Non-Discrimination shall be incorporated by reference into any contract or portion thereof which we may hereafter obtain.

We understand that our failure to satisfactorily discharge any of the promises of non-discrimination as made and set forth herein shall constitute a material breach of contract.

By: _____

Title: _____

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

Notary Public: _____

My Commission Expires: _____

[SEAL]

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FORM LSBD-2

SUB-CONTRACTOR CONTACT FORM – CONTRACT GOALS

Instructions to Contractors

The prime contractor must complete and sign the sub-contractor **contact form** and submit the completed and signed form with the bid. **Failure to submit this form will result in being deemed nonresponsive.**

1. Name of contractor/supplier: Provide name of the contractor or supplier you contacted to perform on the task order.
2. Contact Name, Address and Phone Number: Provide the contact information of the contractor/supplier you contacted.
3. City of Forest Park Business License: State if the contractor/supplier you contacted is a City of Forest Park Licensed business.
4. Type or work solicited for: Describe the type of work for which you are soliciting from the contractor/supplier.
5. Business Ownership (Enter Code): State whether the contractor/supplier you contacted is an MBE – Minority Business Enterprise, DBE – Disadvantaged Business Enterprise, WBE – Women Business Enterprise, or VOB – Veteran Owned Business (if applicable)
6. Results of Contact: Describe the results of your contact.
7. Sign and date the form.

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FORM LSBD-2

CITY OF FOREST PARK SUBCONTRACTOR CONTACT FORM

List all subcontractors or suppliers (*LSBE and Non-LSBD*) that were **contacted** regarding this project

Name of Sub-Contractor/Supplier	Company Name, Address, Email, and Phone Number	City of Forest Park Business License? (Yes or No)	Type of Work Solicited For	Business Ownership (Enter Code)	Results of Contact
John Smith	Company ABC 123 Main Street Morrow, GA 30260 jsmith@email.com 770-123-4698	Yes	Hauling	DBE	Will perform as sub

Diversity Code: MBE – Minority Business Enterprise, DBE – Disadvantaged Business Enterprise, WBE – Women Business Enterprise, VOB – Veteran Owned Business

Sample

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FORM LSBD-2

CITY OF FOREST PARK SUBCONTRACTOR CONTACT FORM

List all subcontractors or suppliers (*LSBE and Non-LSBD*) that were **contacted** regarding this project

Name of Sub-Contractor/Supplier	Company Name, Address, and Phone Number	City of Forest Park Business License? (Yes or No)	Type of Work Solicited For	Business Ownership (Enter Code)	Results of Contact

Diversity Code: MBE – Minority Business Enterprise, DBE – Disadvantaged Business Enterprise, WBE – Women Business Enterprise, VOB – Veteran Owned Business

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FORM LSBD-2

SUB-CONTRACTOR CONTACT FORM – Cont'd

List all sub-contractors or suppliers (LSBD and Non-LSBD) that were contacted regarding this project

Name of Sub-Contractor/Supplier	Company Name, Address, Email, and Phone Number	City of Forest Park Business License? (Yes or No)	Type of Work Solicited For	Business Ownership (Enter Code)	Results of Contact

Bidder's Name: _____ Project Name: _____ FC#: _____

Signature: _____ Contact No: _____ Date: _____

Local, Small Business, Diversity Form (Page 2 of 2)

SECTION II

FORM LSBD-3

LOCAL, SMALL BUSINESS, DIVERSITY OPPORTUNITY SUBCONTRACTOR PROJECT PLAN

SUBCONTRACTOR/SUPPLIER UTILIZATION

Instructions to Contractors

The Bidder must complete the project participation plan for sub-contractor/supplier utilization and **submit the form with the Bid. Failure to submit this form will result in a Bid being deemed “nonresponsive”.** Each project participation plan for sub-contractor/supplier must include the following:

1. Name of subcontractor/supplier: Provide name of the subcontractor or supplier contacted to perform work on the project.
2. Contact Name, Address & Phone Number: Provide contact information of the subcontractor/supplier contacted.
3. City of Forest Park Business License: State if the subcontractor/supplier contacted is a City of Forest Park licensed business.
4. Type or Scope of Work to be Performed: Describe the type or scope of work subcontractor/supplier will perform.
5. Certification of Business Owner: Provide minority code/classification (if applicable). Examples include, but not limited to: Minority Business Enterprise (MBE), Disadvantaged Business Enterprise (DBE), Women Business Enterprise (WBE), Veteran Owned Business (VOB), etc.
6. Estimated Dollar Value of Work: Provide an estimated dollar value for the work to be performed by subcontractor/supplier within the project scope.
7. Percentage of Total Bid Amount: Provide an estimated percentage of the total Bid amount that will be paid to the subcontractor/supplier.
8. Signature of Bidder: All LSBD Participation Plans must be signed and dated by Bidders.

Estimated Dollar Value of the Work / Total Bid Amount = % of Total Bid Amount

SECTION II

FORM LSBD-3

CITY OF FOREST PARK LOCAL, SMALL BUSINESS, DIVERSITY OPPORTUNITY SUBCONTRACTOR PROJECT PLAN SUBCONTRACTOR/SUPPLIER UTILIZATION

List all subcontractors/suppliers, including lower tiers, **to be used** on this project.

Name of Sub-Contractor/Supplier	Company Name, Address, Email, and Phone Number	City of Forest Park Business License? (Yes or no)	Type of Work to be Performed	Owner of Business (See code below)	Dollar (\$) Value of Work	Percentage of Total Bid Amount
John Smith	Company ABC 123 Main Street Forest Park, GA 30297 jsmith@email.com 770-123-4698	Yes	Hauling	DBE	\$4200	8.4%

Total Local Business, % _____ Total Small Business % _____ Total Minority Business % _____

Diversity Code: MBE – Minority Business Enterprise, DBE – Disadvantaged Business Enterprise, WBE – Women Business Enterprise, VOB – Veteran Owned Business

Proponent's Company Name: _____ Date: _____ FC#: _____

Proponent's Contact Number: _____ Project Name: _____

Signature: _____

Sample

SECTION II

FORM LSBD-3

CITY OF FOREST PARK LOCAL, SMALL BUSINESS, DIVERSITY OPPORTUNITY SUBCONTRACTOR PROJECT PLAN SUBCONTRACTOR/SUPPLIER UTILIZATION

List all subcontractors/suppliers, including lower tiers, **to be used** on this project.

Name of Sub-Contractor/Supplier	Company Name, Address, Email, and Phone Number	City of Forest Park Business License? (Yes or no)	Type of Work to be Performed	Owner of Business (See code below)	Dollar (\$) Value of Work	Percentage of Total Bid Amount

Total Local Business, % _____ Total Small Business % _____ Total Minority Business % _____

Diversity Code: MBE – Minority Business Enterprise, DBE – Disadvantaged Business Enterprise, WBE – Women Business Enterprise, VOB – Veteran Owned Business

Proponent's Company Name: _____ Date: _____ FC#: _____

Proponent's Contact Number: _____ Project Name: _____

Signature: _____

SECTION II

FORM LSBD-4

STATEMENT OF GOOD FAITH EFFORTS

Instructions:

If you will not meet the Local Small Business Diversity (LSBD) goal set forth in the RFQB, in addition to the information included on the LSBD Form 2 Sub-contractors Contact Form submitted with your bid, please provide a narrative explanation of why you cannot meet the LSBD goal and the steps taken to include LSBDs in your bid. Describe specific actions (i.e. phone calls, etc.). Please provide copies of any solicitation notices sent, whether by email, fax or mail, and the amount of time given for response. Describe efforts to follow up initial communications. Identify the individuals from your organization who performed these activities. Attach additional pages as needed.

CERTIFICATION OF GOOD FAITH EFFORTS

I hereby attest that I have exercised good faith efforts to meet the Local Small Business Diversity goal for this bid. Despite such good faith efforts, I have not been able to meet the LSBD goal for this bid.

(Name of Organization)

(Print Name)

(Title)

(Signature)

(Date)

SECTION II

FORM LSB-D-4 (Cont'd) STATEMENT OF GOOD FAITH EFFORTS Checklist

All Bidders are required to demonstrate that they have made “good faith efforts” and provide proof to meet COFP’s LSB-D participation goal. Please indicate whether or not any of the following actions were taken:

- | | Yes | No | |
|-----|--------------------------|--------------------------|---|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Attendance at a pre-bid meeting, if any, scheduled by COFP to inform LSB-Ds of subcontracting opportunities under a given solicitation; Advertisement for solicitation of LSB-Ds in general circulation media, trade association publications, and minority- focus media, to provide notice of subcontracting opportunities. |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | Advertisement in general circulation media at least seven (7) days prior to Bid or Bid opening any and all Sub-contractor opportunities. Proof of advertisement must be submitted with the Bid or Bid. |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Provided interested LSB-Ds with timely, adequate information about the plans specifications, and other such requirements of the Contract to facilitate their quotation and conducted follow up to initial solicitations. |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | Provided written notice to LSB-Ds that their interest in subcontracting opportunities or furnishing supplies is solicited. Provided a contact log showing the name, address, email and contact number (phone or fax) used to contact the proposed certified sub- contractors, nature of work requested for quote, date of contact, the name and title of the person making the effort, and the amount of the quoted price if one was obtained. |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | Efforts were made to divide the work for LSB-D subcontracting in areas likely to be successful and identify portions of work available to LSB-Ds consistent with their availability. Include a list of divisions of work not subcontracted and the corresponding reasons for not including them. The ability or desire of a Bidder/Bidder to perform the work of a contract with its own organization does not relieve it of the responsibility to make good faith efforts on all scopes of work subject to subcontracting. |
| 6. | <input type="checkbox"/> | <input type="checkbox"/> | Efforts were made to assist potential LSB-D sub-contractors to meet bonding, insurance or other governmental contracting requirements. Where feasible, facilitating the leasing of supplies or equipment when they are of such a specialized nature that an LSB-D could not readily and economically obtain them in the marketplace. |
| 7. | <input type="checkbox"/> | <input type="checkbox"/> | Utilization of services of available minority community organizations, minority contractor groups and other organizations that provide assistance in the recruitment and placement of LSB-Ds. |
| 8. | <input type="checkbox"/> | <input type="checkbox"/> | Communication with the COFP Procurement Department seeking assistance in identifying available LSB-Ds. |
| 9. | <input type="checkbox"/> | <input type="checkbox"/> | Exploration of joint venture opportunities with LSB-Ds. |
| 10. | <input type="checkbox"/> | <input type="checkbox"/> | Other actions (specify): |

Please explain any “no” answers listed above (by number):

This list is a guideline and by no means exhaustive. The City of Forest Park will review these efforts, along with other documents, towards assessing the Bidder/Bidder’s efforts to meet COFP’s LSB-D goal. If you require assistance in identifying certified LSB-Ds, please contact the Procurement Department at procurement@forestparkga.gov or at 404-366-4720.

SECTION II

FORM LSBD-5

POST AWARD MONTHLY LSBD PARTICIPATION REPORT – CONTRACT GOAL

Instructions to Contractors

The prime contractor must complete the **participation report** and submit the form with each pay application to the COFP Department Project Manager in charge of the contract. **Failure to submit this form will result in payment application being deemed incomplete.**

1. **Report Number:** Reports must be consecutively numbered. It will only be necessary to submit a report in a period when the approved VOB/MBE/WBE/DBE has performed a portion of the work that has been designated for the contract.
2. **Date:** Actual date of the report.
3. **Pay application period end date:** Reports must acknowledge the end date for the period for which is being reported.
4. **VOB/MBE/WBE/DBE Amount:** The amount of the contract for which the VOB/MBE/WBE/DBE will earn.
5. **Prior Earned Pay Application Amount:** The amount previously submitted for payment on pay application.
6. **Current Earned Pay Application Amount:** The amount submitting with current payment application.
7. **Earnings To-Date:** The actual amount that each VOB/MBE/WBE/DBE has earned to-date under the contract.
8. **Percent of Contract:** This percentage is calculated using the contract amount and the total VOB/MBE/WBE/DBE earnings-to-date. Divide the total contract amount by the total VOB/MBE/WBE/DBE earnings-to-date.
9. **Certification:** The contractor's authorized representative must sign this form prior to submittal.

GENERAL INFORMATION

When the approved VOB/MBE/WBE/DBE is to provide materials, goods or services, this completed form must be submitted to the COFP Department Project Manager. The prime contractor must notify COFP of any changes to VOB/MBE/WBE/DBE firms.

When the prime contractor is an approved LSBD, it will only be necessary to complete the total LSBD earnings to-date. Joint ventures between non-LSBD and certified LSBD: Only that portion of the work for which the LSBD is responsible may be used to satisfy the requirement.

It is not necessary to complete this form if there are no subcontracting opportunities available for the use of VOB/MBE/WBE/DBE firms.

SECTION II

FORM LSBD-5

POST AWARD – LSBD PARTICIPATION REPORT – CONTRACT GOAL

PROJECT NO. (S): _____

REPORT NO.: _____

CONTRACTOR: _____

DATE: _____

CONTRACT AMOUNT: \$ _____

PAY APPLICATION PERIOD END DATE: _____

Check if final payment >>> FINAL PAYMENT

% LSBD GOAL _____

VOB/MBE/WBE/DBE AMOUNT \$: _____

NAME OF APPROVED VOB/MBE/WBE/DBE	DESCRIPTION OF WORK	PRIOR EARNED PAY APPLICATION AMOUNT	CURRENT EARNED PAY APPLICATION AMOUNT	EARNINGS TO-DATE

TOTAL VOB/MBE/WBE/DBE EARNINGS TO-DATE: _____

% CONTRACT: _____

I HEREBY CERTIFY THAT THE ABOVE STATEMENT IS TRUE AND CORRECT AND SUPPORTING DOCUMENTATION IS ON FILE AND IS AVAILABLE FOR INSPECTION BY COFP AT ANY TIME.

SIGNED _____
CONTRACTOR

REMARKS _____

FOR DEPARTMENT USE ONLY:

THIS DOCUMENT HAS BEEN REVIEWED AT THAT PROJECT LEVEL BY:

SIGNED _____ TITLE _____

THIS DOCUMENT HAS BEEN REVIEWED AT THE PROGRAM LEVEL BY:

SIGNED _____ TITLE _____



SECTION II

FORM LSBD-6

Request for Subcontractor Removal/Substitution

Prior to submitting this form to the Procurement Department you must notify the LSBD in writing of your intent and allow the LSBD five (5) days to respond.

Request Date:		Contract/Project #:	
Contract Value:	LSBD Contract Amount:	Amount Paid to LSBD:	
Prime Contractor Name:			
Prime Contractor Address:			
Prime Contact Name:	Prime Contact Email:	Prime Contact Phone:	
Name of LSBD Firm:		LSBD Contact Name:	
LSBD Firm Address:	LSBD Email:	LSBD Phone:	

Was LSBD firm given five (5) days written notice of intent? Yes or No If yes, please attach written notice.
 Will the LSBD goal for the project still be met? Yes or No or N/A

Reason(s) for removal/substitution. **Check all that apply**

- The listed LSBD** is no longer in business.
- The listed LSBD** requested removal.
- The listed LSBD** failed or refused to perform under the terms of the contract or failed to furnish the listed materials.
- The work performed by **the listed LSBD** was unsatisfactory and was not in accordance with the scheduled specifications.

Name/Address of Substitution Contractor:	Is the substituted contractor an LSBD? <input type="checkbox"/> Yes or <input type="checkbox"/> No
Fully describe the type of work the substitute subcontractor will perform:	

Prime Authorized Signature:	Date:
Approved <input type="checkbox"/> Rejected <input type="checkbox"/>	Reason for rejection:
Procurement Manager Authorized Signature:	Date:

This form should be completed and submitted (with all required documentation) to:

City of Forest
 Attention: Arthur Greeter
 745 Forest Parkway
 Forest Park GA, 30297

SECTION II

ARTICLE 14 – PREPARATION OF BID

- 14.01 The Bid Form is included with the Bidding Documents. Additional copies may be obtained from Engineer.
- 14.02 All blanks on the Bid Form shall be completed in ink and the Bid Form signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each section listed therein.
- 14.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be shown.
- 14.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be shown.
- 14.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 14.06 A Bid by an individual shall show the Bidder's name and official address.
- 14.07 A Bid by a joint venture shall be executed by each joint venturer in the manner indicated on the Bid Form. The official address of the joint venture shall be shown.
- 14.08 All names shall be printed in ink below the signatures.
- 14.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid Form in addition to submitting the Acknowledgement of Addenda Form 11.
- 14.10 Postal and e-mail addresses and telephone number for communications regarding the Bid shall be shown.
- 14.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state where the Project is located, or Bidder shall covenant in writing to obtain such authority and qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 15 – BASIS OF BID; COMPARISON OF BIDS

15.01 *Unit Price*

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.

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- B. The value of items required by the Contract Documents but not show in the line items on the Bid Form shall be included in the unit price of the line item that relates to this work.
- C. The total of all estimated prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with Paragraph 11.03 of the General Conditions.
- D. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any column of figures and the correct sum thereof will be resolved in favor of the correct sum.

15.02 Allowances

- A. A project contingency allowance of **\$200,000.00** is included into the total base bid for this project. This allowance is for additional work as directed by the Owner. Monies not utilized by the Owner for this project will be removed from the final contract price at the completion of the project by use of a Change Order.

ARTICLE 16 – SUBMITTAL OF BID

16.01 With each copy of the Bidding Documents, a Bidder is furnished one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the following documents. Please refer to the submittal checklist to track the preparation and order of submittal of certain required information with the Bid.:

- A. Required Bid security;
- B. LSBDD Forms 1-4 ;
- C. List of 5 Project References;
- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
- E. Copy of Contractor's License *[or]* Evidence of Bidder's ability to obtain a State Contractor's License and a covenant by Bidder to obtain the following said license within the time for acceptance of Bids.
- F. Georgia Department of Transportation Prequalification Certification for Roads
- G. Certificate of Insurance (listing Forest Park as the Certificate Holder);
- H. Contractor Affidavit and Agreement;
- I. Subcontractor Affidavit;
- J. Contractor's Statement of Legal Status and Financial Capability;

SECTION II

- K. Certification Regarding Debarment, Suspension, and Other Matters;
- L. Non-Collusion Affidavit;
- M. Bidder's Contact Directory;
- N. Acknowledgment of Addenda;
- O. Required Bidder Qualification Statement with Supporting Data for the following:
 - 1. Organizational Structure/Key Personnel and Resumes: The Bidder's Organizational Structure Section should introduce the proposed Bidder team by:
 - 1.1. Provide the Bidder's Management Organizational Chart both graphically and in narrative format. The Organizational chart and narrative should provide a description of the Bidder's views on how it will organizationally provide the Services.
 - 1.2. Provide a description of how the organizational structure will facilitate managing the Services requested and how an efficient flow of information will be realized from the organizational structure.
 - 1.3. Provide resumes for key personnel you intend to assign to this Project for the following positions: Principal-in-charge, Project Manager and On-Site/Quality Assurance Supervisor. Submission of these names constitutes a commitment to use these individuals if the Bidder is awarded a Contract, and changes may be made only with the prior written consent of the City.
 - 1.3.1. Resumes should be organized as follows:
 - 1.3.2. Name and Title;
 - 1.3.3. Professional Background;
 - 1.3.4. Current and Past Relevant Employment;
 - 1.3.5. Education; and
 - 1.3.6. Certifications.
 - 2. Overall Project Experience, Qualifications, and Performance on Previous Similar Projects
 - 2.1. Describe the Bidder company's history of experience providing general contracting services for a city or commercial property of similar size and scope including but not limited to fire stations or other government buildings, major shopping malls, office parks, major office complexes, hotels or convention facilities, government buildings, facilities or complexes, or major colleges/universities.
 - 2.2. Provide detail evidence that is currently providing general contracting services.

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- 2.3. Provide the number of years responder has operated under current company name?
- 2.4. Provide a matrix of five (5) relevant projects within the last five (5) years of similar size and scope, including client name, project description, project value, role of the individual, project completion date, reference contact name, phone number and e-mail address. Refer to Section XVII- Form 5

3. Management and Staffing Plan

- 3.1. Describe how the project will be organized and managed, ensuring that staffing needs are met for the delivery of services and duties as outlined in Exhibit A. Clearly outline the estimated staffing for each service area.
- 3.2. Describe your processes, procedures and methodology for monitoring quality control and required outcome for services being provided. The plan should include the name and title of the inspector, frequency of each inspection, and all forms that will be used to document the inspections.
- 3.3. Describe your process for reporting capabilities and provide sample reports for this project, i.e., performance measures, quality of work, and deliverables.
- 3.4. Provide a list of resources and include a list of equipment with quantity of each.

4. Quality Control Plan Approach

- 4.1. Bidder must submit an executive level plan describing the management process the Bidder will implement to ensure all work and services performed are of the highest quality. The approach should include a description of the Bidder's process as it pertains to shop drawings, product and materials submittals, inspection of subcontractor/subconsultant work and materials, means and methods of conducting Quality Control testing, etc. Describe the Bidder's corrective action plan. Describe how the Bidder's organizational structure supports this plan and clearly identify responsible and accountable parties (Do not provide the Bidder's existing Quality Control Manual).

5. Procurement Plan

- 5.1. Bidder must submit an executive level approach (3 pages maximum) to the competitive and open procurement of subcontractors/subconsultants, materials, supplies and equipment required to complete a project. The plan must address the bonding requirements it will require of the subcontractors as well as any bonding assistance available to subcontractors. Include your ability to purchase material and supplies for this project to meet the construction schedule.

6. Safety Record and Experience

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6.1. Each Bidder must demonstrate that it is committed to implementing a first-rate safety program and that it has an exceptional safety and environmental record. Each Bidder must submit their current Experience Modification Rate (EMR). If an EMR is not available, each Bidder and its proposed subcontractors/subconsultants must submit a written statement detailing each one's safety records on its last 5 projects listed in the Bidder's reference., Include contact names and phone numbers where the City can verify the safety record statement. Each Bidder must provide a Log and Summary of OSHA violations and any fines or settlements for the past 36 months. Attach OSHA Form 300A - Work Related Injuries and Illnesses, as required by the U. S. Department of Labor, for the past 36 months (Provide OSHA Recordable Incident Rate (Year 2017) and OSHA Lost Days Away Incident Rate (Year 2017). This is applicable to site construction and installation activities only. (Do not submit the Bidder's Safety Manual).

16.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the advertisement or Invitation To Bid and shall be enclosed in a plainly marked package with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. The Bidder's Georgia General Contractor's license number shall be clearly printed on the exterior of the envelope containing the sealed bid.

16.03 Bids may be mailed to the City of Forest Attention: A. Girard Greeter; 745 Forest Parkway, Forest Park GA, 30297.

16.04 The sealed envelope containing the Bid shall be enclosed in a separate package plainly marked on the outside with the notation **"BID ENCLOSED – FOREST PARK - FOREST PARK DOWNTOWN STREETSCAPE - PHASE 2A – MAIN STREET – PROJECT NO.: 05192022"**; The Bidder's Georgia General Contractor's license number shall be clearly printed on the exterior of the envelope containing the sealed bid.

16.05 Bid packages submitted shall include **one (1)** complete set of bid documents, as required by this section, with original signatures and seals as required and this document set shall be labeled **"Original"**. Additionally, **two (2)** complete copy sets of the bid documents, as required by this section, labeled **"Copy"** shall be included in the bid package.

ARTICLE 17 – MODIFICATION AND WITHDRAWAL OF BID

17.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.

17.02 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, that Bidder will be disqualified from further bidding on the Work.

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ARTICLE 18 – OPENING OF BIDS

18.01 Bids will be opened at the time and place indicated in the Advertisement or Invitation to Bid and, unless obviously non-responsive, read aloud publicly. A Bid Tabulation of the amounts of the Base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 19 – BIDS TO REMAIN SUBJECT TO ACCEPTANCE

19.01 All Bids will remain subject to acceptance for the period of time stated in the Bid Form, but Owner may, in its sole discretion, release any Bid and return the Bid security prior to the end of this period.

ARTICLE 20 – EVALUATION OF BIDS AND AWARD OF CONTRACT

20.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to not be responsible.

20.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.

20.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.

20.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.

20.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work in accordance with the Contract Documents.

20.06 If the Contract is to be awarded, Owner will award the Contract to the Bidder whose Bid is in the best interests of the Owner.

ARTICLE 21 – CONTRACT SECURITY AND INSURANCE

21.01 Article 5 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and insurance.

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When the Successful Bidder delivers the executed Agreement to Owner, it shall be accompanied by such bonds.

ARTICLE 22 – SIGNING OF AGREEMENT

22.01 When Owner issues a Notice of Award to the Successful Bidder, it shall be accompanied by the required number [~~SIX~~ (6)] of unsigned counterparts of the Agreement along with the other Contract Documents which are identified in the Agreement as attached thereto. Within 15 calendar days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten calendar days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

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SUBMITTAL CHECKLIST

This table is included for the Bidder's convenience and may be used to track the preparation and submittal of certain required information with its Bid.

Item #	Required Bid Submittal Check Sheet	Check (v)
Please combine the following required items in a section clearly labeled as Volume 1		
1	Required Bid Security	
2	Local, Small Business, Diversity Program Plan (LSBD Forms 1-4)	
3	List of 5 Project References (Form 5)	
4	State of Georgia Certificate of Existence	
5	Copy of Contractor's and/or Subcontractor's License	
6	Certificate of Insurance	
7	Contractor Affidavit and Agreement (Form 6a)	
8	Subcontractor Affidavit (Form 6b)	
9	Contractor's Statement of Legal Status and Financial Capability (Form 7)	
10	Certification Regarding Debarment, Suspension, and Other Matters (Form 8)	
11	Non-Collusion Affidavit (Form 9)	
12	Bidder's Contact Directory (Form 10)	
13	Acknowledgment of Addenda (Form 11)	
Please combine the following required items in a separate section labeled as Volume 2		
14	Organizational Structure/Key Personnel/Resumes	
9	Experience and Past Performance	
10	Management and Staffing Plan	
11	Quality Control Plan Approach	
12	Procurement Plan	
13	Safety Record and Experience	

SECTION II

FORM 7

Contractor's Statement of Legal Status and Financial Capability

For official and confidential use by the City of Forest Park, Georgia

Purpose/Instructions: The following information will be used by the City of Forest Park, Georgia in determining whether or not the identified **Contractor** has, in the opinion of the City of Forest Park, Georgia, the financial capability to successfully fulfill its obligations to the City.

If space on this form is inadequate for any requested information, please furnish on attached pages with a reference to the appropriate question number on this form.

A. Submission Information:

1. This Statement is being submitted as required by a FOREST PARK Solicitation:
FOREST PARK Solicitation #: _____
Project Name: _____
2. This information is current as of (date): _____

B. Contractor Information

1. Official Company/Entity Name: _____
(hereinafter "Contractor")
2. Mailing Address: _____
City/State/Zip: _____
3. If at this address less than 1 year, prior address: _____
City/State/Zip: _____
4. Primary contact regarding this information: _____
5. Telephone Number: _____
6. Email Address: _____

C. Development Entity. The Development entity named above is:

- A sole proprietorship — Soc. Sec. # _____
- A corporation — FID # _____
- A nonprofit or charitable institution or corporation — FID # _____
- A partnership _____ — FID # _____
- A business association or a joint venture — FID # _____
- A limited liability company — FID # _____
- A Federal, State, or local government or instrumentality thereof
- Other / explain: _____

D. Date and State of Organization. If the Contractor is not an individual or a government

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agency or instrumentality:

1. Date of organization: _____

2. State of organization: _____

E. Contractor Principals. Names of owners, officers, directors, trustees, and principal representatives of the development entity

Name, Title, Address, ZIPCode	Description of interest/relationship	% of Ownership Interest

F. Contractor Affiliations. Is the Contractor a subsidiary or parent of or affiliated with, any other corporation or corporations or any other firm or firms?

Yes No

If Yes, provide the following information:

Corporation/Firm	Relationship to Contractor	Common Officers/Directors/Owners/ Trustees/Representatives
Name Address		
Name Address		

If the Contractor is different than the parent corporation or firm, will the parent corporation or firm guarantee performance under this bid?

Yes No

G. Bankruptcy. Has the Contractor or the parent corporation (if any), or any subsidiary or affiliated

SECTION II

corporation of the Contractor or said parent corporation, or any of the Contractor's officers or principal members, shareholders or investors filed for bankruptcy, either voluntary or involuntary, within the past 10 years?

Yes No

If Yes, provide the following information:

Name	Court	Date	Status

H. Loan Defaults. Has the Contractor or the parent corporation (if any), or any subsidiary or affiliated corporation of the Contractor or said parent corporation, or any of the Contractor's officers or principal members, shareholders or investors defaulted on a loan or other financial obligation? *(attach additional sheets if needed)*

Yes No

If Yes, explain: _____

I. Criminal Litigation. Is the Contractor or the parent corporation (if any), or any subsidiary or affiliated corporation of the Contractor or said parent corporation, or any of the Contractor's officers or principal members, shareholders or investors party to any past or pending criminal litigation?

Yes No

If Yes, provide the following information, and attach any additional information or explanation deemed necessary:

Date Filed	Court	Charge/Current Status

J. Civil Litigation. Is the Contractor or the parent corporation (if any), or any subsidiary or affiliated corporation of the Contractor or said parent corporation, or any of the Contractor's officers or principal members, shareholders or investors party to any pending civil litigation that could potentially impact the financial capability of the Contractor to complete the proposed development?

Yes No

If Yes, provide the following information, and attach any additional information or explanation deemed necessary:

SECTION II

Date Filed	Court	Current Status

K. Conflict of Interest. Does any member or employee of the City of Forest Park, Georgia have any direct or indirect personal interest in the Contractor or in the redevelopment or rehabilitation of the property being proposed by the Contractor?

- Yes
 No

If Yes, explain:

L. Previous Forest Park Projects. Has the Contractor or its parent entity (if any), or any subsidiary or affiliated entity of the Contractor or said parent corporation, or any of the Contractor's officers or principal members, shareholders or investors had any previous contractual relationship with the City of Forest Park?

- Yes
 No

Project Name	Description	Date

SECTION II

FORM 8

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER MATTERS

The Bidder, _____, certifies to the best of its knowledge and belief, that it and its principals:

1. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal, State, or local department or agency;
2. Have not within a three-year period preceding this Bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or Contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
3. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with the commission of any of the offenses enumerated in paragraph (2) of this certification; and
4. Have not within a three-year period preceding this application/Bid had one or more public transactions (Federal, State, or local) terminated for cause or default.

Where the bidder is unable to certify to any of the statements in this certification, such bidder shall attach an explanation to this Bid.

The bidder certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification.

Signature of Authorized Agent

Name/Title of Authorized Agent

Before me, a Notary Public, personally appeared the above named and swore that the statements contained in the foregoing document are true and correct.

Subscribed and sworn to me this _____ day of _____, _____.

Notary Public Signature

My Commission Expires: _____ [SEAL]

SECTION III

BID FORM



CITY OF
FORESTPARK

CITY OF FOREST PARK

**FOREST PARK DOWNTOWN STREETScape
PHASE 2A – MAIN STREET**

PROJECT NO: 05192022

Bid Date: June 21, 2022

Bid Time: 2:00PM

SECTION III

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SECTION III

ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

City of Forest Park, Georgia

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the Owner in the form included in the Bidding Documents and to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER’S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER’S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

A. Bidder has examined and carefully studied the Bidding Documents, other related data identified in the Bidding Documents, and the following Addenda, receipt of which is hereby acknowledged:

<u>Addendum No.</u>	<u>Addendum Date</u>
_____	_____
_____	_____
_____	_____

B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

C. Bidder is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.

D. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder’s safety precautions and programs.

E. Based on the information and observations referred to in Paragraph 3.01.D above, Bidder does not consider that further examinations, investigations, explorations, tests, studies, or data are

SECTION III

necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.

- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- H. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

ARTICLE 4 – BIDDER’S CERTIFICATION

4.01 Bidder certifies that:

- A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
- B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
- C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
- D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. “Corrupt practice” means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process;
 - 2. “fraudulent practice” means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. “collusive practice” means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and
 - 4. “coercive practice” means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

ARTICLE 5 – BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s). Any incomplete or illegible bid prices will make this bid subject to rejection by the Owner:

SECTION III

<u>ITEM NO.</u>	<u>DESCRIPTION</u>	<u>UNITS</u>	<u>ESTIMATE D QUANTITY</u>	<u>UNIT PRICE</u>	<u>TOTAL PRICE</u>
1	BONDS, INSURANCE	LS	1	\$ _____	\$ _____
2	TRAFFIC CONTROL	LS	1	\$ _____	\$ _____
3	MOBILIZATION	LS	1	\$ _____	\$ _____
4	SITE GRADING COMPLETE; INCLUDING BUT NOT LIMITED TO GRADING, DEMOLITION AND MATCHING EXISTING UTILITIES	LS	1	\$ _____	\$ _____
5	TEMPORARY GRASSING	AC	1	\$ _____	\$ _____
6	MULCH – WHEAT STRAW	TON	1	\$ _____	\$ _____
7	CONSTRUCTION EXIT	EA	2	\$ _____	\$ _____
8	INLET SEDIMENT TRAP: INSTALLATION, MAINTENANCE AND REMOVAL	EA	6	\$ _____	\$ _____
9	TEMPORARY TYPE “C” SILT FENCE: INSTALLATION, MAINTENANCE AND REMOVAL	LF	4100	\$ _____	\$ _____
10	WATER QUALITY MONITORING AND SAMPLING	EA	4	\$ _____	\$ _____
11	WATER QUALITY INSPECTION	MO	8	\$ _____	\$ _____
12	GRADED AGGREGATE BASE	TON	1190	\$ _____	\$ _____
13	RECYCLED ASPHALT CONCRETE PATCHING, INCLUDING BITUMINOUS MATERIAL AND “H” LIME	TON	150	\$ _____	\$ _____
14	RECYCLED CONCRETE LEVELING, INCLUDING BITUMINOUS MATERIAL AND “H” LIME	TON	5000	\$ _____	\$ _____
15	1.5” RECYCLED ASPHALT CONCRETE 12.5 MM SUPERPAVE, GP 2 ONLY, INCLUDING BITUMINOUS MATERIAL AND “H” LIME	SY	5000	\$ _____	\$ _____

SECTION III

16	2" RECYCLED ASPHALT CONCRETE 19.0 MM SUPERPAVE, GP 1 OR 2, INCLUDING BITUMINOUS MATERIAL AND "H" LIME	SY	5000	\$ _____	\$ _____
17	BITUMINOUS TACK COAT	GL	500	\$ _____	\$ _____
18	MILL ASPHALT CONCRETE PAVEMENT, VARYING DEPTH	SY	5000	\$ _____	\$ _____
19	CLASS "A" CONCRETE, BASE OF PAVEMENT WIDENING	CY	225	\$ _____	\$ _____
20	ADJUST DROP INLET TO GRADE	EA	4	\$ _____	\$ _____
21	RECONSTRUCT JUNCTION BOX	EA	4	\$ _____	\$ _____
22	GRADED AGGREGATE BASE COURSE, 6" INCLUDING MATL.	TN	850	\$ _____	\$ _____
23	GRADED AGGREGATE BASE COURSE, 8" INCLUDING MATL.	TN	340	\$ _____	\$ _____
24	6" THICK 3000 PSI CLASS "A" CONCRETE DRIVEWAY; INCLUDING BUT NOT LIMITED TO COMPACTION OF SUBGRADE, FORMING AND FINISHING (LIGHT BROOM)	SY	575	\$ _____	\$ _____
25	4" THICK 3000 PSI CLASS "A" CONCRETE SIDEWALK; INCLUDING BUT NOT LIMITED TO COMPACTION OF SUBGRADE, FORMING AND FINISHING (LIGHT BROOM)	SY	40	\$ _____	\$ _____
26	GDOT GAB BASE UNDER CURB & GUTTER; MIN. 8" THICK x 30" WIDE; COMPLETE INCLUDING COMPACTION AND GRADING	LF	4100	\$ _____	\$ _____

SECTION III

27	IMPERVIOUS DETECTABLE WARNING BRICK PAVER; INCLUDING BUT NOT LIMITED TO COMPACTION OF GDOT GAB AND SUBGRADE, SAND SETTING BED AND EDGE RESTRAINT	SF	375	\$ _____	\$ _____
28	IMPERVIOUS BRICK PEDESTRIAN RATED PAVER; INCLUDING BUT NOT LIMITED TO COMPACTION OF GDOT GAB AND SUBGRADE, SAND SETTING BED AND EDGE RESTRAINT	SF	12,300	\$ _____	\$ _____
29	IMPERVIOUS VEHICULAR RATED BRICK PAVER; INCLUDING BUT NOT LIMITED TO COMPACTION OF GDOT GAB AND SUBGRADE, SAND SETTING BED AND EDGE RESTRAINT	SF	1700	\$ _____	\$ _____
30	6" 3000 PSI CONCRETE HEADER CURB 2"-24" DEPTH; INCLUDING BUT NOT LIMITED TO COMPACTION OF GDOT GAB AND SUBGRADE	LF	4100	\$ _____	\$ _____
31	SAW JOINTS IN EXISTING PAVEMENT	LF	300	\$ _____	\$ _____
32	STAMPED ASPHALT	SF	1000	\$ _____	\$ _____
33	¼" STEEL WELDED HANDRAIL; INSTALLED INCLUDING BUT NOT LIMITED TO ANCHORING, AND PREPARATION OF BEARING AREAS	LF	40	\$ _____	\$ _____

SECTION III

34	CONCRETE SEGMENTAL RETAINING WALL INSTALLED COMPLETE (INCLUDING BUT NOT LIMITED TO: EXCAVATION, GEOTEXTILES, DRAINAGE SYSTEMS AND THEIR CONNECTIONS TO STORM SEWERS, AGGREGATE MATERIALS, BACKFILL, ADHESIVES, AND RELATED APPURTENANCES)	CY	13	\$ _____	\$ _____
35	CONCRETE REINFORCEMENT STEEL; BAR	LF	300	\$ _____	\$ _____
36	WATERPROOFING	SY	8	\$ _____	\$ _____
37	DEMO EXISTING RETAINING WALL	LS	1	\$ _____	\$ _____
38	DIRECTIONAL BORING FOR ELECTRICAL CONDUIT	LF	450	\$ _____	\$ _____
39	ELECTRICAL PULL BOX; PB-6	EA	13	\$ _____	\$ _____
40	LIGHTING STD, SPCL. DESIGN	EA	25	\$ _____	\$ _____
41	CABLE, TP XHHW, AWG NO 12	LF	1600	\$ _____	\$ _____
42	CABLE, TP XHHW, AWG NO 8	LF	8800	\$ _____	\$ _____
43	CABLE, TP XHHW, AWG NO 6	LF	400	\$ _____	\$ _____
44	CABLE, TP HXXW, AWG NO 1/0	LF	1200	\$ _____	\$ _____
45	CONDUIT, NON-METALLIC, TP 2, 2"	LF	2600	\$ _____	\$ _____
46	ELECTRICAL POWER SERVICE ASSEMBLY (UNDERGROUND SERVICE POINT)	EA	1	\$ _____	\$ _____
47	VEHICULAR DIRECTIONAL SIGNAGE	EA	4	\$ _____	\$ _____
48	PEDESTRIAN SIGNAGE	EA	2	\$ _____	\$ _____
49	PEDESTRIAN DIRECTIONAL SIGNAGE	EA	2	\$ _____	\$ _____
50	THERMOPLASTIC TRAFFIC DIRECTIONAL ARROW TYPE 1; PER GDOT	EA	1	\$ _____	\$ _____

SECTION III

51	THERMOPLASTIC TRAFFIC DIRECTIONAL ARROW TYPE 1; PER GDOT	EA	1	\$ _____	\$ _____
52	THERMOPLASTIC TRAFFIC DIRECTIONAL ARROW TYPE 2; PER GDOT	EA	2	\$ _____	\$ _____
53	THERMOPLASTIC TRAFFIC DIRECTIONAL ARROW TYPE 3; PER GDOT	EA	4	\$ _____	\$ _____
54	5" WIDE WHITE THERMOPLASTIC SOLID TRAFFIC STRIPING PER GDOT	LF	2200	\$ _____	\$ _____
55	5" WIDE YELLOW THERMOPLASTIC SOLID TRAFFIC STRIPING PER GDOT	LF	3640	\$ _____	\$ _____
56	24" WIDE WHITE THERMOPLASTIC SOLID TRAFFIC STRIPING PER GDOT	LF	100	\$ _____	\$ _____
57	8" WIDE WHITE THERMOPLASTIC SOLID TRAFFIC STRIPING PER GDOT	LF	350	\$ _____	\$ _____
58	GDOT HIGHWAY SIGN; TYPE "1" MATERIAL; REFELCTIVE SHEETING TYPE "3"	SF	100	\$ _____	\$ _____
59	ORNAMENTAL SIGN POST	EA	9	\$ _____	\$ _____
60	PERMANENT GRASSING	SY	890	\$ _____	\$ _____
61	AGRICULTURAL LIME	TN	1	\$ _____	\$ _____
62	FERTILIZER; NITROGEN RICH	TN	1	\$ _____	\$ _____
63	FERTILIZER; MIXED GRADE LIQUID	GL	50	\$ _____	\$ _____
64	ACER GINNALA "RED NOVEMBER"	EA	20	\$ _____	\$ _____
65	PRUNUS X INCAMP OKAME	EA	16	\$ _____	\$ _____
66	LIRIOPE SPICATA	EA	8916	\$ _____	\$ _____
67	RHAPHIOLEPIS X DELACOURIA "GEORGIA WHITE"	EA	27	\$ _____	\$ _____
68	TREE PROTECTION BARRIER; TYPE "2"	LF	100	\$ _____	\$ _____

SECTION III

69	PERMANENT MULCH – PINE STRAW	SY	1000	\$ _____	\$ _____
70	PLANT TOPSOIL	CY	15	\$ _____	\$ _____
71	8' HEAVY-DUTY POWDER COATED STEEL PARK BENCH FURNISHED AND INSTALLED INCLUDING ANCHORS AND RELATED APPURTENANCES	EA	2	\$ _____	\$ _____
72	POWDER COATED TRASH RECEPTACLES FURNISHED AND INSTALLED INCLUDING ANCHORS AND APPURTENANCES	EA	1	\$ _____	\$ _____
73	OWNER'S CONTINGENCY ALLOWANCE	LS	1	\$200,000.00	\$200,000.00

Total Base Bid in Words:

_____ Dollars

In Numbers: \$ _____

Unit Prices have been computed in accordance with Paragraph 11.03.B of the General Conditions.

Bidder acknowledges that estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 6 – TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete within 210 calendar days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and will be completed and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within 240 calendar days after the date when the Contract Times commence to run.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 7 – ATTACHMENTS TO THIS BID

7.01 The following documents are submitted with and made a condition of this Bid:

A. Required Bid Security (5%);

SECTION III

- B. LSBDD Forms 1-4 ;**
- C. List of 5 Project References (Section XVII – Reference and Release Form);**
- D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;**
- E. Copy of Contractor’s License [or] Evidence of Bidder’s ability to obtain a State Contractor’s License and a covenant by Bidder to obtain the following said license within the time for acceptance of Bids.**
 - 1. Georgia DOT Prequalification Certification**
- F. Certificate of Insurance (City of Forest Park as the Certificate Holder);**
- G. Contractor Affidavit and Agreement (Form 6a);**
- H. Subcontractor Affidavit (if available) (Form 6b);**
- I. Contractor’s Statement of Legal Status and Financial Capability (Form7);**
- J. Certification Regarding Debarment, Suspension, and Other Matters (Form 8);**
- K. Non-Collusion Affidavit (Form 9);**
- L. Bidder’s Contact Directory (Form 10);**
- M. Acknowledgment of Addenda (Form 11);**
- N. Required Bidder Qualification Statement with Supporting Data for the following:**
 - 1. Organizational Structure/Key Personnel and Resumes:**
 - 2. Overall Project Experience, Qualifications, and Performance on Previous Similar Projects**
 - 3. Management and Staffing Plan**
 - 4. Quality Control Plan Approach**
 - 5. Procurement Plan**
 - 6. Safety Record and Experience**

7.02 The following documents are to be submitted post-award:

- A. LSBDD Participation Report – Contract Goal: Report detailing percentage of LSBDD participation (work performed) and payments to VOB/MBE/WBE/DBE subcontractors on a monthly basis.**

SECTION III

ARTICLE 8 – DEFINED TERMS

8.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 9 – BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

By: _____
(Individual's signature)

Doing business as: _____

A Partnership

Partnership Name: _____

By: _____
(Signature of general partner -- attach evidence of authority to sign)

Name (typed or printed): _____

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____
Type (General Business, Professional, Service, Limited Liability): _____

By: _____
(Signature -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____
(CORPORATE SEAL)

Attest _____

Date of Qualification to do business in _____ is ____ / ____ / ____.

SECTION III

A Joint Venture

Name of Joint Venture: _____

First Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of first joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

Second Joint Venturer Name: _____ (SEAL)

By: _____
(Signature of second joint venture partner -- attach evidence of authority to sign)

Name (typed or printed): _____

Title: _____

(Each joint venturer must sign. The manner of signing for each individual, partnership, and corporation that is a party to the joint venture should be in the manner indicated above.)

Bidder's Business Address _____

Phone No. _____ Fax No. _____

E-mail _____

SUBMITTED on _____, 20____.

GDOT Prequalification Certification No.: _____.

SECTION IV

BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER *(Name and Address)*:

SURETY *(Name and Address of Principal Place of Business)*:

OWNER *(Name and Address)*:

BID

Bid Due Date: **June 21, 2022**

Description *(Project Name and Include Location)*:

CITY OF FOREST PARK, FOREST PARK DOWNTOWN STREETSCAPE
PHASE 2A - MAIN STREET

BOND

Bond Number:

Date *(Not earlier than Bid due date)*:

Penal sum _____ \$ _____
(Words) (Figures)

Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.

BIDDER

SURETY

Bidder's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

SECTION IV

1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.
2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.
3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).
4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.
5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from Bid due date without Surety's written consent.
6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after Bid due date.
7. Any suit or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.
8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.
9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.
10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.
11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

SECTION V
CONTRACTOR FURNISHED DOCUMENTS

SECTION VI

FORM 6a

CONTRACTOR AFFIDAVIT AND AGREEMENT

By executing this affidavit, the undersigned subcontractor verifies its compliance with O.C.G.A § 13-10-91 related to any contract to which Contractor is a party that is subject to O.C.G.A. § 13-10-91 and hereby verifies its compliance with O.C.G.A. § 13-10-91, attesting as follows: **(a)** the Contractor has registered with, is authorized to use and uses the federal work authorization program commonly known as E-Verify, or any subsequent replacement program; **(b)** the Contractor will continue to use the federal work authorization program throughout the contract period, including any renewal or extension thereof; **(c)** the Contractor will notify the public employer in the event the Contractor ceases to utilize the federal work authorization program during the contract period, including renewals or extensions thereof; **(d)** the Contractor understands that ceasing to utilize the federal work authorization program constitutes a material breach of Contract; **(e)** the Contractor will contract for the 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(a), (b), and (c); **(f)** the Contractor acknowledges and agrees that this Affidavit shall be incorporated into any contract(s) subject to the provisions of O.C.G.A. § 13-10-91 for the project listed below to which Contractor is a party after the date hereof without further action or consent by Contractor; and **(g)** Contractor acknowledges its responsibility to submit copies of any affidavits, drivers' licenses, and identification cards required pursuant to O.C.G.A. § 13-10-91 to the public employer within five business days of receipt.

Federal Work Authorization User Identification Number

Date of Authorization (mm/dd/yyyy)

Name of Contractor (Legal Name of Offeror)

Name of Project/Solicitation Number

Name of Public Employer

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: _____

***The signature dates for both the authorized representative and notary public must be the same.**

SECTION VII

FORM 6b

SUBCONTRACTOR AFFIDAVIT

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 _____ (*contractor*) on behalf of _____ (*public employer*) 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 (5) 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 (*mm/dd/yyyy*)

Name of Subcontractor (*Legal Name*)

Name of Project/Solicitation Number

Name of Public Employer

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: _____

****The signature dates for both the authorized representative and notary public must be the same.***

SECTION VIII
FORM OF AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT

THIS AGREEMENT is by and between City of Forest Park, Georgia (“Owner”) and _____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows: All material, labor, tools, equipment, and any other miscellaneous items necessary to complete the work as described in the Construction Drawings & Specifications.

ARTICLE 2 – THE PROJECT

The Project for which the Work under the Contract Documents may be the whole or only a part is generally described as follows: City of Forest Park, Georgia’s “Forest Park Downtown Streetscape Phase 2A – Main Street – Project No.: 05192022”. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. This project includes but is not limited to providing the construction of a streetscape on Main Street in accordance with the Contract Documents.

ARTICLE 3 – ENGINEER (OWNER’S REPRESENTATIVE)

3.01 The Project has been designed by **Robert and Company** and is the Design Engineer of record and reviewed by **Falcon Design LLC(Engineer)**. **Falcon Design LLC** is to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer by the Owner and in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.

4.02 *Days to Achieve Substantial Completion and Final Payment*

A. The Work will be substantially completed within **210** days after the date when the Contract Times commence to run as provided in Paragraph 2.03 of the General Conditions, and completed

SECTION VIII

and ready for final payment in accordance with Paragraph 14.07 of the General Conditions within **240** days after the date when the Contract Times commence to run.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial loss if the Work is not completed within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty), Contractor shall pay Owner **\$500** for each day that expires after the time specified in Paragraph 4.02 above for Substantial Completion until the Work is substantially complete. After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Time or any proper extension thereof granted by Owner, Contractor shall pay Owner **\$1,000** for each day that expires after the time specified in Paragraph 4.02 above for completion and readiness for final payment until the Work is completed and ready for final payment.

ARTICLE 5 – CONTRACT PRICE

5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents an amount in current funds equal to the sum of the amounts determined pursuant to Paragraphs 5.01.A below:

- A. For all Work at the Unit Price Base Bid of: _____ **DOLLARS**
(\$ _____)
- B. A project contingency allowance of **\$200,000.00** is included into the total base bid for this project. This allowance is for additional work as directed by the Owner. Monies not utilized by the Owner for this project will be removed from the final contract price at the completion of the project by use of a Change Order.
- C. All specific cash allowances are included in the above price in accordance with Paragraph 11.02 of the General Conditions.

ARTICLE 6 – PAYMENT PROCEDURES

6.01 *Submittal and Processing of PAYMENTS*

- A. Contractor shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.

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6.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the 25th day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below. All such payments will be measured by the schedule of values established as provided in Paragraph 2.07.A of the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no schedule of values, as provided in the General Requirements.
1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Engineer may determine or Owner may withhold, including but not limited to liquidated damages, in accordance with Paragraph 14.02 of the General Conditions.
 - a. 90 percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. 90 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed, less such amounts as Engineer shall determine in accordance with Paragraph 14.02.B.5 of the General Conditions and less 200 percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the tentative list of items to be completed or corrected attached to the certificate of Substantial Completion.

6.03 *Final Payment*

- A. Upon final completion and acceptance of the Work in accordance with Paragraph 14.07 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 14.07.

ARTICLE 7 – INTEREST

- 7.01 All moneys not paid when due as provided in Article 14 of the General Conditions shall bear interest at the rate of 1.0 percent per annum.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

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

SECTION VIII

- A. Contractor has examined and carefully studied the Contract Documents and the other related data identified in the Bidding Documents.
- B. Contractor has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has considered the information known to Contractor; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, including any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Contract Documents; and (3) Contractor's safety precautions and programs.
- E. Based on the information and observations referred to in Paragraph 8.01.D above, Contractor does not consider that further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract Documents.
- F. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- G. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- H. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 Contents

- A. The Contract Documents consist of the following:
 - 1. This Agreement, including the RFP and Contractor's proposal in response to the RFP.
 - 2. Performance Bond.
 - 3. Payment Bond.
 - 4. General Conditions.

SECTION VIII

5. Supplemental General Conditions
 6. Complete City of Forest Park – “Local, Small Business, Diversity Program” requirements and submitted forms included in these documents.
 7. Specifications (Including Georgia Department of Transportation – Standard Specifications Construction of Transportation Systems – January 21, 2021 or latest edition).
 8. Drawings
 9. Addenda.
 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor’s Bid.
 - b. Documentation submitted by Contractor prior to Notice of Award.
 - c. Certificate of Insurance.
 11. The following which may be delivered or issued on or after the Effective Date of the Agreement and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in Paragraph 3.04 of the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

- A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.

10.02 *Assignment of Contract*

- A. No assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and,

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specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

10.03 *Successors and Assigns*

- A. Owner and Contractor each binds itself, its partners, successors, assigns, and legal representatives to the other party hereto, in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 *Severability*

- A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 - 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 - 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

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10.06 *Other Provisions*

- 1. Indemnification:* The CONTRACTOR shall indemnify and hold harmless the OWNER and Consulting ENGINEER (also known as Falcon Design Consultants, LLC) and their agents and employees from and against all claims, damages, losses and expenses, including but not limited to attorney's fees, arising out of or resulting from the performance of the WORK, provided that any such claim, damage, loss, expense or attorney's fees is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property including the loss of use resulting therefrom, and is caused in whole or in part by any negligent act or omission of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, regardless of whether or not the negligent act is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or otherwise reduce any other right or obligation of indemnity which would otherwise exist as to any party or person described in this Clause. In any and all claims against the OWNER or the Consulting ENGINEER (Falcon Design Consultants, LLC) or any of their agents or employees, by any employee of the CONTRACTOR, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation set forth in this paragraph shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the CONTRACTOR or any Subcontractor under workers' or workman's compensation acts, disability benefit acts or other employee benefit acts.

IN WITNESS WHEREOF, Owner and Contractor have signed this Agreement. Counterparts have been delivered to Owner and Contractor. All portions of the Contract Documents have been signed or have been identified by Owner and Contractor or on their behalf.

This Agreement will be effective on _____ (which is the Effective Date of the Agreement).

OWNER:

CONTRACTOR

City of Forest Park, Georgia _____

By: _____

By: _____

Title: _____

Title: _____

(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____

Attest: _____

Title: _____

Title: _____

Address for giving notices:
745 Forest Parkway
Forest Park, GA 30297
Phone: (404) 366-4720

Address for giving notices:

Phone: _____
License No.: _____

(Where applicable)

Agent for service of process:

SECTION IX

NOTICE TO PROCEED



CITY OF
FORESTPARK

Date: _____

Project: **Forest Park Downtown Streetscape Phase 2A – Main Street**

Owner: City of Forest Park, Georgia Owner's Contract No.: **Project No.: 05192022**

Contract: _____ Engineer's Project No.: _____

Contractor: _____

Contractor's Address: _____

You are notified that the Contract Times under the above Contract will commence to run on _____, On or before that date, you are to start performing your obligations under the Contract Documents. In accordance with Article 4 of the Agreement, the date of Completion is _____, and the number of consecutive calendar days to achieve Substantial Completion is **210**, and the number of consecutive calendar days to achieve readiness for Final Completion including Closeout Documents is **240**.

Before you may start any Work at the Site, Paragraph 2.01.B of the General Conditions provides that you and Owner must each deliver to the other (with copies to Engineer and other identified additional insureds and loss payees) certificates of insurance which each is required to purchase and maintain in accordance with the Contract Documents.

Contractor:

Owner: **CITY OF FOREST PARK**

Authorized Signature

Authorized Signature

Title

Title

Date

Date

SECTION X

PERFORMANCE BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

City of Forest Park, Georgia

745 Forest Parkway

Forest, GA 30297

CONTRACT

Effective Date of Agreement:

Amount: \$ _____.

Forest Park Downtown Streetscape

Description (*Name and Location*): Phase 2A – Main Street

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

Note: Provide execution by additional parties, such as joint venturers, if necessary.

SECTION X

Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner for the performance of the Contract, which is incorporated herein by reference.

1. If Contractor performs the Contract, Surety and Contractor have no obligation under this Bond, except to participate in conferences as provided in Paragraph 2.1.
2. If there is no Owner Default, Surety's obligation under this Bond shall arise after:
 - 2.1 Owner has notified Contractor and Surety, at the addresses described in Paragraph 9 below, that Owner is considering declaring a Contractor Default and has requested and attempted to arrange a conference with Contractor and Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If Owner, Contractor, and Surety agree, Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive Owner's right, if any, subsequently to declare a Contractor Default; and
 - 2.2 Owner has declared a Contractor Default and formally terminated Contractor's right to complete the Contract. Such Contractor Default shall not be declared earlier than 20 days after Contractor and Surety have received notice as provided in Paragraph 2.1; and
 - 2.3 Owner has agreed to pay the Balance of the Contract Price to:
 1. Surety in accordance with the terms of the Contract; or
 2. Another contractor selected pursuant to Paragraph 3.3 to perform the Contract.
3. When Owner has satisfied the conditions of Paragraph 2, Surety shall promptly, and at Surety's expense, take one of the following actions:
 - 3.1 Arrange for Contractor, with consent of Owner, to perform and complete the Contract; or
 - 3.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
 - 3.3 Obtain bids or negotiated proposals from qualified contractors acceptable to Owner for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by Owner and contractor selected with Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Contract, and pay to Owner the amount of damages as described in Paragraph 5 in excess of the Balance of the Contract Price incurred by Owner resulting from Contractor Default; or
 - 3.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:
 1. After investigation, determine the amount for which it may be liable to Owner and, as soon as practicable after the amount is determined, tender payment therefor to Owner; or
 2. Deny liability in whole or in part and notify Owner citing reasons therefor.
4. If Surety does not proceed as provided in Paragraph 3 with reasonable promptness, Surety shall be deemed to be in default on this Bond 15 days after receipt of an additional written notice from Owner to Surety demanding that Surety perform its obligations under this Bond, and Owner shall be entitled to enforce any remedy available to Owner. If Surety proceeds as provided in Paragraph 3.4, and Owner refuses the payment tendered or Surety has denied liability, in whole or in part, without further notice Owner shall be entitled to enforce any remedy available to Owner.

SECTION X

5. After Owner has terminated Contractor's right to complete the Contract, and if Surety elects to act under Paragraph 3.1, 3.2, or 3.3 above, then the responsibilities of Surety to Owner shall not be greater than those of Contractor under the Contract, and the responsibilities of Owner to Surety shall not be greater than those of Owner under the Contract. To the limit of the amount of this Bond, but subject to commitment by Owner of the Balance of the Contract Price to mitigation of costs and damages on the Contract, Surety is obligated without duplication for:

- 5.1 The responsibilities of Contractor for correction of defective Work and completion of the Contract;
- 5.2 Additional legal, design professional, and delay costs resulting from Contractor's Default, and resulting from the actions of or failure to act of Surety under Paragraph 3; and
- 5.3 Liquidated damages, or if no liquidated damages are specified in the Contract, actual damages caused by delayed performance or non-performance of Contractor.

6. Surety shall not be liable to Owner or others for obligations of Contractor that are unrelated to the Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than Owner or its heirs, executors, administrators, or successors.

7. Surety hereby waives notice of any change, including changes of time, to Contract or to related subcontracts, purchase orders, and other obligations.

8. Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the Work or part of the Work is located, and shall be instituted within two years after Contractor Default or within two years after Contractor ceased working or within two years after Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

9. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the address shown on the signature page.

10. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted here from and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

11. Definitions.

- 11.1 Balance of the Contract Price: The total amount payable by Owner to Contractor under the Contract after all proper adjustments have been made, including allowance to Contractor of any amounts received or to be received by Owner in settlement of insurance or other Claims for damages to which Contractor is entitled, reduced by all valid and proper payments made to or on behalf of Contractor under the Contract.
- 11.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.
- 11.3 Contractor Default: Failure of Contractor, which has neither been remedied nor waived, to perform or otherwise to comply with the terms of the Contract.

SECTION X

11.4 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – (*Name, Address and Telephone*)

Surety Agency or Broker:

Owner's Representative (*Engineer or other party*):

SECTION XI

PAYMENT BOND

Any singular reference to Contractor, Surety, Owner, or other party shall be considered plural where applicable.

CONTRACTOR (*Name and Address*):

SURETY (*Name, and Address of Principal Place of Business*):

OWNER (*Name and Address*):

City of Forest Park, Georgia

745 Forest Parkway
Forest Park, GA 30297

CONTRACT

Effective Date of Agreement:

Amount: \$ _____.

Forest Park Downtown Streetscape

Description (*Name and Location*): Phase 2A – Main Street

BOND

Bond Number:

Date (*Not earlier than Effective Date of Agreement*):

Amount:

Modifications to this Bond Form:

Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth below, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.

CONTRACTOR AS PRINCIPAL

SURETY

Contractor's Name and Corporate Seal (Seal)

Surety's Name and Corporate Seal (Seal)

By: _____
Signature

By: _____
Signature (Attach Power of Attorney)

Print Name

Print Name

Title

Title

Attest: _____
Signature

Attest: _____
Signature

Title

Title

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Note: Provide execution by additional parties, such as joint venturers, if necessary.

1. Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to Owner to pay for labor, materials, and equipment furnished by Claimants for use in the performance of the Contract, which is incorporated herein by reference.
2. With respect to Owner, this obligation shall be null and void if Contractor:
 - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants, and
 - 2.2 Defends, indemnifies, and holds harmless Owner from all claims, demands, liens, or suits alleging non-payment by Contractor by any person or entity who furnished labor, materials, or equipment for use in the performance of the Contract, provided Owner has promptly notified Contractor and Surety (at the addresses described in Paragraph 12) of any claims, demands, liens, or suits and tendered defense of such claims, demands, liens, or suits to Contractor and Surety, and provided there is no Owner Default.
3. With respect to Claimants, this obligation shall be null and void if Contractor promptly makes payment, directly or indirectly, for all sums due.
4. Surety shall have no obligation to Claimants under this Bond until:
 - 4.1 Claimants who are employed by or have a direct contract with Contractor have given notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and, with substantial accuracy, the amount of the claim.
 - 4.2 Claimants who do not have a direct contract with Contractor:
 1. Have furnished written notice to Contractor and sent a copy, or notice thereof, to Owner, within 90 days after having last performed labor or last furnished materials or equipment included in the claim stating, with substantial accuracy, the amount of the claim and the name of the party to whom the materials or equipment were furnished or supplied, or for whom the labor was done or performed; and
 2. Have either received a rejection in whole or in part from Contractor, or not received within 30 days of furnishing the above notice any communication from Contractor by which Contractor had indicated the claim will be paid directly or indirectly; and
 3. Not having been paid within the above 30 days, have sent a written notice to Surety (at the address described in Paragraph 12) and sent a copy, or notice thereof, to Owner, stating that a claim is being made under this Bond and enclosing a copy of the previous written notice furnished to Contractor.
5. If a notice by a Claimant required by Paragraph 4 is provided by Owner to Contractor or to Surety, that is sufficient compliance.
6. When a Claimant has satisfied the conditions of Paragraph 4, the Surety shall promptly and at Surety's expense take the following actions:
 - 6.1 Send an answer to that Claimant, with a copy to Owner, within 45 days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
 - 6.2 Pay or arrange for payment of any undisputed amounts.
7. Surety's total obligation shall not exceed the amount of this Bond, and the amount of this Bond shall be credited for any payments made in good faith by Surety.
8. Amounts owed by Owner to Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any performance bond. By Contractor furnishing and Owner

SECTION XI

accepting this Bond, they agree that all funds earned by Contractor in the performance of the Contract are dedicated to satisfy obligations of Contractor and Surety under this Bond, subject to Owner's priority to use the funds for the completion of the Work.

9. Surety shall not be liable to Owner, Claimants, or others for obligations of Contractor that are unrelated to the Contract. Owner shall not be liable for payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligations to make payments to, give notices on behalf of, or otherwise have obligations to Claimants under this Bond.

10. Surety hereby waives notice of any change, including changes of time, to the Contract or to related subcontracts, purchase orders, and other obligations.

11. No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the location in which the Work or part of the Work is located or after the expiration of one year from the date (1) on which the Claimant gave the notice required by Paragraph 4.1 or Paragraph 4.2.3, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

12. Notice to Surety, Owner, or Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, Owner, or Contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.

13. When this Bond has been furnished to comply with a statutory requirement in the location where the Contract was to be performed, any provision in this Bond conflicting with said statutory requirement shall be deemed deleted herefrom and provisions conforming to such statutory requirement shall be deemed incorporated herein. The intent is that this Bond shall be construed as a statutory Bond and not as a common law bond.

14. Upon request of any person or entity appearing to be a potential beneficiary of this Bond, Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.

15. Definitions

15.1 Claimant: An individual or entity having a direct contract with Contractor, or with a first-tier subcontractor of Contractor, to furnish labor, materials, or equipment for use in the performance of the Contract. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Contract, architectural and engineering services required for performance of the Work of Contractor and Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.

15.2 Contract: The agreement between Owner and Contractor identified on the signature page, including all Contract Documents and changes thereto.

15.3 Owner Default: Failure of Owner, which has neither been remedied nor waived, to pay Contractor as required by the Contract, or to perform and complete or otherwise comply with the other terms thereof.

FOR INFORMATION ONLY – *(Name, Address, and Telephone)*

Surety Agency or Broker:

Owner's Representative *(Engineer or other)*:

SECTION XII

CERTIFICATE OF CONTRACTOR’S ATTORNEY

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

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

Signature: _____

Date: _____

SECTION XIII



CITY OF
FORESTPARK

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, _____, the duly authorized and acting legal representative of the **City of Forest Park, Georgia**, do hereby certify as follows:

I have examined the attached Contract and the manner of execution thereof by the authorized City representatives, and I am of the opinion that each of the aforesaid agreements are adequate and have been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the City of Forest Park, Georgia; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with the terms, conditions, and provisions thereof.

Signature: _____

Date: _____

SECTION XIV

GENERAL CONDITIONS

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ARTICLE 1 – DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents and printed with initial capital letters, the terms listed below will have the meanings indicated which are applicable to both the singular and plural thereof. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument which is evidence of the agreement between Owner and Contractor covering the Work.
 3. *Application for Payment*—The form acceptable to Engineer which is to be used by Contractor during the course of the Work in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Asbestos*—Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.
 5. *Bid*—The offer or proposal of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 6. *Bidder*—The individual or entity who submits a Bid directly to Owner.
 7. *Bidding Documents*—The Bidding Requirements and the proposed Contract Documents (including all Addenda).
 8. *Bidding Requirements*—The advertisement or invitation to bid, Instructions to Bidders, Bid security of acceptable form, if any, and the Bid Form with any supplements.
 9. *Change Order*—A document recommended by Engineer which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.
 10. *Claim*—A demand or assertion by Owner or Contractor seeking an adjustment of Contract Price or Contract Times, or both, or other relief with respect to the terms of the Contract. A demand for money or services by a third party is not a Claim.
 11. *Contract*—The entire and integrated written agreement between the Owner and Contractor concerning the Work. The Contract supersedes prior negotiations, representations, or agreements, whether written or oral.

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12. *Contract Documents*—Those items so designated in the Agreement. Only printed or hard copies of the items listed in the Agreement are Contract Documents. Approved Shop Drawings, other Contractor submittals, and the reports and drawings of subsurface and physical conditions are not Contract Documents.
13. *Contract Price*—The moneys payable by Owner to Contractor for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of Paragraph 11.03 in the case of Unit Price Work).
14. *Contract Times*—The number of days or the dates stated in the Agreement to: (i) achieve Milestones, if any; (ii) achieve Substantial Completion; and (iii) complete the Work so that it is ready for final payment as evidenced by Engineer’s written recommendation of final payment.
15. *Contractor*—The individual or entity with whom Owner has entered into the Agreement.
16. *Cost of the Work*—See Paragraph 11.01 for definition.
17. *Drawings*—That part of the Contract Documents prepared or approved by Engineer which graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop Drawings and other Contractor submittals are not Drawings as so defined.
18. *Effective Date of the Agreement*—The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
19. *Engineer*—The individual or entity named as such in the Agreement.
20. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.
21. *General Requirements*—Sections of Division 1 of the Specifications.
22. *Hazardous Environmental Condition*—The presence at the Site of Asbestos, PCBs, Petroleum, Hazardous Waste, or Radioactive Material in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto.
23. *Hazardous Waste*—The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.
24. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
25. *Liens*—Charges, security interests, or encumbrances upon Project funds, real property, or personal property.
26. *Milestone*—A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

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27. *Notice of Award*—The written notice by Owner to the Successful Bidder stating that upon timely compliance by the Successful Bidder with the condition's precedent listed therein, Owner will sign and deliver the Agreement.
28. *Notice to Proceed*—A written notice given by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work under the Contract Documents.
29. *Owner*—The individual or entity with whom Contractor has entered into the Agreement and for whom the Work is to be performed.
30. *PCBs*—Polychlorinated biphenyls.
31. *Petroleum*—Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.
32. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising the Contractor's plan to accomplish the Work within the Contract Times.
33. *Project*—The total construction of which the Work to be performed under the Contract Documents may be the whole, or a part.
34. *Project Manual*—The bound documentary information prepared for bidding and constructing the Work. A listing of the contents of the Project Manual, which may be bound in one or more volumes, is contained in the table(s) of contents.
35. *Radioactive Material*—Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.
36. *Resident Project Representative*—The authorized representative of Engineer who may be assigned to the Site or any part thereof.
37. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.
38. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements to support scheduled performance of related construction activities.
39. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.
40. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information which are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work.

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41. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements for access thereto, and such other lands furnished by Owner which are designated for the use of Contractor.
42. *Specifications*—That part of the Contract Documents consisting of written requirements for materials, equipment, systems, standards and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable thereto.
43. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work at the Site.
44. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion thereof.
45. *Successful Bidder*—The Bidder submitting a responsive Bid to whom Owner makes an award.
46. *Supplementary Conditions*—That part of the Contract Documents which amends or supplements these General Conditions.
47. *Supplier*—A manufacturer, fabricator, supplier, distributor, materialman, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or Subcontractor.
48. *Underground Facilities*—All underground pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities, including those that convey electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, water, wastewater, storm water, other liquids or chemicals, or traffic or other control systems.
49. *Unit Price Work*—Work to be paid for on the basis of unit prices.
50. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction, and furnishing, installing, and incorporating all materials and equipment into such construction, all as required by the Contract Documents.
51. *Work Change Directive*—A written statement to Contractor issued on or after the Effective Date of the Agreement and signed by Owner and recommended by Engineer ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

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1.02 *Terminology*

A. The words and terms discussed in Paragraph 1.02.B through F are not defined but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.

B. *Intent of Certain Terms or Adjectives:*

1. The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.09 or any other provision of the Contract Documents.

C. *Day:*

1. The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.

D. *Defective:*

1. The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
 - a. does not conform to the Contract Documents; or
 - b. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 - c. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 14.04 or 14.05).

E. *Furnish, Install, Perform, Provide:*

1. The word “furnish,” when used in connection with services, materials, or equipment, shall mean to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
2. The word “install,” when used in connection with services, materials, or equipment, shall mean to put into use or place in final position said services, materials, or equipment complete and ready for intended use.

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3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, shall mean to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. When “furnish,” “install,” “perform,” or “provide” is not used in connection with services, materials, or equipment in a context clearly requiring an obligation of Contractor, “provide” is implied.
- F. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2 – PRELIMINARY MATTERS

2.01 *Delivery of Bonds and Evidence of Insurance*

- A. When Contractor delivers the executed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner such bonds as Contractor may be required to furnish.
- B. *Evidence of Insurance:* Before any Work at the Site is started, Contractor and Owner shall each deliver to the other, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance which either of them or any additional insured may reasonably request) which Contractor and Owner respectively are required to purchase and maintain in accordance with Article 5.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor up to three printed or hard copies of the Drawings and Project Manual. Additional copies will be furnished upon request at the cost of reproduction.

2.03 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 15th day after the Effective Date of the Agreement or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 15 days after the Effective Date of the Agreement. In no event will the Contract Times commence to run later than the sixtieth day after the day of Bid opening or the thirtieth day after the Effective Date of the Agreement, whichever date is earlier.

2.04 *Starting the Work*

- A. Contractor shall start to perform the Work on the date when the Contract Times commence to run. No Work shall be done at the Site prior to the date on which the Contract Times commence to run.

2.05 *Before Starting Construction*

- A. *Preliminary Schedules:* Within 10 days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to Engineer for timely review:

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1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract Documents;
2. a preliminary Schedule of Submittals; and
3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.06 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in Paragraph 2.05.A, procedures for handling Shop Drawings and other submittals, processing Applications for Payment, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit instructions, receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.07 *Initial Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference attended by Contractor, Engineer, and others as appropriate will be held to review for acceptability to Engineer as provided below the schedules submitted in accordance with Paragraph 2.05.A. Contractor shall have an additional 10 days to make corrections and adjustments and to complete and resubmit the schedules. No progress payment shall be made to Contractor until acceptable schedules are submitted to Engineer.
 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to component parts of the Work.

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ARTICLE 3 – CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete project (or part thereof) to be constructed in accordance with the Contract Documents. Any labor, documentation, services, materials, or equipment that reasonably may be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the indicated result will be provided whether or not specifically called for, at no additional cost to Owner.
- C. Clarifications and interpretations of the Contract Documents shall be issued by Engineer as provided in Article 9.

3.02 *Reference Standards*

- A. Standards, Specifications, Codes, Laws, and Regulations
 1. Reference to standards, specifications, manuals, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, shall mean the standard, specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
 2. No provision of any such standard, specification, manual, or code, or any instruction of a Supplier, shall be effective to change the duties or responsibilities of Owner, Contractor, or Engineer, or any of their subcontractors, consultants, agents, or employees, from those set forth in the Contract Documents. No such provision or instruction shall be effective to assign to Owner, Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, any duty or authority to supervise or direct the performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of the Contract Documents.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies:*

1. *Contractor's Review of Contract Documents Before Starting Work:* Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures therein and all applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy which Contractor discovers, or has actual knowledge of, and shall obtain a written interpretation or clarification from Engineer before proceeding with any Work affected thereby.
2. *Contractor's Review of Contract Documents During Performance of Work:* If, during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable

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Law or Regulation, (b) any standard, specification, manual, or code, or (c) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 6.16.A) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in Paragraph 3.04.

3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies:*

1. Except as may be otherwise specifically stated in the Contract Documents, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity, or discrepancy between the provisions of the Contract Documents and:
 - a. the provisions of any standard, specification, manual, or code, or the instruction of any Supplier (whether or not specifically incorporated by reference in the Contract Documents); or
 - b. the provisions of any Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

3.04 *Amending and Supplementing Contract Documents*

- A. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof by either a Change Order or a Work Change Directive.
- B. The requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, by one or more of the following ways:
 1. A Field Order;
 2. Engineer's approval of a Shop Drawing or Sample (subject to the provisions of Paragraph 6.17.D.3); or
 3. Engineer's written interpretation or clarification.

3.05 *Reuse of Documents*

- A. Contractor and any Subcontractor or Supplier shall not:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media editions; or

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2. reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein shall preclude Contractor from retaining copies of the Contract Documents for record purposes.

3.06 *Electronic Data*

- A. Unless otherwise stated in the Supplementary Conditions, the data furnished by Owner or Engineer to Contractor, or by Contractor to Owner or Engineer, that may be relied upon are limited to the printed copies (also known as hard copies). Files in electronic media format of text, data, graphics, or other types are furnished only for the convenience of the receiving party. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.
- B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 60 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 60-day acceptance period will be corrected by the transferring party.
- C. When transferring documents in electronic media format, the transferring party makes no representations as to long term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by the data's creator.

ARTICLE 4 – AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS; REFERENCE POINTS

4.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work. Owner will obtain in a timely manner and pay for easements for permanent structures or permanent changes in existing facilities. If Contractor and Owner are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, as a result of any delay in Owner's furnishing the Site or a part thereof, Contractor may make a Claim therefore as provided in Paragraph 10.05.
- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which the Work is to be performed.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

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4.02 *Subsurface and Physical Conditions*

A. *Reports and Drawings:* The Supplementary Conditions identify:

1. those reports known to Owner of explorations and tests of subsurface conditions at or contiguous to the Site; and
2. those drawings known to Owner of physical conditions relating to existing surface.

B. *Limited Reliance by Contractor on Technical Data Authorized:* Not Used

4.03 *Differing Subsurface or Physical Conditions*

A. *Notice:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed either:

1. is of such a nature as to require a change in the Contract Documents; or
2. differs materially from that shown or indicated in the Contract Documents; or
3. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except as aforesaid) until receipt of written order to do so.

B. *Engineer's Review:* After receipt of written notice as required by Paragraph 4.03.A, Engineer will promptly review the pertinent condition, determine the necessity of Owner's obtaining additional exploration or tests with respect thereto, and advise Owner in writing (with a copy to Contractor) of Engineer's findings and conclusions.

C. *Possible Price and Times Adjustments:*

1. The Contract Price or the Contract Times, or both, will be equitably adjusted to the extent that the existence of such differing subsurface or physical condition causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:
 - a. such condition must meet any one or more of the categories described in Paragraph 4.03.A; and
 - b. with respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraphs 9.07 and 11.03.

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2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times if:
 - a. Contractor knew of the existence of such conditions at the time Contractor made a final commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract; or
 - b. the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such final commitment; or
 - c. Contractor failed to give the written notice as required by Paragraph 4.03.A.
3. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times, or both, a Claim may be made therefor as provided in Paragraph 10.05. However, neither Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.

4.04 *Underground Facilities*

- A. *Shown or Indicated:* The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the Site is based on information and data furnished to Owner or Engineer by the owners of such Underground Facilities, including Owner, or by others. Unless it is otherwise expressly provided in the Supplementary Conditions:
 1. Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data provided by others; and
 2. the cost of all of the following will be included in the Contract Price, and Contractor shall have full responsibility for:
 - a. reviewing and checking all such information and data;
 - b. locating all Underground Facilities shown or indicated in the Contract Documents;
 - c. coordination of the Work with the owners of such Underground Facilities, including Owner, during construction; and
 - d. the safety and protection of all such Underground Facilities and repairing any damage thereto resulting from the Work.
- B. *Not Shown or Indicated:*
 1. If an Underground Facility is uncovered or revealed at or contiguous to the Site which was not shown or indicated, or not shown or indicated with reasonable accuracy in the Contract Documents, Contractor shall, promptly after becoming aware thereof and before further

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disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 6.16.A), identify the owner of such Underground Facility and give written notice to that owner and to Owner and Engineer. Engineer will promptly review the Underground Facility and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence or location of the Underground Facility. During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

2. If Engineer concludes that a change in the Contract Documents is required, a Work Change Directive or a Change Order will be issued to reflect and document such consequences. An equitable adjustment shall be made in the Contract Price or Contract Times, or both, to the extent that they are attributable to the existence or location of any Underground Facility that was not shown or indicated or not shown or indicated with reasonable accuracy in the Contract Documents and that Contractor did not know of and could not reasonably have been expected to be aware of or to have anticipated. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment in Contract Price or Contract Times, Owner or Contractor may make a Claim therefor as provided in Paragraph 10.05.

4.05 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.06 *Hazardous Environmental Condition at Site*

- A. *Reports and Drawings:* The Supplementary Conditions identify those reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at the Site.
- B. *Limited Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the "technical data" contained in such reports and drawings, but such reports and drawings are not Contract Documents. Such "technical data" is identified in the Supplementary Conditions. Except for such reliance on such "technical data," Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors with respect to:
 1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by Contractor and safety precautions and programs incident thereto; or

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2. other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any “technical data” or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work. Contractor shall be responsible for a Hazardous Environmental Condition created with any materials brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible.
- D. If Contractor encounters a Hazardous Environmental Condition, Contractor shall immediately: (i) secure or otherwise isolate such condition; (ii) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 6.16.A); and (iii) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 4.06.E.
- E. Contractor shall not be required to resume Work in connection with such condition or in any affected area until after Owner has obtained any required permits related thereto and delivered written notice to Contractor: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work; or (ii) specifying any special conditions under which such Work may be resumed safely. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, or both, as a result of such Work stoppage or such special conditions under which Work is agreed to be resumed by Contractor, either party may make a Claim therefor as provided in Paragraph 10.05.
- F. If after receipt of such written notice Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of an adjustment in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a Claim therefor as provided in Paragraph 10.05. Owner may have such deleted portion of the Work performed by Owner’s own forces or others in accordance with Article 7.
- G. Not Used
- H. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of contractors or subcontractors operations or relating to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph

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4.06.H shall obligate Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.

- I. The provisions of Paragraphs 4.02, 4.03, and 4.04 do not apply to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 5 – BONDS AND INSURANCE

5.01 *Bid, Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a Bid security made payable to Owner in an amount of **5 percent**. The Bid security will be retained until such Contractor has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. Contractor shall also furnish performance and payment bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all of Contractor's obligations under the Contract Documents. These bonds shall remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 13.07, whichever is later, except as provided otherwise by Laws or Regulations or by the Contract Documents. Contractor shall also furnish such other bonds as are required by the Contract Documents.
- B. All bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Financial Management Service, Surety Bond Branch, U.S. Department of the Treasury. All bonds signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual's authority to bind the surety. The evidence of authority shall show that it is effective on the date the agent or attorney-in-fact signed each bond.
- C. If the surety on any bond furnished by Contractor is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 5.01.B, Contractor shall promptly notify Owner and Engineer and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which shall comply with the requirements of Paragraphs 5.01.B and 5.02.

5.02 *Licensed Sureties and Insurers*

- A. All bonds and insurance required by the Contract Documents to be purchased and maintained by Owner or Contractor shall be obtained from surety or insurance companies that are duly licensed or authorized in the jurisdiction in which the Project is located to issue bonds or insurance policies for the limits and coverages so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.03 *Certificates of Insurance*

- A. Contractor shall deliver to Owner, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Owner or any other additional insured) which Contractor is required to purchase and maintain.

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- B. Owner shall deliver to Contractor, with copies to each additional insured and loss payee identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by Contractor or any other additional insured) which Owner is required to purchase and maintain.
- C. Failure of Owner to demand such certificates or other evidence of Contractor's full compliance with these insurance requirements or failure of Owner to identify a deficiency in compliance from the evidence provided shall not be construed as a waiver of Contractor's obligation to maintain such insurance.
- D. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor.
- E. The insurance and insurance limits required herein shall not be deemed as a limitation on Contractor's liability under the indemnities granted to Owner in the Contract Documents.

5.04 *Contractor's Insurance*

- A. Contractor shall purchase and maintain such insurance as is appropriate for the Work being performed and as will provide protection from claims set forth below which may arise out of or result from Contractor's performance of the Work and Contractor's other obligations under the Contract Documents, whether it is to be performed by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable:
 - 1. claims under workers' compensation, disability benefits, and other similar employee benefit acts;
 - 2. claims for damages because of bodily injury, occupational sickness or disease, or death of Contractor's employees;
 - 3. claims for damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees;
 - 4. claims for damages insured by reasonably available personal injury liability coverage which are sustained:
 - a. by any person as a result of an offense directly or indirectly related to the employment of such person by Contractor, or
 - b. by any other person for any other reason;
 - 5. claims for damages, other than to the Work itself, because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom; and
 - 6. 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.
- B. The policies of insurance required by this Paragraph 5.04 shall:

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1. with respect to insurance required by Paragraphs 5.04.A.3 through 5.04.A.6 inclusive, be written on an occurrence basis, include as additional insureds (subject to any customary exclusion regarding professional liability) Owner and Engineer, and any other individuals or entities identified in the Supplementary Conditions, all of whom shall be listed as additional insureds for ongoing and completed operations, and include coverage for the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of all such additional insureds, and the insurance afforded to these additional insureds shall provide primary and non-contributory coverage for all claims covered thereby. ISO additional insured endorsements CG(2010-07/04) and CG(2037-07/04) or their equivalence shall be utilized;
2. include at least the specific coverages and be written for not less than the limits of liability provided in the Supplementary Conditions or required by Laws or Regulations, whichever is greater;
3. include contractual liability insurance covering Contractor's indemnity obligations under Paragraphs 6.11 and 6.20;
4. contain a provision or endorsement that the coverage afforded will not be canceled, materially changed or renewal refused until at least 30 days prior written notice has been given to Owner and Contractor and to each other additional insured identified in the Supplementary Conditions to whom a certificate of insurance has been issued (and the certificates of insurance furnished by the Contractor pursuant to Paragraph 5.03 will so provide);
5. remain in effect at least until final payment and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work in accordance with Paragraph 13.07; and
6. include completed operations coverage:
 - a. Such insurance shall remain in effect for five years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured identified in the Supplementary Conditions, to whom a certificate of insurance has been issued, evidence satisfactory to Owner and any such additional insured of continuation of such insurance at final payment and one year thereafter.

5.05 *Owner's Liability Insurance*

- A. In addition to the insurance required to be provided by Contractor under Paragraph 5.04, Owner, at Owner's option, may purchase and maintain at Owner's expense Owner's own liability insurance as will protect Owner against claims which may arise from operations under the Contract Documents.

5.06 *Property Insurance*

Not Used

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5.07 *Waiver of Rights*

- A. Owner and Contractor intend that all policies purchased in accordance with Paragraph 5.06 will protect Owner, Contractor, Subcontractors, and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) in such policies and will provide primary coverage for all losses and damages caused by the perils or causes of loss covered thereby. All such policies shall contain provisions to the effect that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or loss payees thereunder. Owner and Contractor waive all rights against each other and their respective officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for all losses and damages caused by, arising out of or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Subcontractors and Engineer, and all other individuals or entities identified in the Supplementary Conditions as loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) under such policies for losses and damages so caused. None of the above waivers shall extend to the rights that any party making such waiver may have to the proceeds of insurance held by Owner as trustee or otherwise payable under any policy so issued.
- B. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them for:
1. loss due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other perils whether or not insured by Owner; and
 2. loss or damage to the completed Project or part thereof caused by, arising out of, or resulting from fire or other insured peril or cause of loss covered by any property insurance maintained on the completed Project or part thereof by Owner during partial utilization pursuant to Paragraph 14.05, after Substantial Completion pursuant to Paragraph 14.04, or after final payment pursuant to Paragraph 14.07.
- C. Any insurance policy maintained by Owner covering any loss, damage or consequential loss referred to in Paragraph 5.07.B shall contain provisions to the effect that in the event of payment of any such loss, damage, or consequential loss, the insurers will have no rights of recovery against Contractor, Subcontractors, or Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them.

5.08 *Receipt and Application of Insurance Proceeds*

- A. Not Used
- B. Not Used

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5.09 *Acceptance of Bonds and Insurance; Option to Replace*

- A. If either Owner or Contractor has any objection to the coverage afforded by or other provisions of the bonds or insurance required to be purchased and maintained by the other party in accordance with Article 5 on the basis of non-conformance with the Contract Documents, the objecting party shall so notify the other party in writing within 10 days after receipt of the certificates (or other evidence requested) required by Paragraph 2.01.B. Owner and Contractor shall each provide to the other such additional information in respect of insurance provided as the other may reasonably request. If either party does not purchase or maintain all of the bonds and insurance required of such party by the Contract Documents, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage. Without prejudice to any other right or remedy, the other party may elect to obtain equivalent bonds or insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and a Change Order shall be issued to adjust the Contract Price accordingly.

5.10 *Partial Utilization, Acknowledgment of Property Insurer*

Not Used

ARTICLE 6 – CONTRACTOR'S RESPONSIBILITIES

6.01 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction. Contractor shall not be responsible for the negligence of Owner or Engineer in the design or specification of a specific means, method, technique, sequence, or procedure of construction which is shown or indicated in and expressly required by the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who shall not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

6.02 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall at all times maintain good discipline and order at the Site.
- B. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site shall be performed during regular working hours. Contractor will not permit the performance of Work on a Saturday, Sunday, or any legal holiday without Owner's written consent (which will not be unreasonably withheld) given after prior written notice to Engineer.

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6.03 *Services, Materials, and Equipment*

- A. Unless otherwise specified in the Contract Documents, Contractor shall provide and assume full responsibility for all services, materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the performance, testing, start-up, and completion of the Work.
- B. All materials and equipment incorporated into the Work shall be as specified or, if not specified, shall be of good quality and new, except as otherwise provided in the Contract Documents. All special warranties and guarantees required by the Specifications shall expressly run to the benefit of Owner. If required by Engineer, Contractor shall furnish satisfactory evidence (including reports of required tests) as to the source, kind, and quality of materials and equipment.
- C. All materials and equipment shall be stored, applied, installed, connected, erected, protected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise may be provided in the Contract Documents.

6.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.07 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.07) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times. Such adjustments will comply with any provisions of the General Requirements applicable thereto.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times shall be submitted in accordance with the requirements of Article 12. Adjustments in Contract Times may only be made by a Change Order.

6.05 *Substitutes and "Or-Equals"*

- A. Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or-equal" item or no substitution is permitted, other items of material or equipment or material or equipment of other Suppliers may be submitted to Engineer for review under the circumstances described below.
 - 1. *"Or-Equal" Items:* If in Engineer's sole discretion an item of material or equipment proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by Engineer as an "or-equal" item, in which case review and approval of the proposed item may, in Engineer's sole discretion, be accomplished without compliance with some or all of the requirements for approval of proposed substitute items. For the purposes of this Paragraph 6.05.A.1, a proposed item of material or equipment will be considered functionally equal to an item so named if:

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- a. in the exercise of reasonable judgment Engineer determines that:
 - 1) it is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) it will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole; and
 - 3) it has a proven record of performance and availability of responsive service.
- b. Contractor certifies that, if approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) it will conform substantially to the detailed requirements of the item named in the Contract Documents.

2. *Substitute Items:*

- a. If in Engineer's sole discretion an item of material or equipment proposed by Contractor does not qualify as an "or-equal" item under Paragraph 6.05.A.1, it will be considered a proposed substitute item.
- b. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. Requests for review of proposed substitute items of material or equipment will not be accepted by Engineer from anyone other than Contractor.
- c. The requirements for review by Engineer will be as set forth in Paragraph 6.05.A.2.d, as supplemented by the General Requirements, and as Engineer may decide is appropriate under the circumstances.
- d. Contractor shall make written application to Engineer for review of a proposed substitute item of material or equipment that Contractor seeks to furnish or use. The application:
 - 1) shall certify that the proposed substitute item will:
 - a) perform adequately the functions and achieve the results called for by the general design,
 - b) be similar in substance to that specified, and
 - c) be suited to the same use as that specified;
 - 2) will state:
 - a) the extent, if any, to which the use of the proposed substitute item will prejudice Contractor's achievement of Substantial Completion on time,

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- b) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item, and
 - c) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty;
 - 3) will identify:
 - a) all variations of the proposed substitute item from that specified, and
 - b) available engineering, sales, maintenance, repair, and replacement services; and
 - 4) shall contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including costs of redesign and claims of other contractors affected by any resulting change.
- B. *Substitute Construction Methods or Procedures:* If a specific means, method, technique, sequence, or procedure of construction is expressly required by the Contract Documents, Contractor may furnish or utilize a substitute means, method, technique, sequence, or procedure of construction approved by Engineer. Contractor shall submit sufficient information to allow Engineer, in Engineer's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The requirements for review by Engineer will be similar to those provided in Paragraph 6.05.A.2.
- C. *Engineer's Evaluation:* Engineer will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to Paragraphs 6.05.A and 6.05.B. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No "or equal" or substitute will be ordered, installed or utilized until Engineer's review is complete, which will be evidenced by a Change Order in the case of a substitute and an approved Shop Drawing for an "or equal." Engineer will advise Contractor in writing of any negative determination.
- D. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- E. *Engineer's Cost Reimbursement:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor pursuant to Paragraphs 6.05.A.2 and 6.05.B. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.
- F. *Contractor's Expense:* Contractor shall provide all data in support of any proposed substitute or "or-equal" at Contractor's expense.

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6.06 *Concerning Subcontractors, Suppliers, and Others*

- A. Contractor shall not employ any Subcontractor, Supplier, or other individual or entity (including those acceptable to Owner as indicated in Paragraph 6.06.B), whether initially or as a replacement, against whom Owner may have reasonable objection. Contractor shall not be required to employ any Subcontractor, Supplier, or other individual or entity to furnish or perform any of the Work against whom Contractor has reasonable objection.
- B. If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, or other individuals or entities to be submitted to Owner in advance for acceptance by Owner by a specified date prior to the Effective Date of the Agreement, and if Contractor has submitted a list thereof in accordance with the Supplementary Conditions, Owner's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in the Bidding Documents or the Contract Documents) of any such Subcontractor, Supplier, or other individual or entity so identified may be revoked on the basis of reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor, Supplier, or other individual or entity, and the Contract Price will be adjusted by the difference in the cost occasioned by such replacement, and an appropriate Change Order will be issued. No acceptance by Owner of any such Subcontractor, Supplier, or other individual or entity, whether initially or as a replacement, shall constitute a waiver of any right of Owner or Engineer to reject defective Work.
- C. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of the Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work just as Contractor is responsible for Contractor's own acts and omissions. Nothing in the Contract Documents:
 1. shall create for the benefit of any such Subcontractor, Supplier, or other individual or entity any contractual relationship between Owner or Engineer and any such Subcontractor, Supplier or other individual or entity; nor
 2. shall create any obligation on the part of Owner or Engineer to pay or to see to the payment of any moneys due any such Subcontractor, Supplier, or other individual or entity except as may otherwise be required by Laws and Regulations.
- D. Contractor shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers, and other individuals or entities performing or furnishing any of the Work under a direct or indirect contract with Contractor.
- E. Contractor shall require all Subcontractors, Suppliers, and such other individuals or entities performing or furnishing any of the Work to communicate with Engineer through Contractor.
- F. The divisions and sections of the Specifications and the identifications of any Drawings shall not control Contractor in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.
- G. All Work performed for Contractor by a Subcontractor or Supplier will be pursuant to an appropriate agreement between Contractor and the Subcontractor or Supplier which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of Owner and Engineer. Whenever any such agreement is with a

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Subcontractor or Supplier who is listed as a loss payee on the property insurance provided in Paragraph 5.06, the agreement between the Contractor and the Subcontractor or Supplier will contain provisions whereby the Subcontractor or Supplier waives all rights against Owner, Contractor, Engineer, and all other individuals or entities identified in the Supplementary Conditions to be listed as insureds or loss payees (and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them) for all losses and damages caused by, arising out of, relating to, or resulting from any of the perils or causes of loss covered by such policies and any other property insurance applicable to the Work. If the insurers on any such policies require separate waiver forms to be signed by any Subcontractor or Supplier, Contractor will obtain the same.

6.07 *Patent Fees and Royalties*

- A. Contractor shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the Work and if, to the actual knowledge of Owner or Engineer, its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by Owner in the Contract Documents.
- B. Not Used
- C. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product, or device not specified in the Contract Documents.

6.08 *Permits*

- A. Unless otherwise provided in the Supplementary Conditions, Contractor shall obtain and pay for all construction permits and licenses. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

6.09 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all claims, costs, losses, and damages (including but not limited

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to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work. However, it shall not be Contractor's responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve Contractor of Contractor's obligations under Paragraph 3.03.

- C. Changes in Laws or Regulations not known at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids) having an effect on the cost or time of performance of the Work shall be the subject of an adjustment in Contract Price or Contract Times. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

6.10 *Taxes*

- A. Contractor shall pay all sales, consumer, use, and other similar taxes required to be paid by Contractor in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the Work.

6.11 *Use of Site and Other Areas*

A. *Limitation on Use of Site and Other Areas:*

1. Contractor shall confine construction equipment, the storage of materials and equipment, and the operations of workers to the Site and other areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and other areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof, or of any adjacent land or areas resulting from the performance of the Work.
2. Should any claim be made by any such owner or occupant because of the performance of the Work, Contractor shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law.
3. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused by or based upon Contractor's performance of the Work.

- B. *Removal of Debris During Performance of the Work:* During the progress of the Work Contractor shall keep the Site and other areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris shall conform to applicable Laws and Regulations.

- C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site all tools, appliances, construction equipment and machinery, and surplus

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materials and shall restore to original condition all property not designated for alteration by the Contract Documents.

- D. *Loading Structures*: Contractor shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall Contractor subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

6.12 *Record Documents*

- A. Contractor shall maintain in a safe place at the Site one record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications in good order and annotated to show changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to Engineer for reference. Upon completion of the Work, these record documents, Samples, and Shop Drawings will be delivered to Engineer for Owner.

6.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
1. all persons on the Site or who may be affected by the Work;
 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- B. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection. Contractor shall notify owners of adjacent property and of Underground Facilities and other utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. The Supplementary Conditions identify any Owner's safety programs that are applicable to the Work.
- D. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

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- E. All damage, injury, or loss to any property referred to in Paragraph 6.13.A.2 or 6.13.A.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- F. Contractor's duties and responsibilities for safety and for protection of the Work shall continue until such time as all the Work is completed and Engineer has issued a notice to Owner and Contractor in accordance with Paragraph 14.07.B that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

6.14 *Safety Representative*

- A. Contractor shall designate a qualified and experienced safety representative at the Site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

6.15 *Hazard Communication Programs*

- A. Contractor shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the Site in accordance with Laws or Regulations.

6.16 *Emergencies*

- A. In emergencies affecting the safety or protection of persons or the Work or property at the Site or adjacent thereto, Contractor is obligated to act to prevent threatened damage, injury, or loss. Contractor shall give Engineer prompt written notice if Contractor believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby or are required as a result thereof. If Engineer determines that a change in the Contract Documents is required because of the action taken by Contractor in response to such an emergency, a Work Change Directive or Change Order will be issued.

6.17 *Shop Drawings and Samples*

- A. Contractor shall submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals (as required by Paragraph 2.07). Each submittal will be identified as Engineer may require.

1. *Shop Drawings:*

- a. Submit number of copies specified in the General Requirements.
- b. Data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the

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services, materials, and equipment Contractor proposes to provide and to enable Engineer to review the information for the limited purposes required by Paragraph 6.17.D.

2. *Samples:*

- a. Submit number of Samples specified in the Specifications.
- b. Clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the submittal for the limited purposes required by Paragraph 6.17.D.

B. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Submittal Procedures:*

1. Before submitting each Shop Drawing or Sample, Contractor shall have:

- a. reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
- b. determined and verified all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;
- c. determined and verified the suitability of all materials offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
- d. determined and verified all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto.

2. Each submittal shall bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review and approval of that submittal.

3. With each submittal, Contractor shall give Engineer specific written notice of any variations that the Shop Drawing or Sample may have from the requirements of the Contract Documents. This notice shall be both a written communication separate from the Shop Drawings or Sample submittal; and, in addition, by a specific notation made on each Shop Drawing or Sample submitted to Engineer for review and approval of each such variation.

D. *Engineer's Review:*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the Schedule of Submittals acceptable to Engineer. Engineer's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible

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with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.

2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction (except where a particular means, method, technique, sequence, or procedure of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
3. Engineer's review and approval shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 6.17.C.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer's review and approval shall not relieve Contractor from responsibility for complying with the requirements of Paragraph 6.17.C.1.

E. *Resubmittal Procedures:*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous submittals.

6.18 *Continuing the Work*

- A. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by Paragraph 15.04 or as Owner and Contractor may otherwise agree in writing.

6.19 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer and its officers, directors, members, partners, employees, agents, consultants, and subcontractors shall be entitled to rely on representation of Contractor's warranty and guarantee.
- B. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
 1. abuse, modification, or improper maintenance or operation by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- C. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of Contractor's obligation to perform the Work in accordance with the Contract Documents:

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1. observations by Engineer;
2. recommendation by Engineer or payment by Owner of any progress or final payment;
3. the issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
4. use or occupancy of the Work or any part thereof by Owner;
5. any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by Engineer;
6. any inspection, test, or approval by others; or
7. any correction of defective Work by Owner.

6.20 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the performance of the Work, provided that any such claim, cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work or anyone for whose acts any of them may be liable .
- B. In any and all claims against Owner or Engineer or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 6.20.A shall not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- C. The indemnification obligations of Contractor under Paragraph 6.20.A shall not extend to the liability of Engineer and Engineer's officers, directors, members, partners, employees, agents, consultants and subcontractors arising out of:
 1. the preparation or approval of, or the failure to prepare or approve maps, Drawings, opinions, reports, surveys, Change Orders, designs, or Specifications; or
 2. giving directions or instructions, or failing to give them, if that is the primary cause of the injury or damage.

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6.21 *Delegation of Professional Design Services*

- A. Contractor will not be required to provide professional design services unless such services are specifically required by the Contract Documents for a portion of the Work or unless such services are required to carry out Contractor's responsibilities for construction means, methods, techniques, sequences and procedures. Contractor shall not be required to provide professional services in violation of applicable law.
- B. If professional design services or certifications by a design professional related to systems, materials or equipment are specifically required of Contractor by the Contract Documents, Owner and Engineer will specify all performance and design criteria that such services must satisfy. Contractor shall cause such services or certifications to be provided by a properly licensed professional, whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings and other submittals prepared by such professional. Shop Drawings and other submittals related to the Work designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to Engineer.
- C. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications or approvals performed by such design professionals, provided Owner and Engineer have specified to Contractor all performance and design criteria that such services must satisfy.
- D. Pursuant to this Paragraph 6.21, Engineer's review and approval of design calculations and design drawings will be only for the limited purpose of checking for conformance with performance and design criteria given and the design concept expressed in the Contract Documents. Engineer's review and approval of Shop Drawings and other submittals (except design calculations and design drawings) will be only for the purpose stated in Paragraph 6.17.D.1.
- E. Contractor shall not be responsible for the adequacy of the performance or design criteria required by the Contract Documents.

ARTICLE 7 – OTHER WORK AT THE SITE

7.01 *Related Work at Site*

- A. Owner may perform other work related to the Project at the Site with Owner's employees, or through other direct contracts therefor, or have other work performed by utility owners. If such other work is not noted in the Contract Documents, then:
 - 1. written notice thereof will be given to Contractor prior to starting any such other work; and
 - 2. if Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in the Contract Price or Contract Times that should be allowed as a result of such other work, a Claim may be made therefor as provided in Paragraph 10.05.
- B. Contractor shall afford each other contractor who is a party to such a direct contract, each utility owner, and Owner, if Owner is performing other work with Owner's employees, proper and safe access to the Site, provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work, and properly coordinate the Work with theirs. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly

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connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected. The duties and responsibilities of Contractor under this Paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of Contractor in said direct contracts between Owner and such utility owners and other contractors.

- C. If the proper execution or results of any part of Contractor's Work depends upon work performed by others under this Article 7, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.

7.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work on the Project at the Site, the following will be set forth in Supplementary Conditions:
 - 1. the individual or entity who will have authority and responsibility for coordination of the activities among the various contractors will be identified;
 - 2. the specific matters to be covered by such authority and responsibility will be itemized; and
 - 3. the extent of such authority and responsibilities will be provided.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

7.03 *Legal Relationships*

- A. Paragraphs 7.01.A and 7.02 are not applicable for utilities not under the control of Owner.
- B. Each other direct contract of Owner under Paragraph 7.01.A shall provide that the other contractor is liable to Owner and Contractor for the reasonable direct delay and disruption costs incurred by Contractor as a result of the other contractor's wrongful actions or inactions.
- C. Contractor shall be liable to Owner and any other contractor under direct contract to Owner for the reasonable direct delay and disruption costs incurred by such other contractor as a result of Contractor's wrongful action or inactions.

ARTICLE 8 – OWNER'S RESPONSIBILITIES

8.01 *Communications to Contractor*

- A. Except as otherwise provided in these General Conditions, Owner shall issue all communications to Contractor through Engineer.

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8.02 *Replacement of Engineer*

- A. In case of termination of the employment of Engineer, Owner shall appoint an engineer to whom Contractor makes no reasonable objection, whose status under the Contract Documents shall be that of the former Engineer.

8.03 *Furnish Data*

- A. Owner shall promptly furnish the data required of Owner under the Contract Documents.

8.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in Paragraphs 14.02.C and 14.07.C.

8.05 *Lands and Easements; Reports and Tests*

- A. Owner's duties with respect to providing lands and easements and providing engineering surveys to establish reference points are set forth in Paragraphs 4.01 and 4.05. Paragraph 4.02 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of subsurface conditions and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

8.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 5.

8.07 *Change Orders*

- A. Owner is obligated to execute Change Orders as indicated in Paragraph 10.03.

8.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 13.03.B.

8.09 *Limitations on Owner's Responsibilities*

- A. The Owner shall not supervise, direct, or have control or authority over, nor be responsible for, Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Owner will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

8.10 *Undisclosed Hazardous Environmental Condition*

- A. Not Used

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8.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract Documents.

8.12 *Compliance with Safety Program*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed pursuant to Paragraph 6.13.D.

ARTICLE 9 – ENGINEER'S STATUS DURING CONSTRUCTION

9.01 *Owner's Representative*

- A. Engineer will be Owner's representative during the construction period. The duties and responsibilities and the limitations of authority of Engineer as Owner's representative during construction are set forth in the Contract Documents.

9.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 9.09. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

9.03 *Project Representative*

- A. If Owner and Engineer agree, Engineer will furnish a Resident Project Representative to assist Engineer in providing more extensive observation of the Work. The authority and responsibilities of any such Resident Project Representative and assistants will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in Paragraph 9.09. If Owner designates another representative or agent to represent Owner at the Site who is not Engineer's consultant, agent or employee, the responsibilities and authority and

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limitations thereon of such other individual or entity will be as provided in the Supplementary Conditions.

9.04 *Authorized Variations in Work*

- A. Engineer may authorize minor variations in the Work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on Owner and also on Contractor, who shall perform the Work involved promptly. If Owner or Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, or both, and the parties are unable to agree on entitlement to or on the amount or extent, if any, of any such adjustment, a Claim may be made therefor as provided in Paragraph 10.05.

9.05 *Rejecting Defective Work*

- A. Engineer will have authority to reject Work which Engineer believes to be defective, or that Engineer believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Engineer will also have authority to require special inspection or testing of the Work as provided in Paragraph 13.04, whether or not the Work is fabricated, installed, or completed.

9.06 *Shop Drawings, Change Orders and Payments*

- A. In connection with Engineer's authority, and limitations thereof, as to Shop Drawings and Samples, see Paragraph 6.17.
- B. In connection with Engineer's authority, and limitations thereof, as to design calculations and design drawings submitted in response to a delegation of professional design services, if any, see Paragraph 6.21.
- C. In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.
- D. In connection with Engineer's authority as to Applications for Payment, see Article 14.

9.07 *Determinations for Unit Price Work*

- A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise).

9.08 *Decisions on Requirements of Contract Documents and Acceptability of Work*

- A. Engineer will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. All matters in question and other matters between Owner and Contractor arising prior to the date final payment is due relating to the acceptability of the Work, and the interpretation of the requirements of the Contract Documents pertaining to the

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performance of the Work, will be referred initially to Engineer in writing within 30 days of the event giving rise to the question.

- B. Engineer will, with reasonable promptness, render a written decision on the issue referred. If Owner or Contractor believes that any such decision entitles them to an adjustment in the Contract Price or Contract Times or both, a Claim may be made under Paragraph 10.05. The date of Engineer's decision shall be the date of the event giving rise to the issues referenced for the purposes of Paragraph 10.05.B.
- C. Engineer's written decision on the issue referred will be final and binding on Owner and Contractor, subject to the provisions of Paragraph 10.05.
- D. When functioning as interpreter and judge under this Paragraph 9.08, Engineer will not show partiality to Owner or Contractor and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity.

9.09 *Limitations on Engineer's Authority and Responsibilities*

- A. Neither Engineer's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer shall create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.
- B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.
- C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.
- D. Engineer's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Paragraph 14.07.A will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals that the results certified indicate compliance with, the Contract Documents.
- E. The limitations upon authority and responsibility set forth in this Paragraph 9.09 shall also apply to the Resident Project Representative, if any, and assistants, if any.

9.10 *Compliance with Safety Program*

- A. While at the Site, Engineer's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Engineer has been informed pursuant to Paragraph 6.13.D.

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ARTICLE 10 – CHANGES IN THE WORK; CLAIMS

10.01 *Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work by a Change Order, or a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).
- B. If Owner and Contractor are unable to agree on entitlement to, or on the amount or extent, if any, of an adjustment in the Contract Price or Contract Times, or both, that should be allowed as a result of a Work Change Directive, a Claim may be made therefor as provided in Paragraph 10.05.

10.02 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents as amended, modified, or supplemented as provided in Paragraph 3.04, except in the case of an emergency as provided in Paragraph 6.16 or in the case of uncovering Work as provided in Paragraph 13.04.D.

10.03 *Execution of Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders recommended by Engineer covering:
 1. changes in the Work which are: (i) ordered by Owner pursuant to Paragraph 10.01.A, (ii) required because of acceptance of defective Work under Paragraph 13.08.A or Owner's correction of defective Work under Paragraph 13.09, or (iii) agreed to by the parties;
 2. changes in the Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive; and
 3. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by Engineer pursuant to Paragraph 10.05; provided that, in lieu of executing any such Change Order, an appeal may be taken from any such decision in accordance with the provisions of the Contract Documents and applicable Laws and Regulations, but during any such appeal, Contractor shall carry on the Work and adhere to the Progress Schedule as provided in Paragraph 6.18.A.

10.04 *Notification to Surety*

- A. If the provisions of any bond require notice to be given to a surety of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times), the giving of any such notice will be Contractor's responsibility. The amount of each applicable bond will be adjusted to reflect the effect of any such change.

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10.05 *Claims*

- A. *Engineer's Decision Required:* All Claims, except those waived pursuant to Paragraph 14.09, shall be referred to the Engineer for decision. A decision by Engineer shall be required as a condition precedent to any exercise by Owner or Contractor of any rights or remedies either may otherwise have under the Contract Documents or by Laws and Regulations in respect of such Claims.
- B. *Notice:* Written notice stating the general nature of each Claim shall be delivered by the claimant to Engineer and the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall rest with the party making the Claim. Notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 60 days after the start of such event (unless Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). A Claim for an adjustment in Contract Price shall be prepared in accordance with the provisions of Paragraph 12.01.B. A Claim for an adjustment in Contract Times shall be prepared in accordance with the provisions of Paragraph 12.02.B. Each Claim shall be accompanied by claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant believes it is entitled as a result of said event. The opposing party shall submit any response to Engineer and the claimant within 30 days after receipt of the claimant's last submittal (unless Engineer allows additional time).
- C. *Engineer's Action:* Engineer will review each Claim and, within 30 days after receipt of the last submittal of the claimant or the last submittal of the opposing party, if any, take one of the following actions in writing:
1. deny the Claim in whole or in part;
 2. approve the Claim; or
 3. notify the parties that the Engineer is unable to resolve the Claim if, in the Engineer's sole discretion, it would be inappropriate for the Engineer to do so. For purposes of further resolution of the Claim, such notice shall be deemed a denial.
- D. In the event that Engineer does not take action on a Claim within said 30 days, the Claim shall be deemed denied.
- E. Engineer's written action under Paragraph 10.05.C or denial pursuant to Paragraphs 10.05.C.3 or 10.05.D will be final and binding upon Owner and Contractor, unless Owner or Contractor invoke the dispute resolution procedure set forth in Article 16 within 30 days of such action or denial.
- F. No Claim for an adjustment in Contract Price or Contract Times will be valid if not submitted in accordance with this Paragraph 10.05.

ARTICLE 11 – COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

11.01 *Cost of the Work*

- A. *Costs Included:* The term Cost of the Work means the sum of all costs, except those excluded in Paragraph 11.01.B, necessarily incurred and paid by Contractor in the proper performance of the

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Work. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, the costs to be reimbursed to Contractor will be only those additional or incremental costs required because of the change in the Work or because of the event giving rise to the Claim. Except as otherwise may be agreed to in writing by Owner, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall not include any of the costs itemized in Paragraph 11.01.B, and shall include only the following items:

1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor. Such employees shall include, without limitation, superintendents, foremen, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits, which shall include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, shall be included in the above to the extent authorized by Owner.
2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts shall accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts shall accrue to Owner. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall accrue to Owner, and Contractor shall make provisions so that they may be obtained.
3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, who will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 11.01.
4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed for services specifically related to the Work.
5. Supplemental costs including the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

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- c. Rentals of all construction equipment and machinery, and the parts thereof whether rented from Contractor or others in accordance with rental agreements approved by Owner with the advice of Engineer, and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs shall be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts shall cease when the use thereof is no longer necessary for the Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of property insurance established in accordance with Paragraph 5.06.D), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses shall be included in the Cost of the Work for the purpose of determining Contractor's fee.
- g. The cost of utilities, fuel, and sanitary facilities at the Site.
- h. Minor expenses such as telegrams, long distance telephone calls, telephone service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance Contractor are required by the Contract Documents to purchase and maintain.

B. *Costs Excluded:* The term Cost of the Work shall not include any of the following items:

- 1. Payroll costs and other compensation of Contractor's officers, executives, principals (of partnerships and sole proprietorships), general managers, safety managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 11.01.A.1 or specifically covered by Paragraph 11.01.A.4, all of which are to be considered administrative costs covered by the Contractor's fee.
- 2. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
- 3. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.

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4. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 5. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraphs 11.01.A.
- C. *Contractor's Fee:* When all the Work is performed on the basis of cost-plus, Contractor's fee shall be determined as set forth in the Agreement. When the value of any Work covered by a Change Order or when a Claim for an adjustment in Contract Price is determined on the basis of Cost of the Work, Contractor's fee shall be determined as set forth in Paragraph 12.01.C.
- D. *Documentation:* Whenever the Cost of the Work for any purpose is to be determined pursuant to Paragraphs 11.01.A and 11.01.B, Contractor will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in a form acceptable to Engineer an itemized cost breakdown together with supporting data.

11.02 Allowances

- A. It is understood that Contractor has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be performed for such sums and by such persons or entities as may be acceptable to Owner and Engineer.
- B. *Cash Allowances:*
1. Contractor agrees that:
 - a. the cash allowances include the cost to Contractor (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the Site, and all applicable taxes; and
 - b. Contractor's costs for unloading and handling on the Site, labor, installation, overhead, profit, and other expenses contemplated for the cash allowances have been included in the Contract Price and not in the allowances, and no demand for additional payment on account of any of the foregoing will be valid.
- C. *Contingency Allowance:*
1. Contractor agrees that a contingency allowance, if any, is for the sole use of Owner to cover unanticipated costs.
- D. Prior to final payment, an appropriate Change Order will be issued as recommended by Engineer to reflect actual amounts due Contractor on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to

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the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.

- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by Contractor will be made by Engineer subject to the provisions of Paragraph 9.07.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Owner or Contractor may make a Claim for an adjustment in the Contract Price in accordance with Paragraph 10.05 if:
 - 1. the quantity of any item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - 2. there is no corresponding adjustment with respect to any other item of Work; and
 - 3. Contractor believes that Contractor is entitled to an increase in Contract Price as a result of having incurred additional expense or Owner believes that Owner is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

ARTICLE 12 – CHANGE OF CONTRACT PRICE; CHANGE OF CONTRACT TIMES

12.01 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Claim for an adjustment in the Contract Price shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. The value of any Work covered by a Change Order or of any Claim for an adjustment in the Contract Price will be determined as follows:
 - 1. where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 11.03); or
 - 2. where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 12.01.C.2); or
 - 3. where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under Paragraph 12.01.B.2, on the basis of the Cost of the Work (determined as provided in Paragraph 11.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 12.01.C).
- C. *Contractor's Fee*: The Contractor's fee for overhead and profit shall be determined as follows:

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1. a mutually acceptable fixed fee; or
2. if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. for costs incurred under Paragraphs 11.01.A.1 and 11.01.A.2, the Contractor's fee shall be 15 percent;
 - b. for costs incurred under Paragraph 11.01.A.3, the Contractor's fee shall be five percent;
 - c. where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 12.01.C.2.a and 12.01.C.2.b is that the Subcontractor who actually performs the Work, at whatever tier, will be paid a fee of 15 percent of the costs incurred by such Subcontractor under Paragraphs 11.01.A.1 and 11.01.A.2 and that any higher tier Subcontractor and Contractor will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;
 - d. no fee shall be payable on the basis of costs itemized under Paragraphs 11.01.A.4, 11.01.A.5, and 11.01.B;
 - e. the amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in Contractor's fee by an amount equal to five percent of such net decrease; and
 - f. when both additions and credits are involved in any one change, the adjustment in Contractor's fee shall be computed on the basis of the net change in accordance with Paragraphs 12.01.C.2.a through 12.01.C.2.e, inclusive.

12.02 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Claim for an adjustment in the Contract Times shall be based on written notice submitted by the party making the Claim to the Engineer and the other party to the Contract in accordance with the provisions of Paragraph 10.05.
- B. Any adjustment of the Contract Times covered by a Change Order or any Claim for an adjustment in the Contract Times will be determined in accordance with the provisions of this Article 12.

12.03 *Delays*

- A. Where Contractor is prevented from completing any part of the Work within the Contract Times due to delay beyond the control of Contractor, the Contract Times will be extended in an amount equal to the time lost due to such delay if a Claim is made therefor as provided in Paragraph 12.02.A. Delays beyond the control of Contractor shall include, but not be limited to, acts or neglect by Owner, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions, or acts of God.
- B. If Owner, Engineer, or other contractors or utility owners performing other work for Owner as contemplated by Article 7, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times, or both. Contractor's entitlement

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to an adjustment of the Contract Times is conditioned on such adjustment being essential to Contractor's ability to complete the Work within the Contract Times.

- C. If Contractor is delayed in the performance or progress of the Work by fire, flood, epidemic, abnormal weather conditions, acts of God, acts or failures to act of utility owners not under the control of Owner, or other causes not the fault of and beyond control of Owner and Contractor, then Contractor shall be entitled to an equitable adjustment in Contract Times, if such adjustment is essential to Contractor's ability to complete the Work within the Contract Times. Such an adjustment shall be Contractor's sole and exclusive remedy for the delays described in this Paragraph 12.03.C.
- D. Owner, Engineer, and their officers, directors, members, partners, employees, agents, consultants, or subcontractors shall not be liable to Contractor for any claims, costs, losses, or damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Contractor on or in connection with any other project or anticipated project.
- E. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delays within the control of Contractor. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of Contractor.

ARTICLE 13 – TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.01 *Notice of Defects*

- A. Prompt notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor. Defective Work may be rejected, corrected, or accepted as provided in this Article 13.

13.02 *Access to Work*

- A. Owner, Engineer, their consultants and other representatives and personnel of Owner, independent testing laboratories, and governmental agencies with jurisdictional interests will have access to the Site and the Work at reasonable times for their observation, inspection, and testing. Contractor shall provide them proper and safe conditions for such access and advise them of Contractor's safety procedures and programs so that they may comply therewith as applicable.

13.03 *Tests and Inspections*

- A. Contractor shall give Engineer timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. Owner shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:
 - 1. for inspections, tests, or approvals covered by Paragraphs 13.03.C and 13.03.D below;

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2. that costs incurred in connection with tests or inspections conducted pursuant to Paragraph 13.04.B shall be paid as provided in Paragraph 13.04.C; and
 3. as otherwise specifically provided in the Contract Documents.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.
- D. Contractor shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work; or acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work. Such inspections, tests, or approvals shall be performed by organizations acceptable to Owner and Engineer.
- E. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation.
- F. Uncovering Work as provided in Paragraph 13.03.E shall be at Contractor's expense unless Contractor has given Engineer timely notice of Contractor's intention to cover the same and Engineer has not acted with reasonable promptness in response to such notice.

13.04 *Uncovering Work*

- A. If any Work is covered contrary to the written request of Engineer, it must, if requested by Engineer, be uncovered for Engineer's observation and replaced at Contractor's expense.
- B. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, furnishing all necessary labor, material, and equipment.
- C. If it is found that the uncovered Work is defective, Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05.
- D. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, Contractor may make a Claim therefor as provided in Paragraph 10.05.

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13.05 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, Owner may order Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work shall not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

13.06 *Correction or Removal of Defective Work*

- A. Promptly after receipt of written notice, Contractor shall correct all defective Work, whether or not fabricated, installed, or completed, or, if the Work has been rejected by Engineer, remove it from the Project and replace it with Work that is not defective. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or removal (including but not limited to all costs of repair or replacement of work of others).
- B. When correcting defective Work under the terms of this Paragraph 13.06 or Paragraph 13.07, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.

13.07 *Correction Period*

- A. If within one year after the date of Substantial Completion (or such longer period of time as may be prescribed by the terms of any applicable special guarantee required by the Contract Documents) or by any specific provision of the Contract Documents, any Work is found to be defective, or if the repair of any damages to the land or areas made available for Contractor's use by Owner or permitted by Laws and Regulations as contemplated in Paragraph 6.11.A is found to be defective, Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. repair such defective land or areas; or
 - 2. correct such defective Work; or
 - 3. if the defective Work has been rejected by Owner, remove it from the Project and replace it with Work that is not defective, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others or other land or areas resulting therefrom.
- B. If Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement

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(including but not limited to all costs of repair or replacement of work of others) will be paid by Contractor.

- C. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- D. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this Paragraph 13.07, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.
- E. Contractor's obligations under this Paragraph 13.07 are in addition to any other obligation or warranty. The provisions of this Paragraph 13.07 shall not be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

13.08 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner (and, prior to Engineer's recommendation of final payment, Engineer) prefers to accept it, Owner may do so. Contractor shall pay all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness) and for the diminished value of the Work to the extent not otherwise paid by Contractor pursuant to this sentence. If any such acceptance occurs prior to Engineer's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work, and Owner shall be entitled to an appropriate decrease in the Contract Price, reflecting the diminished value of Work so accepted. If the parties are unable to agree as to the amount thereof, Owner may make a Claim therefor as provided in Paragraph 10.05. If the acceptance occurs after such recommendation, an appropriate amount will be paid by Contractor to Owner.

13.09 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace rejected Work as required by Engineer in accordance with Paragraph 13.06.A, or if Contractor fails to perform the Work in accordance with the Contract Documents, or if Contractor fails to comply with any other provision of the Contract Documents, Owner may, after seven days written notice to Contractor, correct, or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 13.09, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, take possession of Contractor's tools, appliances, construction equipment and machinery at the Site, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees,

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Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this Paragraph.

- C. All claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 13.09 will be charged against Contractor, and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and Owner shall be entitled to an appropriate decrease in the Contract Price. If the parties are unable to agree as to the amount of the adjustment, Owner may make a Claim therefor as provided in Paragraph 10.05. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 13.09.

ARTICLE 14 – PAYMENTS TO CONTRACTOR AND COMPLETION

14.01 *Schedule of Values*

- A. The Schedule of Values established as provided in Paragraph 2.07.A will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments on account of Unit Price Work will be based on the number of units completed.

14.02 *Progress Payments*

A. *Applications for Payments:*

1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice, or other documentation warranting that Owner has received the materials and equipment free and clear of all Liens and evidence that the materials and equipment are covered by appropriate property insurance or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.
2. Beginning with the second Application for Payment, each Application shall include an affidavit of Contractor stating that all previous progress payments received on account of the Work have been applied on account to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
3. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

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B. *Review of Applications:*

1. Engineer will, within 10 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to Owner or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 9.07, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract Documents; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work, or
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work, or
 - d. to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the Contract Price, or

SECTION XIV

- e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 14.02.B.2. Engineer may also refuse to recommend any such payment or, because of subsequently discovered evidence or the results of subsequent inspections or tests, revise or revoke any such payment recommendation previously made, to such extent as may be necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work or complete Work in accordance with Paragraph 13.09; or
 - d. Engineer has actual knowledge of the occurrence of any of the events enumerated in Paragraph 15.02.A.

C. *Payment Becomes Due:*

1. Twenty days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.02.D) become due, and when due will be paid by Owner to Contractor.

D. *Reduction in Payment:*

1. Owner may refuse to make payment of the full amount recommended by Engineer because:
 - a. claims have been made against Owner on account of Contractor's performance or furnishing of the Work;
 - b. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens;
 - c. there are other items entitling Owner to a set-off against the amount recommended; or
 - d. Owner has actual knowledge of the occurrence of any of the events enumerated in Paragraphs 14.02.B.5.a through 14.02.B.5.c or Paragraph 15.02.A.
2. If Owner refuses to make payment of the full amount recommended by Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, when Contractor remedies the reasons for such action.

SECTION XIV

3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld shall be treated as an amount due as determined by Paragraph 14.02.C.1 and subject to interest as provided in the Agreement.

14.03 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to Owner no later than the time of payment free and clear of all Liens.

14.04 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete (except for items specifically listed by Contractor as incomplete) and request that Engineer issue a certificate of Substantial Completion.
- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a tentative certificate of Substantial Completion which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. Owner shall have seven days after receipt of the tentative certificate during which to make written objection to Engineer as to any provisions of the certificate or attached list. If, after considering such objections, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the tentative certificate to Owner, notify Contractor in writing, stating the reasons therefor. If, after consideration of Owner's objections, Engineer considers the Work substantially complete, Engineer will, within said 14 days, execute and deliver to Owner and Contractor a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of delivery of the tentative certificate of Substantial Completion, Engineer will deliver to Owner and Contractor a written recommendation as to division of responsibilities pending final payment between Owner and Contractor with respect to security, operation, safety, and protection of the Work, maintenance, heat, utilities, insurance, and warranties and guarantees. Unless Owner and Contractor agree otherwise in writing and so inform Engineer in writing prior to Engineer's issuing the definitive certificate of Substantial Completion, Engineer's aforesaid recommendation will be binding on Owner and Contractor until final payment.
- E. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the tentative list.

SECTION XIV

14.05 *Partial Utilization*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:
1. Owner at any time may request Contractor in writing to permit Owner to use or occupy any such part of the Work which Owner believes to be ready for its intended use and substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 14.04.A through D for that part of the Work.
 2. Contractor at any time may notify Owner and Engineer in writing that Contractor considers any such part of the Work ready for its intended use and substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
 3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 14.04 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
 4. Not Used

14.06 *Final Inspection*

- A. Upon written notice from Contractor that the entire Work or an agreed portion thereof is complete, Engineer will promptly make a final inspection with Owner and Contractor and will notify Contractor in writing of all particulars in which this inspection reveals that the Work is incomplete or defective. Contractor shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

14.07 *Final Payment*

A. *Application for Payment:*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, marked-up record documents (as provided in Paragraph 6.12), and other documents, Contractor may make application for final payment following the procedure for progress payments.
2. The final Application for Payment shall be accompanied (except as previously delivered) by:

SECTION XIV

- a. all documentation called for in the Contract Documents, including but not limited to the evidence of insurance required by Paragraph 5.04.B.6;
 - b. consent of the surety, if any, to final payment;
 - c. a list of all Claims against Owner that Contractor believes are unsettled; and
 - d. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of or Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 14.07.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (i) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (ii) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien.

B. *Engineer's Review of Application and Acceptance:*

1. If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract Documents have been fulfilled, Engineer will, within ten days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of payment and present the Application for Payment to Owner for payment. At the same time Engineer will also give written notice to Owner and Contractor that the Work is acceptable subject to the provisions of Paragraph 14.09. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.

C. *Payment Becomes Due:*

1. Thirty days after the presentation to Owner of the Application for Payment and accompanying documentation, the amount recommended by Engineer, less any sum Owner is entitled to set off against Engineer's recommendation, including but not limited to liquidated damages, will become due and will be paid by Owner to Contractor.

14.08 *Final Completion Delayed*

- A. If, through no fault of Contractor, final completion of the Work is significantly delayed, and if Engineer so confirms, Owner shall, upon receipt of Contractor's final Application for Payment (for Work fully completed and accepted) and recommendation of Engineer, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by Owner for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if bonds have been furnished as required in Paragraph 5.01, the written consent of the surety to the payment of

SECTION XIV

the balance due for that portion of the Work fully completed and accepted shall be submitted by Contractor to Engineer with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

14.09 *Waiver of Claims*

- A. The making and acceptance of final payment will constitute:
1. a waiver of all Claims by Owner against Contractor, except Claims arising from unsettled Liens, from defective Work appearing after final inspection pursuant to Paragraph 14.06, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from Contractor's continuing obligations under the Contract Documents; and
 2. a waiver of all Claims by Contractor against Owner other than those previously made in accordance with the requirements herein and expressly acknowledged by Owner in writing as still unsettled.

ARTICLE 15 – SUSPENSION OF WORK AND TERMINATION

15.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by notice in writing to Contractor and Engineer which will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be granted an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if Contractor makes a Claim therefor as provided in Paragraph 10.05.

15.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will justify termination for cause:
1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the Progress Schedule established under Paragraph 2.07 as adjusted from time to time pursuant to Paragraph 6.04);
 2. Contractor's disregard of Laws or Regulations of any public body having jurisdiction;
 3. Contractor's repeated disregard of the authority of Engineer; or
 4. Contractor's violation in any substantial way of any provisions of the Contract Documents.
- B. If one or more of the events identified in Paragraph 15.02.A occur, Owner may, after giving Contractor (and surety) seven days written notice of its intent to terminate the services of Contractor:
1. exclude Contractor from the Site, and take possession of the Work and of all Contractor's tools, appliances, construction equipment, and machinery at the Site, and use the same to the

SECTION XIV

- full extent they could be used by Contractor (without liability to Contractor for trespass or conversion);
2. incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere; and
 3. complete the Work as Owner may deem expedient.
- C. If Owner proceeds as provided in Paragraph 15.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) sustained by Owner arising out of or relating to completing the Work, such excess will be paid to Contractor. If such claims, costs, losses, and damages exceed such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this Paragraph, Owner shall not be required to obtain the lowest price for the Work performed.
- D. Notwithstanding Paragraphs 15.02.B and 15.02.C, Contractor's services will not be terminated if Contractor begins within seven days of receipt of notice of intent to terminate to correct its failure to perform and proceeds diligently to cure such failure within no more than 7 days of receipt of said notice.
- E. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue. Any retention or payment of moneys due Contractor by Owner will not release Contractor from liability.
- F. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 5.01.A, the termination procedures of that bond shall supersede the provisions of Paragraphs 15.02.B and 15.02.C.

15.03 *Owner May Terminate For Convenience*

- A. Upon seven days written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;
 3. Not Used

SECTION XIV

4. reasonable expenses directly attributable to termination.
- B. Contractor shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

15.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (i) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (ii) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (iii) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon seven days written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the Contract and recover from Owner payment on the same terms as provided in Paragraph 15.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, seven days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The provisions of this Paragraph 15.04 are not intended to preclude Contractor from making a Claim under Paragraph 10.05 for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this Paragraph.

ARTICLE 16 – DISPUTE RESOLUTION

16.01 *Methods and Procedures*

- A. Either Owner or Contractor may request mediation of any Claim submitted to Engineer for a decision under Paragraph 10.05 before such decision becomes final and binding. The mediation will be governed by the Construction Industry Mediation Rules of the American Arbitration Association in effect as of the Effective Date of the Agreement. The request for mediation shall be submitted in writing to the American Arbitration Association and the other party to the Contract. Timely submission of the request shall stay the effect of Paragraph 10.05.E.
- B. Owner and Contractor shall participate in the mediation process in good faith. The process shall be concluded within 60 days of filing of the request. The date of termination of the mediation shall be determined by application of the mediation rules referenced above.
- C. If the Claim is not resolved by mediation, Engineer's action under Paragraph 10.05.C or a denial pursuant to Paragraphs 10.05.C.3 or 10.05.D shall become final and binding 30 days after termination of the mediation unless, within that time period, Owner or Contractor:
 1. elects in writing to invoke any dispute resolution process provided for in the Supplementary Conditions; or
 2. agrees with the other party to submit the Claim to another dispute resolution process; or
 3. gives written notice to the other party of the intent to submit the Claim to a court of competent jurisdiction.

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ARTICLE 17 – MISCELLANEOUS

17.01 *Giving Notice*

- A. Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if:
 - 1. delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended; or
 - 2. delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

17.02 *Computation of Times*

- A. When any period of time is referred to in the Contract Documents by days, it will be computed to exclude the first and include the last day of such period. If the last day of any such period falls on a Saturday or Sunday or on a day made a legal holiday by the law of the State of Georgia.

17.03 *Cumulative Remedies*

- A. The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee, or by other provisions of the Contract Documents. The provisions of this Paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right, and remedy to which they apply.

17.04 *Survival of Obligations*

- A. All representations, indemnifications, warranties, and guarantees made in, required by, or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion, and acceptance of the Work or termination or completion of the Contract or termination of the services of Contractor.

17.05 *Controlling Law*

- A. This Contract is to be governed by the law of the state in which the Project is located.

17.06 *Headings*

- A. Article and paragraph headings are inserted for convenience only and do not constitute parts of these General Conditions.

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SUPPLEMENTARY CONDITIONS

1. **THE GENERAL CONDITIONS:** The General Conditions shall apply to all work in the Contract Documents, except as otherwise specified in the Supplementary Conditions. Requirements of the Supplementary Conditions supersede those of the General Conditions.

2. **COMMENCEMENT AND COMPLETION OF WORK:** The Contractor shall commence the Work on the date indicated in the Notice to Proceed and shall diligently prosecute said Work so as to complete the entire projects and place them in use within the number of calendar days set forth in the Agreement.

3. **SCOPE OF WORK:** The project includes but is not limited to the construction of the “Forest Park Downtown Streetscape Phase 2A – Main Street”. The work consists of furnishing and installing all materials, labor, tools, equipment, and related services required for a complete project. This project includes but is not limited to providing the site improvements and construction of a complete public streetscape on Main Street in accordance with the complete design plans and these Contract Documents and Technical Specifications.

4. **LOCATION:** The work under this Contract will be located on Main Street Forest Park, GA 30297; Clayton County, GA.

5. **EXTENSION OF TIME AND FAILURE TO COMPLETE ON TIME:** Any and all extensions of time shall be in accordance with the General Conditions, except as otherwise hereinafter provided. Failure to complete the Project on or before the stipulated completion date will result in the assessment of liquidated damages in the amount stated in the Proposal.

6. **WEATHER DELAYS:** Completion time will not be extended for normal bad weather. Time for completion as stated in the Contract Documents includes an allowance for calendar days on which work cannot be performed out-of-doors. The term "calendar day" as used in the Contract Documents shall mean Mondays through Fridays, excluding weekends and legal holidays. For the purpose of this Contract, Contractor agrees that he may expect to lose calendar days due to weather in accordance with the following table:


January - 14 days	February - 14 days	March - 10 days	April - 7 days
May - 6 days	June - 3 days	July - 4 days	August - 2 days
September - 2 days	October - 3 days	November - 5 days	December - 9 days

The Contractor agrees that it shall provide written notice to the OWNER’S REPRESENTATIVE on the day of any adverse weather not anticipated and for which a request for a time extension has been, or will be, made. Said notice shall state with particularity a description of the adverse weather as well as a description of the nature and extent of any delay caused by such weather. Receipt of this notice by the OWNER’S REPRESENTATIVE is a condition precedent to the submission of any claim for an extension of time. Furthermore, the Contractor shall submit a written claim for extension of time within seven (7) days after the occurrence of the adverse weather and such claim shall be supported by such documentation including, but not limited to, official weather reports,

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as the OWNER'S REPRESENTATIVE may require. No extension will be made for days of bad weather occurring after the building is dried in. Requested working days lost to the weather shall be submitted for review with the pay request for that month, any requests later than the billable month will not be considered. To the extent that any of the terms and conditions set forth in this paragraph are in conflict with any of the terms and conditions of this Agreement, the terms and conditions of this paragraph shall govern and control.

7. **CONSTRUCTION DRAWINGS:** The work shall conform to the following construction drawings "Construction Plans for Proposed: Forest Park Downtown Streetscape Phase 2A – Main Street" as shown on cover sheet for this project with a complete sheet index of design drawings:

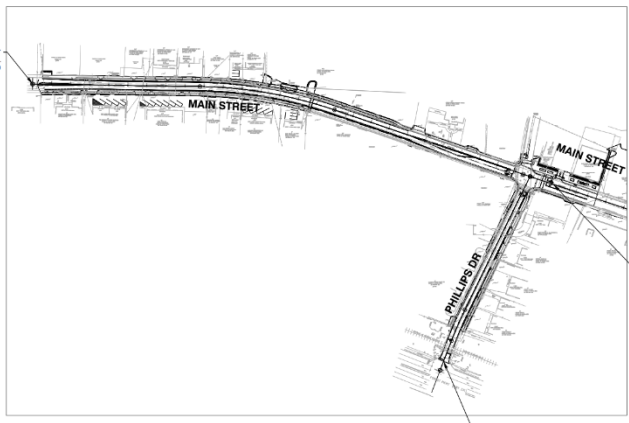


PROJECT LOCATION MAP
NTS

CITY OF FOREST PARK, GEORGIA

CONSTRUCTION PLANS FOR PROPOSED:
**FOREST PARK DOWNTOWN STREETSCAPE
PHASE 2A - MAIN STREET**
LOCALLY FUNDED - APRIL 2022

PROJECT NO. 2021-0001-000000
SHEET NO. G.01
DATE: APRIL 2022
DRAWN BY: AS SHOWN
CHECKED BY: AS SHOWN
APPROVED BY: AS SHOWN
PROJECT: FOREST PARK STREETSCAPE
SHEET: COVER SHEET




THIS PROJECT IS PREPARED USING THE HORIZONTAL COORDINATE SYSTEM OF 83 (NAD 83, GA EAST ZONE) AND NORTH AMERICAN VERTICAL DATUM (NAVD 83).

PROJECT DESIGNATION: THIS PROJECT IS EXEMPT


THIS PROJECT IS LOCATED 80% IN CLAYTON COUNTY AND THE CITY OF FOREST PARK

PROJECT TO BE CONSTRUCTED AS PER GEORGIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS, 202 EDITION AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION AND AS MODIFIED BY CONTRACT DOCUMENTS.



PROJECT MAP
SCALE: 1" = 100'
PREPARED BY:
Robert and Company
200 Peachtree Street, N.W. - Suite 1000
Atlanta, Georgia 30303-1000
404.764.8111 FAX 404.764.8112
www.robertandcompany.com

LENGTH OF PROJECT	
CLAYTON COUNTY	FEET
NET LENGTH OF BRIDGES	N/A
NET LENGTH OF PROJECT	1,996
NET LENGTH OF EXCEPTIONS	0,000
GROSS LENGTH OF PROJECT	1,996



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G.01

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PHASE 2A INDEX		
SHEET NO.	SERIES AND #	DESCRIPTION
1	02.01	COVER
2	02.02	INDEX
3	03.00	EROSION SUMMARY
4	04.00	GENERAL NOTES
5	05.01	SUBMITTAL SPECIFICATIONS
6.1	06.01-06.02	TYPICAL SECTIONS
6.3	06.03-06.04	ASPHALT PAVEMENTS
6.15	06.05-06.06	CONCRETE PAVEMENTS
6.19	11.01-11.04	SITE PLANS
6.23	12.01-12.04	UTILITY PLANS
6.27	23.01-23.44	GRADING & DRAINAGE PLANS
6.32	24.01-24.02	UTILITY PLANS & DETAILS
7.1	25.01-25.04	SEWERING AND SANITATION PLANS
7.2	25.05-25.06	SEWERING PLANS & DETAILS
8.1	26.01-26.02	CONSTRUCTION DETAILS
90.93	ES.01 - ES.04	EROSION CONTROL COVER & GENERAL NOTES
94.101	ES.01 - ES.06	EROSION CONTROL BMP PLANS INITIAL PHASE
105.106	ES.01 - ES.06	EROSION CONTROL BMP PLANS INTERMEDIATE PHASE
105.117	ES.01 - ES.06	EROSION CONTROL BMP PLANS FINAL PHASE
118.119	ES.101 - ES.107	EROSION CONTROL DETAILS
119.120	RR.01-10	RIGHT-OF-WAY PLANS
GOOD CONSTRUCTION DETAILS AND STANDARDS (LISTED BELOW, NOT PRINTED) ALL GEORGIA STANDARDS AND DETAILS MAY BE FOUND ON THE GOVT WEBSITE AT: http://www.dnr.ga.gov/SDS/standards.html		
	616	HANDRAIL FERROUS METAL AND PIPE
	011A	STANDARD BRICK MANNING (REVISED 08-1987)
	019B	STANDARD DRAIN PIPES (REVISED 08-1999)
	033D	STANDARD CATCH BASINS (REVISED 08-1982)
	054D	STANDARD PORTLAND CEMENT CONCRETE (REVISED 08-1982)
	467	STANDARD PAVEMENT PATCHING DETAILS (REVISED 8-1999)
	801E	STANDARD RETAINING WALL TYPICAL SECTIONS
	803D	STANDARD CONCRETE CURB AND GULLY (REVISED 11-15-2011)
	A1	DETAIL DRIVEWAYS (REVISED 7-21-2011)
	A2	DETAIL CONCRETE VALLEY GULLIES (REVISED 7-21-2011)
	A3	DETAIL CONCRETE SIDEWALK AND CURB FOR A TRUSS (REVISED 7-21-2011)
	A4	DETAIL DETENTION BASIN (WASHING SUB-CATCH BASIN) (REVISED 7-21-2011)
	D41	DETAIL CONC. INVERT DETAIL (REVISED 04-2016)
	D42	DETAIL SLOPE PROTECTION (REVISED 04-2016)
	D43	DETAIL TEMPORARY SLOPE (REVISED 08-2011)
	D44	DETAIL TEMPORARY SLOPE (REVISED 08-2011)
	D45	DETAIL TEMPORARY SLOPE (REVISED 08-2011)
	87	DETAIL SEPARATED SHOULDER
	F10A	DETAIL PAVEMENT MARKINGS ARROW
	F13A	DETAIL PAVEMENT MARKINGS CROSS
	F18	DETAIL PAVEMENT MARKINGS HORIZONTAL
	F19	DETAIL PAVEMENT MARKINGS HORIZONTAL
	F20	DETAIL BASED PAVEMENT MARKING LOCATIONS
	F25	DETAIL PAVEMENT MARKINGS BICYCLE LANES
	F26	DETAIL PAVEMENT MARKINGS HANDICAP PAVEMENT
	D46C	DETAIL TEMPORARY SLOPE (REVISED 08-2011)

DATE: 20210820140003

CLIENT: CLAYTON

Robert and Company
INCORPORATED
 1000 W. BERRY STREET
 SUITE 200
 ATLANTA, GA 30335
 WWW.ROBERTANDCOMPANY.COM



PROJECT: CITY OF FOREST PARK, GEORGIA
 NAME: FOREST PARK STREETScape

DATE: APRIL 2022
 DRAWN BY: AS SIKON
 CHECKED BY: JIM MOYER
 PHASE: 2A
 INDEX SHEET

02.02

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8. **REPORTS AND DRAWINGS USED:** In the preparation of Drawings and Specifications, Engineer has relied upon:

A. The following reports of explorations and test of subsurface conditions at the site of the Work:

1) None

B. The following drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Facilities) which are contiguous to the site of the Work.

1) None

9. **SANITARY CONVENIENCES:** THE CONTRACTOR shall provide adequate sanitary conveniences for use of those employed on the work and their use shall be strictly enforced. Such conveniences shall be made available when the first employees arrive on the site and shall be removed after the departure of the last employees from the job.

10. **ENVIRONMENTAL IMPACT:** THE CONTRACTOR shall conduct all operations so as to minimize, to the greatest extent possible, adverse environmental impact.

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- A. **NOISE:** All equipment and machinery shall be provided with exhaust mufflers maintained in good working order so as to reduce operating noise to minimum levels.
 - B. **DUST/SMOKE:** All equipment movements shall be accompanied by a minimum of dust. Traveled surfaces and earthwork shall be maintained in a moist condition to avoid the generation of dust or the airborne movement of particulate matter under all prevailing atmosphere conditions. Burning operations will be conducted only with written permission of the OWNER and/or appropriate regulatory agency. The CONTRACTOR shall be responsible for obtaining all permits and comply with all codes, ordinances and regulations pertaining to the burning.
 - C. **TRAFFIC:** Equipment and vehicles related to this project shall be routed over roads which will result in the least effect on traffic and nuisance to the public. All material shall be loaded in a manner which will preclude the loss of any portion of the load in transit, including covering, if necessary.
 - D. **SEDIMENTATION:** All points of concentrated runoff from rainfall shall be visually monitored to determine that no eroded material from the construction site is being deposited offsite. Measures shall be taken to promptly eliminate such a deposition if occurring, including the installation of detention basins. All work shall be performed per the “Georgia Soil and Water Conservation Commission - Manual for Erosion and Sediment Control in Georgia – 2016 Edition or latest revision”
11. **PROJECT VIDEO RECORDING:** Contractor is to provide a full color video survey of the complete project limits to the Owner. This video is to be taken within 72 hours of the Contractor’s mobilization and start of the project and delivered to the OWNER’S REPRESENTATIVE.
12. **PROJECT PHOTO LOG:** Contractor is required to take daily digital progress photos of the work being performed. These photos are required to show a TIME/DATE stamp directly on each picture. Minimum 10M resolution required. Photos are to be delivered to the OWNER’S REPRESENTATIVE monthly with each pay request submitted.
13. **CONSTRUCTION STAKEOUT:** If requested by the CONTRACTOR, the OWNER’S REPRESENTATIVE will provide benchmarks and baseline coordination’s for horizontal and vertical control at the site of the work. From the baselines and benchmarks the CONTRACTOR shall complete the layout of the work and shall be responsible for all measurements that may be required for the executions of the work prescribed in the specifications or on the Drawings, subject to such modifications as may be required to meet changed conditions or as a result of necessary modifications to the Work.

The CONTRACTOR shall furnish, at his own expense, all such stakes, spikes, steel pins, templates, platforms, equipment, instruments, tools and material and all labor as may be required in laying out any part of the Work from the baselines and benchmarks.

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It shall be the responsibility of the CONTRACTOR to maintain and preserve all stakes and other marks established by the OWNER'S REPRESENTATIVE until authorized to remove them, and if such marks are destroyed by the Contractor or through his negligence prior to their authorized removal, they may be replaced by the OWNER'S REPRESENTATIVE at his discretion, and the expense of replacement will be deducted from any amounts due or to become due the CONTRACTOR.

All survey data shall be recorded in accordance with standard and approved methods. All field notes, sketches, records and computations made by the CONTRACTOR in laying out the work shall be available at all times during the progress of the work for the ready examination by the OWNER'S REPRESENTATIVE or his duly authorized representative.

The OWNER'S REPRESENTATIVE may make original and final surveys and make computations to determine the quantities of work performed or finally in place, if required.

The CONTRACTOR shall make such surveys and computations as are necessary to determine the quantities of work performed or placed during each period for which a progress payment is to be made. All original field notes, computations and other records, or facsimile copies thereof, taken by the CONTRACTOR for the purpose of construction and for progress surveys, shall be furnished promptly to the representative of the OWNER'S REPRESENTATIVE for permanent records and for determining the proper amount of progress payments due to the CONTRACTOR. Unless waived in each specific case, quantity surveys made by the CONTRACTOR shall be made during the presence of a representative of the OWNER'S REPRESENTATIVE.

THE OWNER'S REPRESENTATIVE may make checks as the work progresses to verify lines and grades established by the CONTRACTOR and to determine the conformance of the completed work as it progresses with the requirements of Contract Documents and Drawings. Such as checking by the OWNER'S REPRESENTATIVE or his representative shall not relieve the CONTRACTOR of his responsibility to perform all work in accordance with the Contract Documents and Drawings and the lines and grades given therein. In the event that location marks as established by the CONTRACTOR are found to be inaccurate or inadequate, work shall be suspended until corrections have been made.

Contractor to provide Owner with complete electronic GIS survey based upon State Plane Coordinate System of all improvements including all subsurface structures related to the completed project.

No separate payment will be made for the costs involved in the survey work, layout work or staking performed by the CONTRACTOR. All such costs will be considered as incidental to the Work.

14. **UTILITIES:** Utilities such as sewer, water and electric lines encountered in the work shall be protected from Injury and maintained in service until moved or replaced as required under this Contract or by others as the case may be, or abandoned as may be necessary for this proper

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construction and use of the new work. State law requires that the contractor call Georgia811 at 811 or 1-800-282-7411 at least 72 hours in advance of construction commencing.

15. **ADJUSTMENT OF DISCREPANCIES:** In all cases of discrepancies between the various dimensions and details shown on drawings, or between the drawings and these specifications, the more expensive construction shall be estimated before construction is started, the matter shall be submitted to the OWNER'S REPRESENTATIVE for clarification. Without such a decision, discrepancies shall be adjusted by the CONTRACTOR at his own risk and in settlement of any complications arising from such adjustment, the CONTRACTOR shall bear all of the extra expense involved.
16. **RESTORATION:** The CONTRACTOR shall conduct his operations so that restoration of roadways, driveways, curb and gutter, ditches and easements progresses along with the pipe laying. If the OWNER'S REPRESENTATIVE determines that inadequate progress is being made with the restoration, he may shut down the CONTRACTOR's pipe laying operation until the restoration is caught up with the pipe installation. Reasonable care shall be taken during construction to avoid damage to vegetation. Ornamental shrubbery and tree branches shall be temporarily tied back, where appropriate, to minimize damage. Trees which receive damage to branches shall be trimmed to the appearance of the tree. Tree trunks receiving damage from equipment shall be treated with a tree dressing.
17. **MAINTENANCE DURING CONSTRUCTION:** The CONTRACTOR shall maintain the Work from the beginning of construction operations until final acceptance. This maintenance shall continue continuous and effective work prosecuted day by day with adequate equipment and forces to the end that site and structures thereon are kept in satisfactory condition at all times, including satisfactory signing or marking as appropriate and control of traffic where required by use of traffic control devices as required by the State in which this project is located.

Upon completion of the Work, the CONTRACTOR shall remove all construction signs and barriers before final acceptance. While undergoing improvements, the roads shall be kept open to all traffic by the CONTRACTOR. The CONTRACTOR shall keep the portion of the site being used by public traffic, whether it be through or local traffic, in such condition that traffic will be adequately accommodated. The CONTRACTOR shall bear all cost of signs and markings as required and other maintenance work during construction and before the Work is accepted and of constructing and maintaining such approaches, crossings, intersections, and other features as may be necessary without direct compensation.

18. **BARRICADES, DANGER, WARNING AND DETOUR SIGNS:** The CONTRACTOR shall provide, erect, and maintain all necessary barricades, suitable and sufficient lights, danger signals, signs and other traffic control devices, and shall take all necessary precautions for the protection of the work and safety of the public. Highways and streets closed to traffic shall be protected by effective barricades, and obstructions shall be lighted during hours of darkness. Suitable warning signs shall be provided to properly control and direct traffic. Barricades, danger, warning and detour signs shall be installed as per Georgia DOT Specifications, Section 107.07 – Public Convenience and Safety and Section -150 Traffic Control in accordance with “Georgia

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Department of Transportation – Standard Specifications Construction of Transportation Systems
– January 21, 2021 or latest revision”

The CONTRACTOR shall furnish, install, and maintain all necessary barricades, warning signs, and other protection devices in accordance with the State requirements in which the project is located. Temporary signs may be reused, provided they are in good condition and legible. All protective devices shall be kept in good, legible condition while in use. All work and materials provided shall be per the “Manual on Uniform Traffic Control Devices for Streets and Highways – 2009 MUTCD with Revisions 1 and 2, May 2012 or latest revision”

As soon as construction advances to the extent that temporary barricades, and signs are no longer needed to inform the traveling public, such signs shall be promptly removed.

The cost of furnishing, erecting, maintaining, and removing protective devices will not be paid for as a separate Bid Item. Where the CONTRACTOR is required to perform any of these functions, the cost thereof shall be included in the overall Bid submitted. Ownership of the temporary warning devices shall remain with the CONTRACTOR.

19. **HIGH VOLTAGE ACT:** The CONTRACTOR acknowledges the requirement of the High Voltage Act of the General Assembly of Georgia by execution of this Contract.
20. **ACCESS FOR INSPECTION:** Access for inspection shall be provided for representatives of the OWNER, OWNER’S REPRESENTATIVE, DESIGN ENGINEER and applicable regulatory agencies.
21. **INSURANCE:** The limits of liability for the insurance required by paragraph 5.04 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations:
 - a. Workers’ Compensation, and related coverages under Paragraphs 5.04.A.1 and A.2 of the General Conditions shall not contain an exclusion for any owner or officer that will be present on the project site at any time and provide coverage for not less than the following amounts:
 - i. State: Statutory
 - ii. Applicable Federal
 - iii. Employer’s Liability:
 1. Each Accident – \$1,000,000
 2. Bodily Injury by Disease Policy Limit - \$1,000,000
 3. Each Employee for Bodily Injury By Disease - \$1,000,000
 - b. Contractor’s Commercial General Liability under Paragraphs 5.04.A.3 through A.6 of the General Conditions covering liability arising from premises, operations, products-completed operations, personal and advertising liability, and liability assumed under an insured contract (including the tort liability of another assumed in a business contract), and contractual liability coverages not less than the following amounts:

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- i. General Aggregate (applying per project) \$2,000,000
 - c. Products - Completed
 - i. Operations Aggregate \$2,000,000
 - d. Personal and Advertising
 - i. Injury \$1,000,000
 - e. Each Occurrence
 - i. \$1,000,000
 - f. Property Damage liability insurance will provide Explosion, Collapse, and Under-ground coverages where applicable.
 - g. Excess or Umbrella Liability- Coverage is to be excess of the Commercial General Liability, Automobile Liability and Employers' Liability as underlying policies. The limits of liability may be provided by a combination of primary and excess or umbrella liability policies , but in no event may the total limits of liability available for any one occurrence or accident be less than the below limits:
 - i. General Aggregate \$5,000,000
 - ii. Each Occurrence \$5,000,000
 - h. Automobile Liability-Business Automobile Liability insurance covering all owned, non-owned and hired vehicles with limits not less than the following amounts:
 - i. Combined Single Limit
 - i. Each Accident \$1,000,000
 - j. Contractor's Liability Insurance
 - i. Policy Limit:
 - \$1,000,000 Per Claim
 - \$1,000,000 Aggregate
 - ii. Claims Expenses (including Defense Costs) within limits
 - \$25,000 Deductible per loss.
 - iii. Coverage will include Bodily Injury or Property Damage, including Clean-Up costs, from a pollution event from covered operations or completed operations of the Work performed at the project Site by the Contractor or Sub-Contractors.
 - k. Builders Risk Insurance (Special Form)
 - i. The contractor shall procure and shall maintain during the life of the contractor agreement Builder's Risk Insurance to protect the Owner as the First Named Insured along with the Contractor as a Named Insured against All-Risks perils of property insurance including flood and earthquake. The amount of insurance shall be the equal of 100% of the completed value of the project.
 - l. Property insurance covering the Contractors and Sub-contractors' business personal property and its equipment shall be the responsibility of the respective parties.
22. **SUBCONTRACTORS:** The Contractor shall not contract with any person or entity to whom the Owner or the OWNER'S REPRESENTATIVE has made reasonable objection. The Contractor shall not be required to contract anyone to whom he has a reasonable objection.
23. **SAFETY AND PROTECTION:** Attention is invited to the regulations issued by OSHA 2207 and the Department of Labor pursuant to Section 107 of the Contract Work Hours and Safety

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Standards Act (40 U.S.C. 333) entitled “Safety and Health Regulations for Construction” (29 CFR Part 1926 910) July 1, 1993 edition, or latest revision. The Contractor shall be required to comply with those regulations to the extent that any resulting Contract involves construction.

24. **RETAINAGE OF CONTRACTORS PAYMENT:** The retainage shall be an amount equal to 10% of Contractor’s partial pay estimate until 50% completion. Provided that satisfactory progress is being made toward completion of the work, no additional retainage will be held until the work is substantially complete. However, if progress is not satisfactory in the opinion of the OWNER’S REPRESENTATIVE, retainage may be reinstated to the fullest extent provided by the General Conditions. Upon substantial completion of the work, any amount retained may be paid to the CONTRACTOR. When the WORK has been substantially completed except for WORK which cannot be completed because of weather conditions, lack of materials or other reasons which in the judgement of the OWNER are valid reasons for non-completion, the OWNER may make additional payments, retaining at all times an amount sufficient to cover the estimated cost of the WORK still to be completed. Partial pay estimates may include stored materials. Contractor must submit invoices and all materials must be located at the site of work. Retainage will be held on stored materials.
 - a. Retainage shall be invested at the current market rate and any interest earned on the retained amount by Owner shall be paid to the contractor when the project has been completed within the time limits specified and for the price specified in the contract, or in any amendments or change orders approved in accord with the terms of the contract, pursuant to the General Conditions.
25. **SEWER CONSTRUCTION:** Construction is to be carried out so as to prevent by-passing of flows during construction. The Contractor shall provide the necessary pumps, force mains and etc. required to handle sewage flows during construction. All work is to comply with the Clayton County Water Authority standards and specifications.
26. **SEDIMENT AND EROSION CONTROL:** Siltation and soil erosion must be minimized during construction. Contractor shall take measures necessary to stop soil erosion at the source.
27. **SITE RESTORATION:** Restore disturbed areas to original or better conditions.
28. **USE OF CHEMICALS:** All chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant or other classification, must show approval of either EPA or USDA. Use of all such chemicals and disposal of residues shall be in conformance with instructions.
29. **TESTING:** The independent geotechnical testing laboratory will be retained by the Contractor. Testing required by the plans and specifications will be performed as required by the Contract Documents and at the discretion and under the direction of the OWNER’S REPRESENTATIVE. Payment for all testing services will be made by the Contractor. Copies of all test results will be forwarded in duplicate to the OWNER’S REPRESENTATIVE. The Contractor shall maintain a current file on the jobsite of all test results for review.

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30. **OWNERSHIP OF DEMOLISHED EQUIPMENT:** Any major equipment removed as a result of this project shall remain the property of the OWNER. The Contractor shall take reasonable care to protect equipment during removal and shall deliver the equipment for permanent storage to a point to be designated by the OWNER.
31. **RECORD DRAWINGS:** The Contractor shall maintain a red lined set of construction drawings indicating any field changes to the Drawings. The information shall include physical measurements or coordinates for the horizontal location of key physical features such as bends in underground pipelines and vertical elevations of the equipment or pipelines. As a prerequisite to final payment of the Retainage, the Contractor shall deliver to the OWNER'S REPRESENTATIVE the marked up set of drawings for preparation of the Record Drawings of the Work. Failure to maintain this information shall not relieve the Contractor of the responsibility of obtaining the information prior to final payment.
32. **OPERATION AND MAINTENANCE MANUALS:** The Contractor shall assemble all O&M manuals called for in the various sections of the Technical Specifications into one or more volumes of either 3-ring or post and screw type binders. The binders shall be labeled, indexed and tabbed for easy location of information by Specification Section Number and Description. Three (3) copies of all O&M manuals organized into 3 separate books shall be submitted to the OWNER'S REPRESENTATIVE as a prerequisite to final payment of the retainage. Additionally, three copies of all O&M manuals shall also be provided in complete PDF format on CD's and furnished with the delivery of the hardcopy manuals.
33. **QUALIFICATIONS FOR ACCEPTABLE SURETIES:** A surety, to be acceptable, will be required to meet the following criteria:
- a. A company holding a Certificate of Authority as an acceptable surety on Federal Bonds, as published in the latest such listing in the Federal Register; and an insurance company licensed to do business within the state of Georgia as a company writing policies of insurance and/or bid bonds, payment bonds and performance bonds, regulated as such by the Georgia Department of Insurance and Solvency Pool, and meet the following additional criteria:
 - 1) A company with a rating in the A.M. Best Companies' most recent published rating of "A++ or A+: Class IV or Larger."
 - 2) A company with a rating in the A.M. Best Companies' most recent published rating of "A: Class V or Larger."
 - 3) A company with a rating in the A.M. Best Companies' most recent published rating of "A-: Class X or Larger."
 - 4) A company which can furnish an assumption certificate or cut through clause in a statement of coverage under which payment is guaranteed 100% to third-party claimants by a reinsurer with a rating in A.M. Best Companies' most recent published rating of "A or A+: Class V or Larger"

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5) In lieu of the A.M. Best Company Rating, insures rated AAA, AA+, AA, AA- by Standard & Poor's Insurance Rating Services will also be acceptable.

34. OPERATION OF EXISTING FACILITIES: The Contractor shall not interrupt the operation of the existing water treatment facility. During the course of the work should an interruption become absolutely necessary, the contractor shall notify and coordinate with the Owner and the OWNER'S REPRESENTATIVE at least 72 hours in advance to minimize disruption of service. The Contractor shall cooperate fully with the Owner in minimizing interruption of operations.

Contractor shall notify and coordinate with the Owner and the OWNER'S REPRESENTATIVE at least 72 hours in advance to minimize disruption of service. The Contractor shall cooperate fully with the Owner in minimizing interruption of operations.

35. RESIDENT OWNER'S REPRESENTATIVE OFFICE: Not Required.

36. PERMITS: The Contractor shall secure and pay for all necessary construction related permits with the City of Forest Park and the Clayton County Water Authority required for completion of the work.

37. STATED ALLOWANCES: The following allowances shall be included in the Base Bid Proposal of the Contractor:

- a. In the amount bid on the Bid Form submitted, the Bidder shall include a \$25,000.00 Contingency Allowance.
- b. This allowance is for additional work as directed by the Owner. Monies not utilized by the Owner for this project will be removed from the final contract price at the completion of the project by use of a Change Order.

38. ARTICLE 15: SUSPENSION OF WORK AND TERMINATION:

Termination by the Owner for Cause: Add the following subparagraphs 15.5.1 and 15.5.2 to the General Conditions.

15.5.1: "If the Owner has terminated the Contract as provided in Paragraph 15.02 and if it is subsequently determined for any reason that the Owner was not authorized to terminate the Contract as provided in said Paragraph, the rights and obligations of the parties shall be the same as if the Owner has issued a Notice of Termination to the Contractor as provided in Paragraph 15.5.2 hereinbelow."

15.5.2: "(a) The Owner may, at any time, terminate, in whole or in part, the Work under this Contract for the Owner's convenience and without cause. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which performance of Work under the Contract is terminated, and the date upon which such termination becomes effective;

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(b) After Receipt of a Notice or Termination, and except as otherwise directed by the Owner, the Contractor shall:

- 1) Stop work under the Contract on the date and to the extent specified in the Notice of Termination;
- 2) Place no further orders or subcontracts for materials, services or facilities except as necessary to complete the portion of the Work under the Contract which is not terminated;
- 3) Terminate all orders and subcontracts to the extent that they relate to the performance of the Work terminated by the Notice of Termination;
- 4) Assign to the Owner, in the manner, at times, and to the extent directed by the Owner, all of the right, title and interest of the Contractor under the orders and subcontracts so terminated. The Owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;
- 5) Settle all outstanding liabilities and all Claims arising out of such termination of orders and subcontracts, with the approval or ratification of the Owner to the extent the Owner may require. Its approval or ratification shall be final for all the purposes of this Paragraph 15.5.2;
- 6) Transfer title to the Owner, and deliver in the manner, at the times, and to the extent, if any, directed by the Owner, (i) the fabricated or unfabricated parts, Work in progress, completed Work, supplies, and other material produced as a part of, or acquired in connection with the performance of the Work terminated by the Notice of Termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the Contract had been completed, would have been required to be furnished to the Owner;
- 7) Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices that the Owner directs or authorizes, and property of the types referred to in Subparagraph (b) (6) of this Paragraph, but the Contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the Owner. The proceeds of any such transfer or deposition shall be applied in reduction of any payments to be made by the Owner to the Contractor under this Contract or shall otherwise be credited to the price or cost of the Work covered by this Contract or paid in such other manner as the Owner may direct;
- 8) Complete performance of such part of the Work as shall not have been terminated by the Notice of Termination; and,
- 9) Take such action as may be necessary, or as the Owner may direct, for the protection and preservation of the property related to this Contract which is in the possession of the Contractor and in which the Owner has or may acquire an interest;

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c) After receipt of a Notice of Termination, the Contractor shall submit to the Owner his termination claim, in the form and with the certification the Owner prescribes. Such claims shall be submitted promptly but in no event later than one (1) year from the effective date of termination, unless one or more extensions in writing are granted by the

Owner upon request of the Contractor made in writing within such one (1) year period or authorized extension. However, if the Owner determines that the facts justify such action, it may receive and act upon any such termination claim at any time after such one (1) year period or extension. If the Contractor fails to submit his termination claim within the time allowed, if any, due to the Contractor because of the termination. The Owner shall then pay to the Contractor the amount so determined.

d) Subject to the provisions of paragraph c), the Contractor and the owner may agree upon the whole or any part of the amount or amount to be paid to the Contractor because of the total or partial termination of Work under paragraph 15.5.2. The amount or amounts may include a reasonable allowance for profit on Work done. However, such agreed amount or amounts, exclusive of settlement costs, shall not exceed the Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract price of work not terminated. The Contract shall be amended accordingly, and the Contractor shall be paid the agreed amount. Nothing in paragraph (e) of this Paragraph 15.5.2, prescribing the amount to be paid to the Contractor in the event of failure of the Contractor and the Owner to agree upon the whole amount to be paid to the Contractor because of the termination of Work under this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount of amounts which may be agreed upon to be paid to the Contractor pursuant to this Subparagraph (d);

(e) If the Contractor and the Owner fail to agree as a paragraph (d) provides, on the whole amount to be paid to the Contractor because of the termination of Work under this Paragraph 15.5.2, the Owner shall determine, on the basis of information available to it, the amount, if any, due to the Contractor by reason of the termination and shall pay to the Contractor the amounts determined as follows:

1. For all Work performed before the effective date of the Notice of Termination, the total (without duplication of any items) of:
 - i) The cost of such Work;
 - ii) The cost of settling and paying claims arising out of the termination of Work under subcontracts or others as Paragraph 15.5.1 provides. This cost is exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor before the effective date of the Notice of Termination. These amounts shall be included in the cost on account of which payment is made under (i) above; and
 - iii) A sum, as profits on (i), above; that the Owner determines to be fair and reasonable. But, if it appears that the Contractor would be sustained a loss on the entire Contract had it been completed, no profit shall be included or allowed under this subdivision (iii) and an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss.
- 1) The reasonable cost of the preservation and protection of property incurred under paragraph (b) (9) of this Paragraph 15.5.2; and any other reasonable cost identical to termination of Work

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under this Contract, including expense incidental to the determination of the amount due to the Contractor as a result of the termination of Work under this Contract. The total sum of this Paragraph 15.5.2. shall not exceed the total Contract Sum as reduced by the amount of payments otherwise made and as further reduced by the Contract Price of Work not terminated. Except for normal spoilage, and except to the extent that the Owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amount payable to the Contractor under (1) above, the fair value, as determined by the Owner of property which is destroyed, lost, stolen, or damaged, to the extent that it is undeliverable to the Owner, or to a buyer under Subparagraph (b) (7) of this Paragraph 15.5.2;

(f) The Contractor shall have the right to make claim from any determination the Owner makes under paragraph (c) or (e) of this Paragraph 15.5.2. But, if the Contractor has failed to submit his claim within the time provided in paragraph (c) of this Paragraph 15.5.2 and has failed to request extension of such time, he shall have no such right of appeal. In any case where the Owner has determined the amount due under Subparagraph (c) or (e) of this Paragraph 15.5.2, the Owner shall pay to the Contractor the following: (1) the amount so determined by the owner or (2) if an adverse proceeding is initiated, the amount finally determined in such proceeding;

(g) In arriving at the amount due the Contractor under this Paragraph 15.5.2, there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the Contractor, applicable to the termination portion of this Contract, (2) any claim which the Owner may have against the Contractor in connection with this Contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies or other things kept by the Contractor or sold, under the provisions of this Paragraph 15.5.2, and not otherwise recovered by or credited to the Owner;

(h) If the termination hereunder be partial, before the settlement of the termination portion of this Contract, the Contractor may file with the Owner a request in writing for an equitable adjustment of the price or prices specified in the Contract related to the continued portion of the Contract (the portion not terminated by the Notice of Termination). Such equitable adjustments as may be agreed upon shall be made in the price or prices. Nothing contained herein shall limit the right of the Owner and the Contractor to agree upon the amount or amounts to be paid to the Contractor for the completion of the continued portion of the Contract when the Contract does not contain an established contract price for the continued portion.”

39. ADDITION OF TECHNICAL SPECIFICATIONS:

- a. Technical Specifications, in addition to those included in the Contract Documents, that will be utilized for use with the “City of Forest Park, GA – Forest Park Downtown Streetscape Phase 2A - Main Street” project shall be per the “Georgia Department of Transportation – Standard Specifications Construction of Transportation Systems – January 21, 2021 or latest revision” (Note: Local Standards take precedence over GDOT specifications related to conflicting guidelines, plans, and/or specifications related to roadways that have local jurisdiction.)
- b. Technical Specifications, in addition to those included in the Contract Documents, that will be utilized for use with the “City of Forest Park, GA – Forest Park Downtown Streetscape Phase 2A - Main Street” project shall be per the “Manual on Uniform Traffic Control Devices for Streets and Highways – 2009 MUTCD with Revisions 1 and 2, May 2012 or latest revision”

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- c. Technical Specifications, in addition to those included in the Contract Documents, that will be utilized for use with the “City of Forest Park, GA – Forest Park Downtown Streetscape Phase 2A - Main Street” project shall be per the “Georgia Soil and Water Conservation Commission - Manual for Erosion and Sediment Control in Georgia – 2016 Edition or latest revision”

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REFERENCE VERIFICATION AND RELEASE FORM



CITY OF
FORESTPARK

SOLICITATION NUMBER: PROJECT NO.: 05192022

**PROJECT TITLE: FOREST PARK DOWNTOWN STREETScape
PHASE 2A - MAIN STREET**

BIDDER: _____
(List name exactly as provided in Bid Form)

Provide at least five (5) references for the Bidder listed above of work similar to the current project being completed within the last five (5) years. Provide the information requested in the form below for the contact person who will verify the Bidder's experience and ability to perform the type of services listed in the ITB.

REFERENCE NO. 1:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contact Person Phone No.: _____

Contact Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

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REFERENCE NO. 2:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contract Person Phone No.: _____

Contract Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

REFERENCE NO. 3:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contract Person Phone No.: _____

Contract Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

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REFERENCE NO. 4:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contract Person Phone No.: _____

Contract Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

REFERENCE NO. 5:

Name of Company/Entity: _____

Mailing Address: _____

City/State/Zip Code: _____

Contact Person Name: _____

Contact Person Title: _____

Contract Person Phone No.: _____

Contract Person Email: _____

Date Work Performed: _____

Brief Description of Work Performed: _____

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REFERENCE VERIFICATION RELEASE STATEMENT

The Bidder listed below hereby authorizes the City of Forest Park and its Representatives to contact the references provided for this bid and any additional parties that may be encountered/discovered during the reference conformation process.

BIDDER: _____
(List name exactly as provided in Bid Form)

SIGNED BY: _____
(Printed name and title)

AUTHORIZED SIGNATURE: _____ **DATE:** _____

PART II – TECHNICAL SPECIFICATIONS

PROJECT SPECIFICATIONS

Forest Park Downtown Streetscape
Phase 2A – Main Street
Clayton County

City of Forest Park, Georgia
Forest Park City Hall
785 Forest Park Parkway
Forest Park, GA 30297

Prepared By:
Robert and Company
Engineers, Architects, Planners & Landscape Architects
229 Peachtree St. NE
International Tower, Suite 2000
Atlanta, Georgia, 30303
404.577.4000
RAC Project No 17028.20

2/09/2022

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Section 161 – Control of Soil Erosion and Sedimentation

SECTION 00580

**GEORGIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

SECTION 161 – CONTROL OF SOIL EROSION AND SEDIMENTATION

Text attached on following 11 pages.

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA
SPECIAL PROVISION

Section 161—Control of Soil Erosion and Sedimentation

Add the following to Section 161:

161.1 General Description

This Work includes using best management practices (BMPs) shown on the Plans, ordered by the Engineer, or as required during the life of the Contract to control soil erosion and sedimentation through the use of any of the devices or methods referred to in this Section.

161.1.01 Definitions

Certified Personnel— certified personnel are defined as persons who have successfully completed the Level IA, or higher, certification course approved by the Georgia Soil and Water Conservation Commission. For Department projects the certified person must also have successfully completed the Department’s Worksite Erosion Control Supervisor (WECS) certification course.

Design Professional— as used within this specification, means that which is defined in the current National Pollutant Discharge Elimination System (NPDES) Infrastructure Permit No. GAR100002, Part I.B.

161.1.02 Related References

A. Standard Specifications

Section 105—Control of Work

Section 106—Control of Materials

Section 107—Legal Regulations and Responsibility to the

PublicSection 109—Measurement and Payment

Section 160—Reclamation of Material Pits and Waste Areas

Section 162—Erosion Control Check Dams

Section 163—Miscellaneous Erosion Control Items

Forest Park Downtown Streetscape Phase 2A - Main Street.
Forest Park, Clayton County, GA
RAC # 2021008.20

Section 00580-1
GDOT Special Provision

Section 166—Restoration or Alteration of Lakes and Ponds

Section 170—Silt Retention Barrier

Section 171—Silt Fence

Section 205—Roadway Excavation

Section 434—Asphalt Paved Ditches

Section 441—Miscellaneous Concrete

Section 603—Rip Rap

Section 700—Grassing

Section 711—Turf Reinforcement Matting

Section 716—Erosion Control Mats (Slopes)

Section 161—Control of Soil Erosion and Sedimentation

Erosion control measures contained in the Specifications include:

Erosion Control Measure	Section
Concrete Paved Ditches	441
Check Dams	163.3.05. J
Mulching	700.3.05. G
Erosion Control Mats (Slopes)	716
Grassing	700
Maintenance of Temporary Erosion and Sedimentation Control Devices	165
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Asphalt Ditch Paving	434
Temporary Sediment Basin	163.3.05.C
Silt Control Gates	163.3.05. A
Silt Retention Barrier	170
Sod	700.3.05.H & 700.3.05. I
Mulch	163.3.05. G
Temporary Grass	163.3.05. F
Silt Fence	171
Temporary Slope Drains	163.3.05. B
Triangular Silt Barrier	720
Silt Filter Bag	719
Organic and Synthetic Material Fiber Blanket	713

B. Referenced Documents

NPDES Infrastructure Permit No. GAR100002

GDOT WECS seminar

Georgia Soil and Water Conservation Commission Certification Level IA and Level II courses

Environmental Protection Divisions Rules and Regulations (Chapter 391-3-7)

OCGA 12-7-1

Erosion, Sedimentation and Pollution Control Plan (ESPCP)

161.1.03 Submittals

A. Status of Erosion Control Devices

The Worksite Erosion Control Supervisor (WECS) or certified personnel will inspect the installation and maintenance of the Erosion Control Devices according to Subsection 167.3.05.B and the ESPCP.

1. Submit all reports to the Engineer within 24 hours of the inspection. Refer to Subsection 167.3.05.C for report requirements.
2. The Engineer will review the reports and inspect the Project for compliance and concurrence with the submitted reports.

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3. The Engineer will notify the WECS or certified personnel of any additional items that should be added to the reports.
4. Items listed in the report requiring maintenance shall be completed within seventy-two (72) hours.
5. BMPs that have failed or is deficient beyond routine maintenance and has resulted in sediment deposition into waters of the State shall have immediate reasonable steps taken to address the condition, including cleaning up any contaminated surfaces so the material will not discharge in subsequent storm events. When the repair does not require a new or replacement BMP or significant repair, the BMP failure or deficiency must be corrected by the close of the next business day from the time of discovery. If the correction requires a new or replacement BMP or significant repair, the correction must be completed and operational within seven (7) days from the time of discovery. If seven (7) days is infeasible, document why the timeframe is infeasible and coordinate with the Engineer to schedule the correction as soon as feasible after the seven (7) day timeframe. The Department must be in agreement with the infeasibility.

B. Erosion and Sediment Pollution Control Plan

1. Project Plans

An Erosion, Sedimentation and Pollution Control Plan (ESPCP) for the construction of the project will be provided by the Department. The ESPCP will be prepared for the various stages of construction necessary to complete the project. If the Contractor elects to alter the stage construction from that shown in the plans, it will be the responsibility of the Contractor to have the plans revised and prepared in accordance with the current GAR100002 NPDES permit by a Design Professional to reflect all changes in Staging. This will also include any revisions to erosion and sedimentation control item quantities. If the changes affect the Comprehensive Monitoring Program (CMP), the Contractor will be responsible for any revisions to the CMP as well. Submit revised plans and quantities to the Engineer for review prior to land disturbing activities.

2. Haul Roads, Borrow Pits, Excess Material Pits, etc.

The Contractor is responsible for amending the approved erosion, sedimentation and control plans if they add a haul road that is outside of the project roadway but within the right of way or construct any borrow pits, or excess material pits inside the Right of Way. Prepare these plans for all stages of construction and include the appropriate items and quantities. Submit these plans to the Engineer for review prior to land disturbing activities. These plans are to be prepared by a Design Professional.

If construction of haul roads, or borrow pits, or excess material pits, etc., (inside the Right of Way) encroach within the 25-ft (7.6 m) buffer along the banks of all state waters or within the 50 ft. (15 m) buffer along the banks of any state waters classified as a “trout stream”, a state water buffer variance must be obtained by the Contractor prior to beginning any land disturbing activity in the stream buffer.

3. Erosion Control for Borrow and Excess Material Pits Outside the Right-of-Way

Erosion control for borrow pits and excess material pits outside the right of way is the responsibility of the Contractor. If borrow or excess material pits require coverage under the National Pollutant Discharge Elimination System permit (NPDES) or other permits or variances are required, submit a copy of all documentation required by the permitting agency to the Engineer. All costs associated with complying with local, state, and federal laws and regulations are the responsibility of the Contractor.

4. Culverts and Pipes

The ESPCP does not contain approved methods to construct a stream diversion or stream diversion channel. The Contractor shall prepare a diversion plan utilizing a Design Professional as defined in the current NPDES permit. See Subsection 161.3.05 G for additional information.

5. Temporary Asphalt or Concrete Batch Plants

In addition to the requirements of any applicable specifications, if the Department authorizes the temporary installation and use of any asphalt, concrete or similar batch plants within its right of way, the contractor shall submit an NOI to the Georgia Environmental Protection Division for coverage under the following NPDES permits; The Infrastructure permit for the construction of the plant, and the Industrial permit for the operation of, such a plant. The contractor shall submit the NOIs as both the Owner and the Operator.

161.2 Materials

General Provisions 101 through 150.

Section 161—Control of Soil Erosion and Sedimentation

161.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

161.3 Construction Requirements

161.3.01 Personnel

A. Duties of the Worksite Erosion Control Supervisor

Before beginning Work, designate a Worksite Erosion Control Supervisor (WECS) to initiate, install, maintain, inspect, and report the condition of all erosion control devices as described in Sections 160 through 171 or in the Contract and ESPCP documents. The designee shall submit their qualifications on the Department provided resume form for consideration and approval. The contractor may utilize additional persons having WECS qualifications to facilitate compliance however, only one WECS shall be designated at a time.

The WECS and alternates shall:

- Be an employee of the Prime Contractor.
- Have at least one year of experience in erosion and sediment control, including the installation, inspection, maintenance and reporting of BMPs.
- Successfully completed the Georgia Soil and Water Conservation Commission Certification Course Level IA and the Department's WECS Certification Course.
- Provide phone numbers where the WECS can be located 24 hours a day.

The WECS' duties include the following:

- Be available 24 hours a day and have access to the equipment, personnel, and materials needed to maintain erosion control, and to the extent practicable, flooding control. An approved representative can be substituted for the WECS in regard to 24-hour availability. This representative shall be at least GSWCC Level IA, or higher, but is not required to be certified as a WECS.
 - Inform the Engineer in writing whenever the alternate WECS will assume project responsibilities for more than 3 (three) days.
 - Ensure that erosion control deficiencies are corrected within seventy-two (72) hours.
 - Ensure that erosion control deficiencies that resulted in sediment deposition into waters of the State are corrected.
 - Deficiencies that interfere with traffic flow, safety, or downstream turbidity are to be corrected immediately.
- Be on the site within three (3) hours after receiving notification of an emergency prepared to positively respond to the conditions encountered. The Department may handle emergencies without notifying the Contractor. The Department will recover costs for emergency maintenance work according to Subsection 105.15, "Failure to Maintain Roadway or Structures."
- Maintain and submit for project record, "As-built" Erosion, Sedimentation and Control Plans that supplement and graphically depict EC-1 reported additions and deletions of BMPs. The As-Built plans are to be accessed and retained at a Department facility at all times.
- Ensure that both the WECS and the alternate meet the criteria of this Subsection.
- The WECS shall maintain a current certification card for the duration of the project. Recertification of the WECS may begin within 365 days of the expiration date of the current certification and upon receiving a passing examination grade; the current expiration date shall be extended three (3) years. Certification shall be allowed to occur without a lapse of the credential for a period not to exceed ninety (90) days after the current expiration date. If the allowed ninety (90) days has lapsed, the individual is no longer certified to serve in a WECS capacity on the project until the individual attends and passes the course examination.

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161.3.02 Equipment

General Provisions 101 through 150.

161.3.03 Preparation

General Provisions 101 through 150.

161.3.04 Fabrication

General Provisions 101 through 150.

161.3.05 Construction

A. Control Dust Pollution

The contractor shall keep dust pollution to a minimum during any of the activities performed on the project. It may be necessary to apply water or other BMPs to roadways or other areas reduce pollution.

B. Perform Permanent or Temporary Grassing

Perform permanent grassing, temporary grassing, or mulching on cut and fill slopes weekly (unless a shorter period is required by Subsection 107.23) during grading operations. When conditions warrant, the Engineer may require more frequent intervals.

Under no circumstances shall the grading (height of cut) exceed the height operating range of the grassing equipment. It is extremely important to obtain a cover, whether it is mulch, temporary grass or permanent grass. Adequate mulch is a must.

When grading operations or other soil disturbing activities have stopped, perform grassing or erosion control as shown in the Plans, as shown in an approved Plan submitted by the Contractor, or as directed by the Engineer.

C. Seed and Mulch

Refer to Subsection 161.3.05 B, “Perform Permanent and Temporary Grassing.”

D. Implement Permanent or Temporary Erosion Control

1. Silt fence shown along the perimeter, e.g., right of way, and sediment containment devices, e.g., sediment basins, shall be installed prior to major clearing and grubbing operations. Minor clearing and grubbing are allowed for the sole purpose of installing perimeter controls and other initial phase BMPs.
2. Incorporate permanent erosion control features into the Project at the earliest practicable time, e.g., velocitydissipation, permanent ditch protection.
3. Use temporary erosion control measures to address minor conditions that develop during construction, e.g.,between construction stages.
4. Use temporary erosion control measures when installation of permanent erosion control features cannot be accomplished.

The Engineer has the authority to:

- Limit the surface area of erodible earth material exposed by clearing and grubbing.
- Limit the surface area of erodible earth material exposed by excavation and borrow and fill operations.
- Limit the area of excavation, and embankment operations in progress to correspond with the Contractor’s ability to keep the finish grading, mulching, seeding, and other permanent erosion control measures current.
- Direct the Contractor to provide immediate permanent or temporary erosion control to prevent contamination of adjacent streams or water courses, lakes, ponds, or other areas of water impoundment.

Such Work may include constructing items listed in the table in Subsection 161.1.02.A, “Related References” or other control devices or methods to control erosion.

Section 161—Control of Soil Erosion and Sedimentation

E. Erodible Area

NOTE: Never allow the surface area of erodible earth material exposed at one time to exceed 17 acres (7 ha) except as approved by the State Construction Engineer.

The maximum of 17 acres (7 ha) of exposed erodible earth applies to the entire Project and to all of its combined operations as a whole, not to the exposed erodible earth of each individual operation.

Upon receipt of a written request from the contractor the State Construction Engineer, or his designee, will review; the request, any justifications and the Project conditions for waiver of the 17 acres (7 ha) limitation. If the 17-acre limitation is increased by the State Construction Engineer, the WECS shall not be assigned to another project in that capacity and should remain on site each work day that the exposed acreage exceeds 17 acres.

After installing temporary erosion control devices, e.g., grassing, mulching, stabilizing an area, and having it approved by the Engineer, that area will be released from the 17 acres (7 ha) limit.

F. Perform Grading Operations

Perform the following grading operations:

1. Whenever practicable, complete each roadway cut and embankment continuously.
2. Maintain the top of the earthwork in roadway sections throughout the construction stages to allow water to run off to the outer edges, including techniques to minimize concentrated flow.
3. Provide temporary slope drain facilities with inlets and velocity dissipaters (straw bales, silt fence, aprons, etc.) to carry the runoff water to the bottom of the slopes. Place drains at intervals to handle the accumulated water.
4. Continue temporary erosion control measures until permanent drainage facilities have been constructed, pavement placed, and the grass on planted slopes stabilized to deter erosion.

G. Perform Construction in Rivers and Streams

Perform construction in river and stream beds as follows:

1. Unless otherwise agreed to in writing by the Engineer, restrict construction operations in rivers, streams, and impoundments to areas where channel changes or access for construction are shown on the Plans to construct temporary or permanent structures.
2. If channel changes or diversions are not shown on the Plans, the Contractor shall develop diversion plans prepared in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. The Engineer will review prepared diversion plans for content only and accepts no responsibility for design errors or omissions. Amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
3. If additional access for construction or removal of work bridges, temporary roads/access or work platforms is necessary, and will require additional encroachment upon river or stream banks and bottoms, the contractor shall prepare a plan in accordance with the current GAR100002 NPDES Infrastructure Construction permit utilizing a design professional as defined within the permit. Plans should be submitted at least 12 weeks prior to the date the associated work is expected to begin. If necessary, the plan will be provided to the appropriate regulating authority, e.g., United States Army Corps of Engineers by the Department for consideration and approval. No work that impacts areas beyond what has been shown in the approved plans will be allowed to begin until written approval of the submitted plan has been provided by the Department. Approved plan amendments will be made part of the project plans by attachment. Include any associated costs in the price bid for the overall contract. Any contract time associated with the submittal or its review and subsequent response will not be considered for an extension of Contract time. All time associated with this subsection shall be considered incidental.
4. Clear rivers, streams, and impoundments of the following as soon as conditions permit:
 - Falsework

Section 161—Control of Soil Erosion and Sedimentation

- Piling that is to be removed
 - Debris
 - Other obstructions placed or caused by construction operations
5. Do not ford live streams with construction equipment.
 6. Use temporary bridges or other structures that are adequate for a 25-year storm for stream crossings. Include costs in the price bid for the overall contract.
 7. Do not operate mechanized equipment in live streams except to construct channel changes or temporary or permanent structures, and to remove temporary structures, unless otherwise approved in writing by the Engineer.

H. State Water Buffers and Environmental Restrictions

1. The WECS shall review the plans and contract documents for environmental restrictions, Environmentally Sensitive Areas (ESA), e.g., buffers, etc. prior to performing land disturbing activities.
2. The WECS shall ensure all parties performing land disturbing activities within the project limits are aware of all environmental restrictions.
3. Buffer delineation shall be performed prior to clearing, or any other land disturbing activities. Site conditions may require temporary delineation measures to be implemented prior to the installation of orange barrier/safety fencing. The means of temporary delineation shall have the Engineer's prior approval.
4. The WECS shall allow the Engineer to review the buffer delineation prior to performing any land disturbing activities, including but not limited to clearing, grubbing and thinning of vegetation. Any removal and relocation of buffer delineation based upon the Engineer's review will not be measured for separate payment.
5. The WECS shall advise the Engineer of any surface water(s) encountered that are not shown in the plans. The WECS shall prevent land disturbing activities from occurring within surface water buffers until the Engineer provides approval to proceed.

I. Maintenance Projects

Projects that consist of asphalt resurfacing, shoulder reconstruction and/or shoulder widening; schedule and perform the construction of the project to comply with the following:

1. After temporary and permanent erosion control devices are installed and the area permanently stabilized (temporary or permanent) and approved by the Engineer, the area may be released from the 1-acre (0.4 ha) limit.
2. The maximum of 1 acre (0.4 ha) of erodible earth applies to the entire project and to all combined operations, including borrow and excess material operations that are within the right of way, not 1 acre (0.4 ha) of exposed erodible earth for each operation.
3. Do not allow the disturbed exposed erodible area to exceed 1 acre (0.4 ha). This 1-acre (0.4 ha) limit includes all disturbed areas relating to the construction of the project including but not limited to slope and shoulder construction.
4. At the end of each working day, permanently stabilize all of the area disturbed by slope and shoulder reconstruction to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment. For purposes of this Specification, the end of the working day is defined as when the construction operations cease. For example, 6:00 a.m. is the end of the working day on a project that allows work only between 9:00 p.m. and 6:00 a.m.)
5. Stabilize the cut and fill slopes and shoulder with permanent or temporary grassing and a Wood Fiber Blanket (Section 713, Type II). Mulching is not allowed. Borrow pits, soil disposal sites and haul roads will not require daily applications of wood fiber blanket. The application rate for the Wood Fiber Blanket on shoulder reconstruction is the rate specified for Shoulders. For shoulder reconstruction, the ground preparation requirements of Subsection 700.3.05.A.1 are waived. Preparation consists of scarifying the existing shoulders

Section 161—Control of Soil Erosion and Sedimentation

- 4 to 6 in (100 to 150 mm) deep and leaving the area in a smooth uniform condition free from stones, lumps, roots or other material.
6. If a sudden rain event occurs that would not allow the Contractor to apply the Type II Wood Fiber Blanket per Section 713, install Wood Fiber Blanket Type I per Section 713 if directed by the Engineer. Wood Fiber Blanket Type I application is for emergency use only.
 7. Install temporary grass or permanent grass according to seasonal limitations and Specifications. When temporary grass is used, use the over seeding method (Subsection 700.3.05.E.4) when planting permanent grass.
 8. Remove and dispose of all material excavated for the trench widening operation at an approved soil disposal site by the end of each working day. When shoulder reconstruction is required, this material may be used to reconstruct the graded shoulder after all asphaltic concrete pavement has been placed.
 9. Provide immediate permanent and/or temporary erosion control measures for borrow pits, soil disposal sites and haul roads to prevent any contamination of adjacent streams or other watercourses, lakes, ponds or other areas of water impoundment.
 10. Place asphalt in the trench the same day as the excavation occurs. Place asphalt or concrete in driveways and side roads being re-graded the same day as the excavation occurs. Stabilize any disturbed or exposed soil that is not covered with asphalt with a Wood Fiber Blanket (and grass seed). Payment will be made for the Wood Fiber Blanket and grass seed only if the shoulder has been constructed to final dimensions and grade and no further grading will be required.
 11. Do not allow the grading (height of cut or fill) to exceed the operating range of the grassing equipment.
 12. When grading operations or other soil disturbing activities are suspended, regardless of the reason, promptly perform all necessary permanent stabilization and/or erosion control work.
 13. Use temporary erosion control measures to:
 - Correct conditions that develop during construction but were unforeseen during the design stage.
 - Use as needed before installing permanent erosion control features.
 - Temporarily control erosion that develops during normal construction practices but are not associated with permanent control features on the Project.
 14. When conditions warrant, such as unfavorable weather (rain event), the Engineer may require more frequent intervals for this work.

J. Other Projects

On non-NOI construction projects that have minimal amounts of grading with the installation of BMP's, the Contractors qualified personnel shall be required to submit a weekly EC-1 inspection form in accordance with Section 167. This weekly EC-1 inspection shall begin when BMPs are installed and continue until the acceptance of permanent stabilization.

161.3.06 Quality Acceptance

Before Final Acceptance of the Work, clean drainage structures within the project limits, both existing and newly constructed, and ensure that they are functioning properly. Costs to accomplish this work are incidental and shall be included in the overall bid for the Contract.

161.3.07 Contactor Warranty and Maintenance

Maintain the erosion control features installed to:

- Contain erosion within the limits of the right-of-way
- Control storm water discharges from disturbed areas

Section 161—Control of Soil Erosion and Sedimentation

Effectively install and maintain the erosion control features. Ensure these features contain the erosion and sediment within the limits of the rights of way and control the discharges of storm-water from disturbed areas to meet all local, state, and federal requirements on water quality.

161.4 Measurement

Control of soil erosion and sedimentation is not measured separately for payment.

161.4.01 Limits

General Provisions 101 through 150.

161.5 Payment

When no pay item is shown in the Contract, the requirements of this Specification and the Erosion, Sedimentation and Pollution Control Plan shall be in full effect. The cost of complying with these requirements will not be paid for separately, but shall be included in the overall bid submitted with the exception of inspections performed by qualified personnel which will be included in Section 167.

When listed as a pay item in the Contract, payment will be made at the unit price bid for each particular item.

No payment will be made for erosion control outside the Right-of-Way or construction easements except as provided for by the Plans.

161.5.01 Enforcement and Adjustments

A. Failure to Provide WECS

If a designated WECS is not maintained, activities will cease except traffic control and erosion control work. Monies that are due or may become due could be withheld according to the Specifications.

B. Failure to Comply with Specifications

If the Contractor repeatedly fails to comply with any of the requirements of this Specification, all activities should cease immediately except traffic control and erosion control related work.

Monies that are currently due or that may become due shall be withheld according to the specifications. In addition, nonrefundable monies shall be deducted from the contract as shown in the Schedule of Deductions table below. These deductions are in addition to any actions taken in the above subsections. Deductions assessed for uncorrected deficiencies shall continue until all corrections are completed to the satisfaction of the Engineer.

Failure of the WECS or alternate to perform the duties specified in the Contract, or whose performance, has resulted in a citation being received from a State or Federal Regulatory Agency, e.g., the Georgia Environmental Protection Division, should result in one or more of the following;

- Suspension of the WECS' certification for a period of not less than 30 days
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and 108.05 for a period not less than 14 days
- Department wide revocation of the WECS certification for a period of 12 months
- Removal of the Contractor's project superintendent in accordance with Subsections 105.05 and 108.05

C. Receipt of a Consent Order, Notice of Violation, etc.

Regulatory enforcement actions will be resolved including the minimum following steps:

- The Department will perform an internal review of the alleged violations
- The Department will then meet with the Contractor to review and further determine responsibilities for the alleged violations
- The Department will then arrange to collectively meet with the regulatory agencies to negotiate resolutions and/or settlements.

Section 161—Control of Soil Erosion and Sedimentation

The Department does not waive any rights of the Contractor to resolve such matters however, in the event that regulatory agency communication is addressed jointly to the Department and to the contractor, the Department reserves the right to coordinate all communications, e.g., written correspondence, and to schedule jointly attended meetings with Regulatory agencies such that timely and accurate responses are known to the Department.

Such Orders or Notices may result in the assessment of Deductions from the table below for each day the condition remains non-compliant following an agreed remedy.

Monetary penalties for which the contractor is obligated for as a result of regulatory enforcement may be withheld from future monies due the contractor.

Schedule of Deductions for Each Calendar Day of Erosion Control Deficiencies Initial Occurrence* Original Total Contract Amount		
From More Than	To and Including	Daily Charge
0	\$100,000	\$750
\$100,000	\$1,000,000	\$1125
\$1,000,000	\$5,000,000	\$2000
\$5,000,000	\$15,000,000	\$3000
\$15,000,000	-	\$5000

***Continued non-compliance with the requirements of this specification may result in the doubling of the above tabulated Daily Charge.**

Upon written request from the Contractor, the Engineer may allow, limited activities to concurrently proceed once significant portions of the corrective work have been completed. This authorization may be similarly rescinded if in the opinion of the Engineer corrective work is not being diligently pursued.

SECTION 00582

**GEORGIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

SECTION 162 – Erosion Control Check Dams

Text attached on following 2 pages.

Section 162—Erosion Control Check Dams

162.1 General Description

This work includes furnishing, constructing, and maintaining erosion control check dams.

162.1.01 Definitions

General Provisions 101 through 150.

162.1.02 Related References

A. Standard Specifications

[Section 810—Roadway Materials](#)

B. Referenced Documents

General Provisions 101 through 150.

162.1.03 Submittals

General Provisions 101 through 150.

162.2 Materials

A. Erosion Control Materials

Use these materials as needed to control erosion on check dams:

1. Where required, use any commercial type of woven wire minimum 14 ½ gauge.
2. Obtain other materials such as logs, brush, stakes, etc., from the Right-of-Way where available.
3. Place Number 57 stone, where required, at the location and depth indicated on the Plans.
4. Ensure that material in the earth dams meets the requirements of [Subsection 810.2.01.A.1 “Classes”](#) for Class II soil.

162.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

162.3 Construction Requirements

162.3.01 Personnel

General Provisions 101 through 150.

162.3.02 Equipment

General Provisions 101 through 150.

162.3.03 Preparation

General Provisions 101 through 150.

162.3.04 Fabrication

General Provisions 101 through 150.

162.3.05 Construction

A. Check Dam Construction

Construct check dams as follows:

1. Construct check dams before roadway clearing, grubbing, or grading is done in the affected drainage area. Construct according to the Plans.

Section 162—Erosion Control Check Dams

2. Remove the trees, logs, brush, etc., within the Right-of-Way and the affected area that may be used to construct the check dams. Do not disturb other natural ground cover.

NOTE: Use only rubber-tired equipment to work in the affected drainage area until after the check dam is in place and completed.

3. Obtain the embankment material for the earth dams from outside the area draining into the protected pond or stream.
4. Immediately after completing the earthwork on the earth dams, place a layer of Number 57 stone on the downstream side of the dam. Immediately grass the remaining portions (top and upstream slopes) of the earth dams.
5. Immediately after grading, grass or stabilize with straw mulch roadway cut and fill slopes that drain toward the check dam drainage area.
6. Leave check dams in place after construction is complete unless otherwise directed by the Engineer.

162.3.06 Quality Acceptance

General Provisions 101 through 150.

162.3.07 Contractor Warranty and Maintenance

Repair the check dams as needed during the life of the Contract.

The estimated number of check dams required is shown on the Plans. Additional check dams may be necessary and shall be constructed when directed by the Engineer.

162.4 Measurement

The number of erosion control check dams measured for the payment is the actual number completed and accepted.

162.4.01 Limits

General Provisions 101 through 150.

162.5 Payment

Erosion control check dams, as measured in [Subsection 162.4, "Measurement,"](#) are paid for at the Contract Unit Price. Payment is full compensation for:

- Earth dam construction and compaction
- Required grassing, mulching, and Number 57 stone
- Log dams and dissipaters
- Removal if ordered by the Engineer

Payment for this Item is made as follows:

- 75 percent of the Contract Price is paid when each erosion control check dam is complete in place.
- 25 percent is paid when the Engineer instructs the Contractor that the check dam is no longer required but will remain in place or be removed, whichever applies.

NOTE: Temporary devices will be left in place at the Engineer's discretion without a change in cost.

Payment will be made under:

Item No. 162	Erosion control check dam—type_	Per each
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162.5.01 Adjustments

General Provisions 101 through 150.

Forest Park Downtown Streetscape Phase 2A - Main Street.
Forest Park, Clayton County, GA
RAC # 2021008.20

Section 00585-1
GDOT Special Provision
Section 163 – Misc. Erosion Control Items

SECTION 00585

**GEORGIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

SECTION 163 – MISCELLANEOUS EROSION CONTROL ITEMS

Text attached on following 9 pages.

Section 163—Miscellaneous Erosion Control Items

163.1 General Description

This work includes constructing and removing:

- Silt control gates
- Temporary erosion control slope drains shown on the Plans or as directed
- Sediment basins
- Baled straw erosion checks
- Other temporary erosion control structures shown on the Plans or directed by the Engineer

This work also includes applying temporary mulch and temporary grass.

163.1.01 Definitions

Retrofit Device—A temporary sediment filter placed in front of an existing or proposed detention pond being used as a temporary sediment basin during the construction of the Project

163.1.02 Related References

A. Standard Specifications

[Section 109—Measurement and Payment](#)

[Section 161—Control of Soil Erosion and Sedimentation](#)

[Section 171—Temporary Silt Fence](#)

[Section 500—Concrete Structures](#)

[Section 603—Rip Rap](#)

[Section 700—Grassing](#)

[Section 715—Bituminous Treated Roving](#)

[Section 822—Emulsified Asphalt](#)

[Section 860—Lumber and Timber](#)

[Section 863—Preservative Treatment of Timber Products](#)

[Section 890—Seed and Sod](#)

[Section 893—Miscellaneous Planting Materials](#)

B. Referenced Documents

AASHTO M252

AASHTO M294

163.1.03 Submittals

Provide written documentation to the Engineer as to the average weight of the bales of mulch.

163.2 Materials

Provide materials shown on the Plans, such as pipe, spillways, wood baffles, and other accessories including an anti-seep collar, when necessary. The materials shall remain the Contractor's property after removal, unless otherwise shown on the Plans.

Section 163—Miscellaneous Erosion Control Items

Materials may be new or used; however, the Engineer shall approve previously used materials before use.

Materials shall meet the requirements of the following Specifications:

Material	Section
Mulch	893.2.02
Temporary Silt Fence	171
Concrete Aprons and Footings shall be Class A	500
Rip Rap	603
Temporary Grass	700
Bituminous Treated Roving	715
Lumber and Timber	860.2.01
Preservative Treatment of Timber Products	863.1
Corrugated Polyethylene Temporary Slope Drain Pipe	AASHTO M252 or M294

Additional requirements:

- Use 40d nails.
- To tack the lining material to earth flumes, use grade RS-2h or SS-1h asphaltic material that meets the requirements of [Section 822](#).
- Use rectangular, standard size baled straw in mechanically produced bales.

163.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

163.3 Construction Requirements

163.3.01 Personnel

General Provisions 101 through 150.

163.3.02 Equipment

General Provisions 101 through 150.

163.3.03 Preparation

General Provisions 101 through 150.

163.3.04 Fabrication

General Provisions 101 through 150.

163.3.05 Construction

A. Silt Control Gates

If silt control gates are required or are directed by the Engineer, follow these guidelines to construct them:

1. Clear and grade only that portion of the roadway within the affected drainage area where the drainage structure will be constructed.
2. Construct the drainage structure and backfill.
3. Install the silt control gate at the inlet of the structure. Use the type indicated on the Plans.

Section 163—Miscellaneous Erosion Control Items

4. Vary the height of the gate as required or as shown on the Plans.
5. Finish grading the roadway in the affected drainage area. Grass and mulch slopes and ditches that will not be paved. Construct the ditch paving required in the affected area.
6. Keep the gate in place until the work in the affected drainage area is complete and the erodible earth is stabilized.
7. Remove the silt gate assembly by sawing off the wood posts flush with the concrete apron. Leave the concrete apron between the gate and the structure inlet in place. The gate shall remain the property of the Contractor.

B. Temporary Slope Drains

If temporary slope drains are required, conduct the roadway grading operation according to [Section 161](#) and follow these guidelines:

1. Place temporary pipe slope drains with inlets and velocity dissipaters (straw bales, silt fence, or aprons) according to the Plans.
2. Securely anchor the inlet into the slope to provide a watertight connection to the earth berm. Ensure that all connections in the pipe are leak proof.
3. Place the temporary slope drains as shown on the Uniform Code System for Erosion and Sediment Control Sheet for temporary items or as directed by the Engineer. Keep the slope drains in place until the permanent grass has grown enough to control erosion.
4. Remove the slope drains and grass the disturbed area with permanent grass. However, the temporary slope drains may remain in place to help establish permanent grass if approved by the Engineer.

C. Sediment Basins

Construct sediment basins according to the Plans at the required location, or as modified by the Engineer.

1. Construct the unit complete as shown, including:
 - Grading
 - Drainage
 - Rip rap
 - Spillways
 - Anti-seep collar
 - Temporary mulching and grassing on external slopes
 - Accessories to complete the basin
2. When the sediment basin is no longer needed, remove and dispose of the remaining sediment.
3. Remove the sediment basin. Grade to drain and restore the area to blend with the adjacent landscape.
4. Mulch and permanently grass the disturbed areas according to [Section 700](#).

D. Baled Straw Erosion Checks

Construct baled straw erosion checks according to the Plan details. Substitute temporary silt fence Type B as specified in [Section 171](#) for baled straw erosion checks at the Engineer's direction or the Contractor's option.

E. Other Temporary Structures

When special conditions occur during the design stage, the Plans may show other temporary structures for erosion control with required materials and construction methods.

F. Temporary Grass

Use a quick growing species of temporary grass such as rye grass, millet, or a cereal grass suitable to the area and season.

Section 163—Miscellaneous Erosion Control Items

Use temporary grass in the following situations:

- To control erosion where permanent grassing cannot be planted. The Engineer will direct the planting.
- To protect an area for longer than temporary mulch is expected to last (60 calendar days).

Plant temporary grass as follows:

1. Use seeds that conform to [Subsection 890.2.01, "Seed."](#) Perform seeding according to [Section 700](#); except use the minimum ground preparation required to provide a seed bed if further grading is required.
2. Prepare areas that require no further grading according to [Subsection 700.3.05.A, "Ground Preparation."](#) Omit the lime unless the area will be planted with permanent grass without further grading. In this case, apply the lime according to [Section 700](#).
3. Apply mixed grade fertilizer at 400 lbs./acre (450 kg/ha). Omit the nitrogen. Mulch temporary grass according to [Section 700](#).
4. Before planting permanent grass, thoroughly plow and prepare areas where temporary grass has been planted according to [Subsection 700.3.05.A, "Ground Preparation."](#)

G. Temporary Mulch

When stage construction or other conditions prevent completing a roadway section continuously, apply temporary mulch to control erosion for 60 calendar days or less.

Use temporary mulch on erodible areas on or off the Right of Way, including borrow pits, temporary haul roads, or waste areas. Apply mulch as follows:

1. Plant temporary grass on areas stabilized only with temporary mulch. Mulch the area again after 60 calendar days.
2. Uniformly spread the mulch over the designated areas from 2 in to 4 in (50 mm to 100 mm) thick.
3. After spreading the mulch, walk in the mulch by using a tracked vehicle (preferred method), empty sheep foot roller, light discing, or other means that preserves the finished cross section of the prepared areas. The Engineer will approve of the method.
4. Place temporary mulch on slopes as steep as 2:1 by using a tracked vehicle to imbed the mulch into the slope. Where specified, bituminous treat temporary mulch according to [Subsection 700.3.05.G.1, "Mulch with Binder."](#)
5. When grassing operations begin, leave the mulch in place and plow the mulch into the soil during seed bed preparation. The mulch will become beneficial plant food for the newly planted grass.
6. Place mulch to protect the newly planted grass. This mulch is required in addition to the mulch specified in step 5.

H. Miscellaneous Erosion Control Not Shown on the Plans

When conditions develop during construction that were unforeseen in the design stage, the Engineer may direct the Contractor to construct temporary devices such as but not limited to:

- Bulkheads
- Wooden ditch checks
- Sump holes
- Half round pipe for use as ditch liners
- U-V resistant plastic sheets to cover critical cut slopes

The Engineer and the Contractor will determine the placement to ensure erosion control in the affected area.

I. Diversion Channels

When constructing a culvert or other drainage structure in a live stream requires diverting a stream, construct a diversion channel. Protect the bottom and sides of the channel with plastic sheeting, rip rap (either stone or sandbag), geotextile

Section 163—Miscellaneous Erosion Control Items

fabric, or other materials approved by the Engineer. Cement may be omitted in sandbag rip rap used to line diversion channels.

J. Temporary Ditch Checks

Temporary ditch checks shall be constructed and placed according to Plan details. Temporary ditch checks may be constructed of stone plain rip rap according to [Section 603](#) or of sand bags as in [Section 603](#) without Portland cement.

Place plastic filter fabric on ditch section before placing rip rap.

Temporary ditch checks shall be cleaned of sediment when 1/2 the height of the temporary ditch check has been reached. They remain in place until the permanent ditch protection is in place or being installed and the removal is approved by the Engineer.

These ditch checks may remain in place to aid in establishing permanent grass in vegetated waterways, if approved by the Engineer.

K. Construction Exits

Locate construction exits at any point where vehicles will be leaving the project onto a public roadway. Install construction exits at the locations shown in the plans and in accordance with plan details.

L. Retrofit

Add the retrofit device to the permanent outlet structure as shown on the Plan details.

When all land disturbing activities that would contribute sediment-laden runoff to the basin are complete, clean the basin of sediment and stabilize the basin area with vegetation.

When the basin is stabilized, remove the retrofit device from the permanent outlet structure of the detention pond.

M. Inlet Sediment Trap

Inlet sediment traps consist of a temporary device placed around a storm drain inlet to trap sediment. An excavated area adjacent to the sediment trap will provide additional sediment storage.

Inlet sediment traps may be constructed of Type C silt fence, plastic frame and filter, hay bales, baffle box, or other filtering materials approved by the Engineer.

Construct inlet sediment traps according to the appropriate specification for the material selected for the trap.

Place inlet sediment traps as shown on the Plans or as directed by the Engineer.

163.3.06 Quality Acceptance

General Provisions 101 through 150.

163.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

163.4 Measurement

A. Silt Control Gates

Silt control gates are measured for payment by the entire structure constructed at each location complete in place and accepted. Silt control gates constructed at the inlet of multiple lines of drainage structures are measured for payment as a single unit.

B. Temporary Slope Drains

Temporary slope drains are measured for payment by the linear foot (meter) along the pipe including the inlet spillway and outlet apron or other dissipation devices, when required.

Section 163—Miscellaneous Erosion Control Items

C. Sediment Basins

Sediment basins are measured for payment by the entire structure complete, including construction, maintenance, and removal. Measurement also includes:

- Earthwork
- Drainage
- Spillways
- Baffles
- Rip rap
- Final cleaning to remove the basin

Permanent and temporary grassing for sediment basins is measured separately for payment.

D. Diversion Channels

Diversion channels are not measured for payment. Costs for the entire structure complete, including materials, construction (including earthwork), and removal is included in the price bid for the drainage structure or for other Contract items.

E. Temporary Grass

Temporary grass is measured for payment by the pound (kilogram). Lime, when required, is measured by the ton (megagram).

F. Temporary Mulch

Temporary mulch is measured for payment by the ton (megagram). The weight for measurement will be the product of the number of bales used and the average weight per bale as determined on scales provided by the contractor or state certified scales. The contractor shall provide written documentation to the Engineer as to the average weight of the bales.

G. Baled Straw Erosion Checks

Baled straw erosion checks are measured by the linear foot (meter). Type “B” temporary silt fence is measured as baled straw when substituted by the Contractor or the Engineer.

H. Temporary Ditch Checks

Temporary ditch checks are measured for payment per each ditch check, which will include the entire structure at each location.

I. Construction Exits

Construction exits are measured per each which will include all work necessary to construct the exit including the required geotextile fabric placed beneath the aggregate.

J. Retrofit

Retrofit will be measured for payment per each. The construction of the detention pond and permanent outlet structure will be measured separately under the appropriate items.

K. Inlet Sediment Trap

Inlet sediment traps, regardless of the material selected, are measured per each which includes all work necessary to construct the trap including any incidentals and providing the excavated area for sediment storage.

163.4.01 Limits

General Provisions 101 through 150.

163.5 Payment

A. Silt Control Gates

The specified silt control gates are paid for at the Contract Unit Price per each. Payment is full compensation for:

- Furnishing the material and labor
- Constructing the concrete apron as shown on the Plans
- Excavating and backfilling to place the apron
- Removing the gate

B. Temporary Slope Drains

Temporary slope drains are paid for by the linear foot (meter). Payment is full compensation for materials, construction, removal (if required), inlet spillways, velocity dissipaters, and outlet aprons.

When temporary drain inlets and pipe slope drains are removed, they remain the Contractor's property and may be reused or removed from the Project as the Contractor desires. Reused pipe or inlets are paid for the same as new pipe or inlets.

C. Sediment Basin

Sediment basins, measured according to [Subsection 163.4, "Measurement."](#) are paid for by the unit, per each, for the type specified on the Plans. Price and payment are full compensation for work and supervision to construct, and remove the sediment basin, including final clean-up.

D. Diversion Channel

Diversion channels are not paid for separately; they are included in the price bid for the drainage structure or for other Contract Items.

E. Temporary Grass

Temporary Grass is paid for by the pound. Payment is full compensation for all equipment, labor, ground preparation, materials, fertilizer, mulch, and other incidentals except Lime. Lime (when required) is paid for by the ton.

F. Temporary Mulch

Temporary mulch is paid for by the ton. Payment is full compensation for all materials, labor, maintenance, equipment and other incidentals.

G. Baled Straw Erosion Checks

Baled straw erosion checks, complete in place and accepted is paid for at the Contract Unit Price bid. Payment is full compensation for constructing, and removing (when directed) the straw checks.

When the Contractor substitutes a Type "B" silt fence for baled straw erosion checks, or when the Engineer directs this substitution, payment is made at the bid price per linear foot (meter) for baled straw erosion checks.

H. Temporary Ditch Checks

Temporary ditch checks are paid for per each. Payment is full compensation for all materials, construction, and removal. Reused stone plain rip rap or sandbags are paid for on the same basis as new items. Filter fabric required under rip rap ditch checks is included in the price bid for each ditch check.

I. Construction Exits

Construction exits are paid for per each. Payment is full compensation for all materials including the required geotextile, construction, and removal.

Section 163—Miscellaneous Erosion Control Items

J. Retrofit

This item is paid for at the Contract Unit Price per each. Payment is full compensation for all work, supervision, materials (including the stone filter), labor and equipment necessary to construct and remove the retrofit device from an existing or proposed detention pond outlet structure.

K. Inlet Sediment Trap

Inlet sediment traps are paid for per each. Payment is full compensation for all materials, construction, and removal

If temporary erosion control measures are required due to Contractor negligence, carelessness, or failure to install permanent controls as part of the work as scheduled, the Contractor shall perform such work at no additional expense to the Department. Perform the work according to [Subsection 107.13](#).

Erosion control work on approved borrow pits or approved haul roads to borrow pits measured for payment will include only items specifically provided for in the Plans and determined not to be maintenance work as stated in [Subsection 106.10.D](#). If the Contractor secures his or her own pit, erosion control measures will be at his or her expense. If a pit is approved and the Contractor elects to use another pit, the Department will pay only up to the contract amount.

The Items in this Section (except temporary grass and temporary mulch) are made as partial payments as follows:

- When the item is installed and put into operation the Contractor will be paid 75 percent of the Contract price.
- When the Engineer instructs the Contractor that the Item is no longer required and is to remain in place or is removed, whichever applies, the remaining 25 percent will be paid.

Temporary devices may be left in place at the Engineer's discretion at no change in cost. Payment for temporary grass and temporary mulch is shown in [Section 161](#).

Payment is made under:

Item No. 163	Construct and remove silt control gate, type_	Per each
Item No. 163	Construct and remove temporary pipe slope drains_	Per linear foot (meter)
Item No. 163	Construct and remove baled straw erosion check_	Per linear foot (meter)
Item No. 163	Construct and remove sediment basin type_ Requires Sta. No.	Per each
Item No. 163	Construct and remove temporary ditch checks_	Per each
Item No. 163	Construct and remove construction exits	Per each
Item No. 163	Construct and remove retrofit, Sta. No._____	Per each
Item No. 163	Construct and remove inlet sediment trap	Per each
Item No. 163	Temporary Grass	Per pound (kilogram)
Item No. 163	Temporary Mulch	Per ton (megagram)
Item No. 700	Agricultural lime_	Per ton (megagram)

163.5.01 Adjustments

General Provisions 101 through 150.

Forest Park Downtown Streetscape Phase 2A - Main Street.
Forest Park, Clayton County, GA
RAC # 2021008.20

Section 00590-1
GDOT Special Provision
Section 171 – Silt Fence

SECTION 00590

**GEORGIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

SECTION 171 – SILT FENCE

Text attached on following 4 pages.

Section 171—Silt Fence

171.1 General Description

This work includes furnishing, installing, and removing a water permeable filter fabric fence to remove suspended particles from drainage water.

171.1.01 Definitions

General Provisions 101 through 150.

171.1.02 Related References

A. Standard Specifications

[Section 163—Miscellaneous Erosion Control Items](#)

[Section 700—Grassing](#)

[Section 862—Wood Posts and Bracing](#)

[Section 881—Fabrics](#)

[Section 894—Fencing](#)

B. Referenced Documents

ASTM D 3786

ASTM D 4355

ASTM D 4632

ASTM D 4751

[GDT 87](#)

[QPL 36](#)

171.1.03 Submittals

General Provisions 101 through 150.

171.2 Materials

Materials shall meet the requirements of the following Specifications:

Material	Section
Filter Fabrics	881
Fencing	894
Wood Posts and Bracing	862

Conditions during Project construction will affect the quantity of the silt fence to be installed.

The Engineer may increase, decrease, or eliminate the quantity at his or her direction. Variations in quantity are not changes in details of construction or in the character of the work.

For Type A, B, and C fences, use fabric as specified in [Subsection 881.2.07, “Silt Fence Filter Fabric.”](#)

171.2.01 Delivery, Storage, and Handling

During shipment and storage, wrap the fabric in a heavy-duty covering that will protect the cloth from sunlight, mud, dust, dirt, and debris. Do not expose the fabric to temperatures greater than 140 °F (60 °C).

Section 171—Silt Fence

When installed, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

171.3 Construction Requirements

171.3.01 Personnel

General Provisions 101 through 150.

171.3.02 Equipment

General Provisions 101 through 150.

171.3.03 Preparation

General Provisions 101 through 150.

171.3.04 Fabrication

General Provisions 101 through 150.

171.3.05 Construction

Install the silt fence according to this Specification, as shown on the Plans, or as directed by the Engineer.

A. Install Silt Fence

1. Install silt fence by either of the following methods:
 - a. **Excavated Trench Method**
Excavate a trench 4 to 6 in (100 to 150 mm) deep using equipment such as a trenching machine or motor grader. If equipment cannot be operated on the site, excavate the trench by hand.
 - b. **Soil Slicing Method**
Create a mechanical slice in the soil 8 to 12 in (200 to 300 mm) deep to receive the silt fence. Ensure that the width of the slice is not more than 3 in (75 mm). Mechanically insert the silt fence fabric into the slice in a simultaneous operation with the slicing that ensures consistent depth and placement.
2. Install the first post at the center of the low point (if applicable). Space the remaining posts a maximum of 6 ft (1.8 m) apart for Types A and B fence and 4 ft (1.2 m) apart for Type C fence.
3. Bury the posts at least 18 in (450 mm) into the ground. If this depth cannot be attained, secure the posts enough to prevent the fence from overturning from sediment loading.
4. Attach the filter fabric to the post using wire, cord, staples, nails, pockets, or other acceptable means.
 - a. **Staples and Nails (Wood Posts):** Evenly space staples or nails with at least five per post for Type A fence and four per post for Type B fence.
 - b. **Pockets:** If using pockets, and they are not closed at the top, attach the fabric to a wood post using at least one additional staple or nail, or to a steel post using wire.
Ensure that the additional attachment is within the top 6 in (150 mm) of the fabric.
 - c. Install the filter fabric so that 6 to 8 in (150 to 200 mm) of fabric is left at the bottom to be buried. Provide a minimum overlap of 18 in (450 mm) at all splice joints.
 - d. For Type C fences, attach the filter fabric to the top of a woven wire support fence at the midpoint between posts.
5. Install the fabric in the trench so that 4 to 6 in (100 to 150 mm) of fabric is against the side of the trench with 2 to 4 in (50 to 100 mm) of fabric across the bottom in the upstream direction.

Section 171—Silt Fence

6. Backfill and compact the trench to ensure that flow cannot pass under the barrier. When the slice method is used, compact the soil disturbed by the slice on the upstream side of the silt fence first, and then compact the downstream side.

B. Remove the Silt Fence

1. Keep the silt fence in place unless the Engineer directs. A removed silt fence may be used at other locations if the Engineer approves of its condition.
2. After removing the silt fence, return the area to a pleasing appearance. Seed and mulch the area according to [Section 700](#).
3. When installing a silt fence across a waterway that produces significant runoff, place a settling basin in front of the fence to handle the sediment load, if required. Construct a suitable sump hole or storage area according to [Section 163](#).

171.3.06 Quality Acceptance

Approved silt fence is listed in [QPL 36](#). Approved fabrics must consistently exceed the minimum requirements of this Specification as verified by the Office of Materials and Research. The Office of Materials and Research will remove fabric that fails to meet the minimum requirements of this specification from the QPL until the products' acceptability has been reestablished to the Department's satisfaction.

At the time of installation, the Engineer will reject the fabric if it has defects, rips, holes, flaws, deterioration, or damage incurred during manufacture, transportation, or storage.

171.3.07 Contractor Warranty and Maintenance

Maintain the silt fence until the Project is accepted or until the fence is removed. Also, remove and dispose of the silt accumulations at the silt fence.

Remove and replace any deteriorated filter fabric that reduces the effectiveness of the silt fence.

Repair or replace any undermined silt fence at no additional cost to the Department.

171.4 Measurement

The quantity of silt fence to be paid for is the actual number of linear feet (meters) of silt fence, measured in place from end post to end post of each separate installation. The silt fence must be complete and accepted.

171.4.01 Limits

General Provisions 101 through 150.

171.5 Payment

Silt fence Type A, B, or C measured as defined in [Subsection 171.4, "Measurement,"](#) is paid for at the Contract Unit Price bid per linear foot (meter).

Payment is full compensation for the following:

- Furnishing materials
- Erecting and maintaining the fence
- Removing accumulated silt as described in [Subsection 171.3.07, "Contractor Warranty and Maintenance"](#)
- Dressing and grassing, when required
- Removing the fence, when required

Payment for this Item is made as follows:

- Seventy-five percent of the Contract Price bid per linear foot (meter) is paid when each fence is complete in place.

Section 171—Silt Fence

- Twenty-five percent is paid at removal or acceptance.

If the silt fence must be repaired or removed, perform the work at no additional cost to the Department.

Payment will be made under:

Item No. 171	Silt fence, type_	Per linear foot (meter)
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171.5.01 Adjustments

General Provisions 101 through 150.

Section 201 – Clearing and Grubbing Right-of-Way

SECTION 00595

**GEORGIA DEPARTMENT OF TRANSPORTATION
SPECIAL PROVISION**

SECTION 201 – CLEARING AND GRUBBING RIGHT-OF-WAY

Text attached on following 6 pages.

Section 201—Clearing and Grubbing Right of Way

201.1 General Description

This work includes clearing, grubbing, removing, and disposing vegetation and debris within the limits of construction and easement areas adjacent to the Right-of-Way as shown on the Plans or as designated by the Engineer. Except, do not remove objects designated to remain or removed according to other sections of these Specifications. This work also includes preserving (from injury and defacement) vegetation and objects designated to remain in place.

201.1.01 Definitions

Clearing: Removing and disposing trees, brush, stumps, logs, grass, weeds, roots, decayed vegetable matter, poles, stubs, rubbish, refuse dumps, sawdust piles, and loose boulders of 1 yd³ (1 m³) or less existing outside of the construction limits, debris resting on or protruding through the ground surface, or appearing on the Right-of-Way before final acceptance of the work.

Clearing also includes removing and disposing of obstructions, such as fences, bridges, buildings, and other incidental structures within the Right-of-Way unless the work or a portion of the work is:

- Removed as excavation
- Shown in the Proposal as a separate Pay Item
- Performed by others

Grubbing: Removal from the Right-of-Way and proper disposal of all objectionable matter defined above under clearing, which is embedded in the underlying soil.

Grubbing also includes removing and properly disposing of sidewalks, driveways, catch basins, drop inlets, manholes, curbing, retaining walls, utilities, foundations, paved floors, underground tanks (for removal of underground tanks see [Section 217](#)), and other structures within the Right-of-Way unless the work or portions of the work are:

- Obstructions removed as one of the excavation items
- Shown in the Proposal as separate Pay Items
- Removed by others

Objectionable Roots: Any of the following types of roots:

- Matted trees and brush roots (regardless of the size of the roots)
- Individual roots more than 0.75 in (20 mm) diameter
- Individual roots more than 3 ft (1 m) long regardless of size
- Large quantities of smaller roots present in the top 1 ft (300 mm) of the finished subgrade or road surface when detrimental to the work as determined by the Engineer.

Stumps: The butt of a tree with a diameter of 4 in (100 mm) or more. Measure the stump 6 in (150 mm) above the ground line.

201.1.02 Related References

A. Standard Specifications

[Section 107—Legal Regulations and Responsibility to the Public](#)

[Section 109—Measurement and Payment](#)

[Section 160—Reclamation of Material Pits and Waste Areas](#)

[Section 161—Control of Erosion and Sedimentation](#)

[Section 208—Embankments](#)

[Section 215 – Removal of Solid Waste](#)

[Section 217—Removal of Underground Storage Tanks](#)

B. Referenced Documents

General Provisions 101 through 150.

Section 201—Clearing and Grubbing Right of Way

201.1.03 Submittals

General Provisions 101 through 150.

201.2 Materials

General Provisions 101 through 150.

201.2.01 Delivery, Storage, and Handling

General Provisions 101 through 150.

201.3 Construction Requirements

201.3.01 Personnel

General Provisions 101 through 150.

201.3.02 Equipment

General Provisions 101 through 150.

201.3.03 Preparation

General Provisions 101 through 150.

201.3.04 Fabrication

General Provisions 101 through 150.

201.3.05 Construction

A. General

The Engineer will establish Right-of-Way and construction lines and designate which trees, shrubs, and plants will remain in the ground. Preserve things designated to remain.

Apply the requirements of [Subsection 107.22](#), and [Section 161](#) to clearing and grubbing operations.

Strip grass immediately ahead of grading.

To prevent the spread of —Introduced Invasive Pest Species^l, do the following:

1. Adhere to the restrictions of [Section 155.3.05.A](#) for moving soil, mulch, sod or plants, stump wood or timber with soil attached.
2. Adhere to the requirements of [Section 155.3.05.B](#) for cleaning of equipment, except that the USDA inspection will not be required for vegetative matter.
3. Dispose of vegetative parts of plants that may reproduce (roots and aboveground parts that bear fruit) by burning on site (where permitted) or bury with a minimum cover of 3 feet (1 meter) at an approved site. Obtain the Engineer's approval for any other methods of disposal.

B. Clearing

Clear objects within the Right-of-Way as follows:

1. Choose a method of clearing that prevents damage to property, trees, or retained shrubbery in or outside of the Right-of-Way.
2. Remove stumps that are part of the clearing operation as specified under [Subsection 201.3.05.C, —Grubbing^l](#).
3. Cut the stumps not grubbed as specified in this section.
4. Dispose of cleared materials as specified in [Subsection 201.3.05.E](#).

C. Grubbing

Grubbing consists of removing and disposing objectionable matter embedded in the underlying soil (defined in [Subsection 201.3.05.B, —Clearing^l](#)) from the Right-of-Way.

1. Grubbing Operations

Section 201—Clearing and Grubbing Right of Way

When grubbing, remove abandoned obstructions referenced in [Subsection 201.1.01Definitions](#) to the following depths:

- a. Under Pavements: Remove to a depth of at least 3 ft (1 m) below the finished subgrade.
- b. Underneath Other Structures: Remove to at least 3 ft (1 m) below the foundations of any proposed structure, including installations such as guard rail posts and utility poles.
- c. Elsewhere in the Right-of-Way: Remove as follows:
 - 1) Remove to at least 3 ft (1 m) below the finished surface of slopes and shoulders and 1 ft (300 mm) below natural ground outside construction lines.
 - 2) Thoroughly crack or break abandoned structures that may impound water. These structures include concrete floors, basements, and catch basins within 10 ft (3 m) of finished grade.
 - 3) Break floors so that no section greater than 10 ft² (1 m²) remains intact.

Except as modified under [Subsection 201.3.05.D](#), use the following procedure to perform grubbing:

- a. Remove stumps and other matter that cannot be removed by a root rake. Remove stumps to a minimum depth of 2 ft (600 mm) below the ground line.
- b. Rake areas containing objectionable roots to a depth of at least 6 in (150 mm) below the surface.
- c. Remove remaining objectionable matter by hand or other suitable means. When necessary, remove small roots (see [Subsection 201.1.01 –Objectionable Roots](#)) detrimental to the work.
- d. Backfill stump holes and compact backfill to the approximate density of the surrounding soil.
- e. Harrow the area with a heavy-duty disc harrow that penetrates and turns the ground to at least 6 in (150 mm) deep.
- f. Remove objectionable matter exposed by the harrowing.
- g. Level the harrowed areas with blading equipment. Leave the grubbed areas smooth enough for a power mower.

D. Modifications of Clearing and Grubbing

Modify clearing and grubbing as follows:

1. In Excavation Areas

Modify clearing and grubbing in excavation areas as follows:

- a. Harrowing and leveling may be omitted.
- b. Do not fill stump holes except when the bottom of any stump hole extends below the elevation of the finished subgrade. In this case, fill the portion of each hole below subgrade elevation with suitable material compacted to at least the density of the surrounding soil.

2. In Embankment Areas

Modify clearing and grubbing in embankment areas as follows:

- a. Under 4.5 ft (1.4 m)
Clear and grub areas without modification where the original ground and finished grade differ in elevation 4.5 ft (1.4 m) or less.
- b. Over 4.5 ft (1.4 m)
Clear, but do not grub areas covered by embankments exceeding the 4.5 ft (1.4 m) elevation difference specified in step (a) above. Except the removal of unsound or decayed stumps.
Remove and backfill stumps according to [Subsection 201.3.05.C.2](#). When leaving sound stumps in place, cut them off to no more than 6 in (150 mm) above the original ground line.
- c. Embankment Areas Over Old Roads
Clear and grub without modification ditches and slopes of old roads to a depth that removes all objectionable matter to provide a firm foundation.

3. Areas Outside of Roadway

Except as specified in this section, clear and grub the entire Right-of-Way outside construction limits and leave it smooth and free from loose boulders and debris that would interfere with power mowers. Exceptions to the above requirements are as follows:

Section 201—Clearing and Grubbing Right of Way

a. Selective Clearing

When the Engineer directs to preserve certain trees and plants, protect them from injury. Trees to be removed shall be felled to prevent injury to standing trees, plants, and improvements to be preserved.

Cut off tree branches overhanging the roadway within 20 ft (6 m) of the finished grade close to the boles. Also, remove other branches to create a balanced appearance. Treat scars from branch removal with a heavy coat of asphaltic tree paint. Grub areas adjacent to selected trees and shrubs without damage to living roots of the selected trees or shrubs.

b. Special Treatment Areas

Clear special treatment areas according to the Plan notes.

c. Steep Slopes

Clear or selectively clear slopes that are too steep for power mowers or that are subject to excessive erosion. Do not grub in these areas.

d. Grassed Areas

Do not grub (if the Engineer approves) reasonably large areas outside construction limits covered with grasses and smooth enough for power mowers. Remove stumps, trees, and other objectionable matter.

4. Bridge Sites

Modify clearing and grubbing at bridge sites as follows:

a. Stream Bridges

Clear the Right-of-Way for stream bridges for the full length of the proposed structure. Cut stumps and brush flush with the ground line.

The Engineer will require a second cutting if high water prevents cutting stumps flush with the ground. If the Engineer requires more than two cuttings, see [Subsection 201.5](#) for payment.

Remove drift and stumps where necessary to permit installation of rip rap, piling, piers, abutments, wing walls, and bents. Properly backfill the holes.

Preserve stump and brush root systems at river and stream banks when they have been cut flush with the ground line.

b. Other Bridges

Clear and grub bridges (other than stream bridges) as specified within this specification for roadway areas and areas outside of the roadway.

E. Removal and Disposal of Materials

1. Merchantable Timber and Buildings

The Department may dispose of merchantable timber and buildings, or may allow a property owner to remove them from the land granted for Right-of-Way before the Contractor begins operation. Therefore, the Department does not guarantee that merchantable timber or buildings will be on the Right-of-Way when the work begins.

Material salvaged from removing timber or buildings becomes the property of the Contractor.

2. Combustible Material

Abide by Federal, State, or local codes when the Right-of-Way (or any portion of the Right-of-Way) lies within an area where burning is restricted. All combustible material except sawdust piles may be burned on the Right-of-Way except where prohibited by local air pollution control regulations.

a. Prevent fire from spreading to adjacent areas and damaging living trees and shrubs designated to remain on the Right-of-Way.

b. Prevent damage to public and private installations either within or adjacent to the Right-of-Way and prevent damage to traveling public.

c. Obtain suitable areas for burning or disposing of the combustible material when necessary (at the Contractor's expense). The Engineer shall approve these disposal areas.

d. Dispose of material according to [Subsection 201.3.05.E.3](#). If the disposal area is located on private property, present written authority to the Engineer (signed by the property owner) granting the Contractor and the Department permission to use the area for the purpose intended. Reclaim the disposal area according to [Section 160](#).

Section 201—Clearing and Grubbing Right of Way

- e. Completely remove sawdust within the construction limits. Haul the sawdust to approved disposal areas, or deposit it on the Right-of-Way in a layer less than 3 in (75 mm) deep. Immediately mix the sawdust with the underlying soil by discing and harrowing. Leave the harrowed surface smooth.

3. Solid Waste Material

Place solid waste material either in the embankment (provided the material is satisfactory for embankment construction) or in a Department-approved solid waste disposal site.

The classification of non-regulated and regulated solid waste materials are defined by the Environmental Protection Division (EPD) of the Georgia Department of Natural Resources (GDNR) rules and regulations. Dispose of these materials using the following procedures.

a. Nonregulated Solid Waste Material

1) Excess material such as soil, rock, brick, concrete (with and without reinforcement), and cured asphalt may be placed within the Right-of-Way, provided there is available room. Place these materials according to [Section 208](#) and as directed by the Engineer.

- 1) Common fill such as soil, rock, brick, and concrete (with and without reinforcement) may be placed outside the Right-of-Way. Place the material in uniform layers 3 ft (1 m) thick or less and distributed to avoid pockets.
- 2) Fill voids with finer material. Cover the last layer of fill with at least 2 ft (600 mm) of soil.
- 3) Construct the fill according to [Section 208](#), except compact it to at least 90 percent of the maximum laboratory dry density.
- 4) Materials that may be recycled or reused such as asphaltic concrete, Portland Cement concrete, plastic, metal, and materials that qualify under EPD regulations for sale or use may be reclaimed by the Contractor.

b. Regulated Material

- 1) If not properly layered and compacted, dispose of inert waste (organic debris) such as stumps, limbs and leaves, cured asphalt disposed of off the Right-of-Way, and items listed in [Subsection 201.3.05.E.3.a](#) using an inert landfill permit according to GDNR/EPD rules. Or, take the material to a permitted solid waste landfill.

Take other regulated construction/demolition and nonhazardous solid waste, such as forms, barrels, plastic, and other by-products of construction to a construction/demolition landfill or to a municipal solid waste landfill.

- 2) Dispose of oils, solvents, fuels, untreated lead paint residue, and other solid hazardous waste through a properly licensed hazardous waste disposal facility.

Remove municipal solid waste discovered during construction or shown on the Plans according to [Section 215](#).

201.3.06 Quality Acceptance

General Provisions 101 through 150.

201.3.07 Contractor Warranty and Maintenance

General Provisions 101 through 150.

201.4 Measurement

The Department does not measure clearing and grubbing separately for payment. The area is considered the full Right-of-Way width for the length of the Project including slope and construction easement areas shown on the Plans.

201.4.01 Limits

General Provisions 101 through 150.

201.5 Payment

Payment for this Item, completed and accepted, will be made at the lump sum price bid. The payment will be full compensation for all work specified in this Section including final cleanup as required.

If the Engineer requires more than two cuttings to clear the Right-of-Way for stream bridges (according to [Subsection 201.3.05.D.4.a](#)), the additional cuttings are paid for as a Force Account according to [Subsection 109.05](#).

Include the cost of waste disposal for solid waste materials in the bid price of other Pay Items.

Payment will be made under:

Section 201—Clearing and Grubbing Right of Way

Item No. 201	Clearing and grubbing	Per lump sum
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201.5.01 Adjustments

General Provisions 101 through 150.

SECTION 00850

INDEX OF DRAWINGS

<u>SHEET NO.</u>	<u>DESCRIPTION</u>
1	Cover
2	Index
3	Revisions Summary
4	General Notes
5	Summary of Quantities
6 – 7	Typical Sections
8 – 11	Existing Conditions
12 – 15	Demolition Plans
16 – 19	Site Plans
20 – 23	Layout & Stationing Plans
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37 – 40	Landscape Plans
41	Landscape Details
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Erosion Control Plans	
1 - 8	Phase I
9 - 17	Phase II
18 – 25	Phase II
26 - 27	Erosion Control Details

END OF SECTION

SECTION 01300

SUBMITTALS

1.00 GENERAL

1.01 SUMMARY:

A. Definitions:

1. Samples: Physical examples prepared to illustrate materials, equipment or workmanship, and to establish standards by which Work will be judged as complying with contract requirements.
2. Shop drawings: Drawings, diagrams, illustrations, schedules, and performance charts prepared to illustrate a portion of work in detail.
3. Product data: Dated, printed literature of a product manufacturer which describes product and installation procedures.
4. Submittals: General term including samples, shop drawings, and product data, as applicable.

B. General provisions:

1. Provisions in this section are mandatory procedures for preparing and submitting samples, shop drawings, and product data.
2. Submissions shall be in orderly sequence and timed to cause no delay in Work.
3. Job delays occasioned by requirement of resubmission of samples, shop drawings and product data not in accord with Contract Documents are Contractor's responsibility and will not be considered valid justification for extension of contract time.
4. Commence no portion of work requiring submittals until submittal has been approved by Robert and Company.

1.02 SAMPLE PREPARATION:

- A. Prepare samples in sizes, shapes, and finishes in accord with provisions of individual specification sections.
- B. Samples furnished under this section are not to be confused with full size, on-the-site, "Mock-Ups" called for in some specification sections.
- C. Submit samples requiring a color selection at the earliest practicable time. No color selections will be made until all colors can be chosen and issued at one time in the form of a color schedule.
- D. Number of samples submitted: Number required by Contractor, plus one which will be retained by Robert and Company, unless otherwise indicated.

1.03 SHOP DRAWING PREPARATION:

A. Drawing shall conform to the following requirements:

1. Number sheets consecutively.
2. Indicate working and erection dimensions and relationships to adjacent work.
3. Show arrangements and sectional views, where applicable.
4. Indicate material, gauges, thicknesses, finishes, and characteristics.

5. Indicate anchoring and fastening details, including information for making connections to adjacent work.

- B. Form: Submit one paper transparency and two blue line prints of shop drawings.

1.04 PRODUCT DATA PREPARATION:

- A. Include product manufacturer's standard printed material, dated, with product description and installation instructions indicated. Data not related to this project shall be deleted.
- B. Number of copies submitted: Number required by Contractor plus two which will be retained by Robert and Company.

1.05 CONTRACTOR'S REVIEW:

- A. Review submittals and stamp with approval prior to submission to Robert and Company.
- B. Determine and verify field measurements, field construction, materials, catalog numbers and similar data. Check and coordinate each submittal with requirements of work and of Contract Documents.
- C. Where Work is indicated "By others", indicate responsibility for providing and coordinating such work.
- D. Contractor agrees that submittals processed by Robert and Company are not Change Orders; that purpose of submittals by Contractor is to demonstrate that Contractor understands design concept; that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing fabrication and installation methods he intends to use.
- E. Contractor represents by submitting samples, shop drawings and product data that he has complied with provisions specified above. **Submissions made without Contractor's approval indicated will be returned without being reviewed for compliance with this requirement. (See 1.01 B.2)**
- F. Date each submittal and indicate name and address of Project, Robert and Company, Contractor, Sub-Contractor, as applicable, description or name of equipment, material or product, and identify location at which it is to be used in the Work.
- G. Accompany submittal with transmittal letter containing project name, Contractor's name, number of samples or drawings, titles, and other pertinent data. Transmittal shall outline deviations, if any, in submittals from requirements of Contract Documents.

1.06 ROBERT AND COMPANY'S REVIEW AND APPROVAL:

- A. Robert and Company will review and approve submittals with reasonable promptness so as to cause no delay in Work.
- B. Robert and Company's approval is only for conformance with design concept of project and with information in Contract Documents. Robert and Company's approval of a separate item shall not indicate approval of an assembly in which item functions.
- C. Robert and Company's approval of submittals shall not relieve Contractor of responsibility for any deviation from requirements of Contract Documents unless

Contractor has informed Robert and Company in writing of such deviation. Robert and Company's approval shall in no way relieve Contractor from responsibility for errors or omissions in submittals.

- D. Robert and Company will return one transparency of reviewed shop drawings for printing and distribution by Contractor.

1.07 ROBERT AND COMPANY'S ACTION:

- A. Robert and Company will review each submittal, mark it with appropriate action, and return it within **two** weeks of receipt, except where it must be held for coordination, and the Contractor is so advised. Submittals will be marked by Robert and Company as follows:
 - 1. **"Approved"** indicates the drawings have been reviewed for conformance with design and no exceptions are taken. Proceed with the work.
 - 2. **"Approved as Noted"** indicates Contractor may proceed with the Work as noted.
 - 3. **"Returned for Correction" or "Not Approved"** indicates drawing to be revised and resubmitted for review prior to proceeding with the work or that submittal does not comply with Contract Documents.

1.08 RESUBMISSION:

- A. Make corrections and changes indicated for unapproved submissions and resubmit in same manner as specified above, until Robert and Company's approval is obtained.
- B. In resubmission transmittal direct specific attention to revisions other than corrections requested by Robert and Company on previous submissions, if any.

1.09 DISTRIBUTION:

- A. Contractor is responsible for obtaining and distributing copies of submittals to his sub-contractors and material suppliers after as well as before final approval. Make prints of reviewed shop drawings from transparencies which carry Robert and Company's appropriate stamp.
- B. Contractor shall maintain a file of approved submittals for duration of project; deliver to Owner as a part of project close-out documents.

END OF SECTION

SECTION 01310

CONSTRUCTION SCHEDULES

1.00 GENERAL

1.01 REQUIREMENTS:

- A. Promptly after award of Contract, Contractor shall prepare and submit to Engineer estimated Construction Schedules for Work, with sub-schedules of related activities which are essential to progress. Approval of initial Construction Schedule is required prior to receipt of Notice to Proceed.
- B. Contractor shall submit revised Construction Schedules periodically as required by subsequent events.
- C. Related Sections:
 - 1. Section 01200: Project Meetings
 - 2. Section 01300: Submittals

1.02 FORM OF SCHEDULES:

- A. Prepare schedules in form of a horizontal bar chart.
 - 1. Provide separate horizontal bar for each major trade or operation.
 - 2. Horizontal time scale: Identify first work day of each week.
 - 3. Scale and spacing: Sufficient to allow space for notations and future revisions.
- B. Format of listings: Chronological order of start of each item of work.
- C. Identification of listings: By major Specification section numbers.

1.03 CONTENT OF SCHEDULES:

- A. Construction Schedule:
 - 1. Show complete sequence of construction by activity.
 - 2. Show dates for beginning and completion of each major element of construction. Specifically, list:
 - a. Site clearing/demolition.
 - b. Site utilities.
 - c. Subcontractor work.
 - d. Equipment installation.
 - e. Finishing.
 - 3. Show projected percentage of completion for each item, as of first day of each month.
- B. Submittals Schedule for Shop Drawings, Product Data and Samples.
 - 1. Show:
 - a. Dates for Contractor's submittals.
 - b. Dates reviewed submittals will be required from Engineer.

1.04 PROGRESS REVISIONS:

- A. Indicate progress of each activity to date of submission.

- B. Show changes occurring since previous submission of schedule:
 - 1. Major changes in scope.
 - 2. Activities modified since previous submission.
 - 3. Revised projections of progress and completion.
 - 4. Other identifiable changes.

- C. Provide narrative report as needed to define:
 - 1. Problem areas, anticipated delays, and impact on schedule.
 - 2. Corrective action recommended, and its effect.
 - 3. Effect of changes on schedules of other contractors.

1.05 SUBMISSIONS:

- A. Submit initial schedules within 10 days after award of Contract.
 - 1. Engineer will review schedules and return review copy within 10 days after receipt.
 - 2. If required, resubmit within 5 days after return of review copy.

- B. Submit revised schedules with each application for payment.

- C. Submit number of opaque reproductions which Contractor requires, plus two copies which will be retained by Engineer.
 - 1. As an option: Submit one reproducible transparency and one opaque reproduction.

1.06 DISTRIBUTION:

- A. Distribute copies of reviewed schedules to:
 - 1. Job site file.
 - 2. Subcontractors.
 - 3. Other concerned parties.

- B. Instruct recipients to report promptly to Contractor, **in writing**, any problems anticipated by projections shown in schedules.

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

1.00 GENERAL

1.01 REQUIREMENTS:

- A. Testing laboratory services for asphalt, concrete and soil compaction tests will be provided by the contractor's laboratory at no expense the Owner. Contractor is to coordinate with the Owners Representative for approval of the testing lab.

1.02 RELATED REQUIREMENTS:

- A. Conditions of the Contract: Inspection and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities.
- B. Respective sections of specifications: Certification of products.

1.03 QUALIFICATION OF LABORATORY:

- A. Meet "Recommended Requirements for Independent Laboratory Qualification", published by American Council of Independent Laboratories.
- B. Meet basic requirements of ASTM E329-77, "Recommended Practice for Inspection and Testing Agencies for Concrete, Steel and Bituminous Materials as Used in Construction".
- C. Authorized to operate in State in which Project is located.
- D. Submit copy of report of inspection of facilities made by Materials Reference Laboratory of National Bureau of Standards during most recent tour of inspection, with memorandum of remedies of and deficiencies reported by inspection.
- E. Testing equipment, calibrated at reasonable intervals by devices of accuracy traceable to either:
 - 1. National Bureau of Standards.
 - 2. Accepted values of natural physical constants.

1.04 LABORATORY DUTIES:

- A. Cooperate with Owners Representative and Contractor; provide qualified personnel after due notice.
- B. Promptly notify Owners Representative and Contractor of observed irregularities or deficiencies of work or products.
- C. Promptly submit written report of each test and inspection; one copy each to Owners Representative, Owner, Contractor, and one copy to Record Documents File. Each report shall include:
 - 1. Date issued.

2. Project title and number.
 3. Testing laboratory name, address and telephone number.
 4. Name and signature of laboratory inspector.
 5. Date and time of sampling or inspection.
 6. Record of temperature and weather conditions.
 7. Date of test.
 8. Identification of product and specification section.
 9. Location of sample or test in Project.
 10. Type of inspection or test.
 11. Results of tests and compliance with Contract Documents.
 12. Interpretation of test results, when requested by Owners Representative.
- D. Perform additional tests as required by Owner Representative.

1.05 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY:

- A. Laboratory is not authorized to:
1. Release, revoke, alter or enlarge on requirements of Contract Documents.
 2. Approve or accept any portion of the Work.
 3. Perform any duties of the Contractor.

1.06 CONTRACTOR'S RESPONSIBILITIES:

- A. Cooperate with laboratory personnel, provide access to Work, to Manufacturer's operations.
- B. Secure and deliver to the laboratory adequate quantities of representational samples of materials proposed to be used and which require testing.
- C. Provide to the laboratory the preliminary design mix proposed to be used for concrete, and other materials mixes which require control by the testing laboratory.
- D. Furnish copies of Products test reports as required.
- E. Furnish incidental labor and facilities:
1. To provide access to Work to be tested.
 2. To obtain and handle samples at the Project site or at the source of the product to be tested.
 3. To facilitate inspections and tests.
 4. For storage and curing of test samples.
- F. Notify laboratory sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests. When tests or inspections cannot be performed after such notice, reimburse Owner for laboratory personnel and travel expenses incurred due to Contractor's negligence.
- G. Make arrangements with laboratory and pay for additional samples and tests required for Contractor's convenience or negligence.

END OF SECTION

SECTION 01700

CONTRACT CLOSEOUT

1.00 GENERAL

1.01 SUMMARY:

- A. Definitions: Closeout is hereby defined to include general requirements near end of Contract Time, in preparation for Final Acceptance, Final Payment, normal termination of contract, occupancy by Owner and similar actions evidencing completion of the work. Specific requirements for individual units of work are specified in sections of Division 2 through 16. Time of closeout is directly related to Substantial Completion, and therefore may be either a single time period for entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation, if any, shall be applicable to other provisions of this Section.

1.02 PREREQUISITES TO SUBSTANTIAL COMPLETION:

- A. General: Prior to requesting inspection for certification of substantial completion (for either entire work or portions thereof), complete the following and list known exceptions in request:
1. In progress payment request, coincident with or first following date claimed, show either 100% completion for portion or work claimed as "substantially complete", or list incomplete items, value of incomplete items, and reasons for being incomplete.
 2. Include supporting documentation for completion as indicated in these Contract Documents.
 3. Submit statement showing accounting of changes to Contract Sum.
 4. Advise Owner of pending insurance change-over requirements.
 5. Submit specific warranties, workmanship/maintenance bonds, maintenance agreements, final certifications and similar documents.
 6. Obtain and submit releases enabling Owner's full and unrestricted use of the work and access to services and utilities, including where required, occupancy permits, operating certificates, and similar releases.
 7. Deliver tools, spare parts, extra stocks of materials, and similar physical items to Owner.
 8. Make final change-over of locks and transmit keys to Owner, and advise Owner's personnel of change-over in security provisions.
 9. Complete start-up testing of systems, and instructions of Owner's operating/maintenance personnel. Discontinue (or change over) and remove from project site temporary facilities and services, along with construction tools and facilities, mock-ups, and similar elements.
 10. Inspection procedures: Upon receipt of Contractor's request Robert and Company will either proceed with inspection or advise Contractor of prerequisites not fulfilled. Following initial inspection, Architect will either prepare certificate of substantial completion, or advise Contractor of work which must be performed prior to issuance of certificate; and repeat inspection when requested and assured that work has been substantially completed. Results of completed inspection will form initial "punch list" for final acceptance.

1.03 PREREQUISITES TO FINAL ACCEPTANCE:

- A. General: Prior to requesting Final Inspection for certification of Final Acceptance and Final Payment, as required by General Conditions, complete the following and list known exceptions, if any, in request:
1. Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit updated final statement, accounting for additional (final) changes to Contract Sum.
 3. Submit certified copy of final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, endorsed and dated by Robert and Company.
 4. Submit final meter readings for utilities, measured record of stored fuel, and similar data as of time of Substantial Completion, or when Owner took possession of and responsibility for corresponding elements of the work.
 5. Submit consent of surety.
 6. Submit final liquidated damages settlement statement, acceptable to the Owner.
 7. Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: Upon receipt of Contractor's notice that the work has been completed, including punch-list items resulting from earlier inspections, and excepting incomplete items delayed because of acceptable circumstances, Owner will reinspect the work. Upon completion of reinspection, Owner will either prepare certificate of final acceptance or advise Contractor of work not completed or obligations not fulfilled as required for final acceptance. If necessary, procedure will be repeated.

1.04 RECORD DOCUMENT SUBMITTALS:

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistant location. Provide access to record documents for Robert and Company's reference during normal working hours.
- B. Record Drawings: Maintain a white-print set (blue-line or black-line) of contract drawings and shop drawings in clean, undamaged condition, with mark-up of actual installations which vary substantially from the work as originally shown. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark-up, record a cross-reference at corresponding location on working drawings. Mark with red erasable pencil and, where feasible, use other colors to distinguish between variations in separate categories of work. Mark-up new information which is recognized to be of importance to Owner, but was for some reason not shown on either contract drawings or shop drawings. Give particular attention to concealed work, which would be difficult to measure and record at a later date. Note related Change Order and/or Addendum numbers where applicable. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on cover of each set. Upon project completion, contractor is to transfer as built changes to a set of reproducible to be supplied by the Owner. Upon completion of mark-up, submit to Robert & Company.
- C. Record Specifications: Maintain one copy of specifications, including Addenda, Change Orders and similar modifications issued in printed form during construction, and mark-up variation* of substance in actual work in comparison with text of specifications and modifications as issued. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned

at a later date by direct observation. Note related record drawing information and product data, where applicable. Upon completion of mark-up, submit to Robert and Company.

- D. Record Product Data: Maintain one copy of each product data submittal, and mark-up significant variations in actual work in comparison with submitted information. Include both variations in product as delivered to site, and variations from manufacturer's instructions and recommendations for installation. Give particular attention to concealed products and portions of the work which cannot otherwise be readily discerned at a later date by direct observation. Note related Change Orders and mark-up of record drawings and specifications. Upon completion of mark-up, submit complete set to Robert and Company.
- E. Record Sample Submittal: Immediately prior to date(s) of Substantial Completion, Robert and Company will meet with Contractor at site, and will determine which, if any, of submitted samples maintained by Contractor during progress of the work are to be transmitted to the Owner for record purposes. Comply with Robert and Company's instructions for packaging, identification marking, and delivery to the Owner's sample storage space.
- F. Miscellaneous Record Submittals: Refer to other sections of these specifications for requirements of miscellaneous record keeping and submittals in connection with actual performance of the work. Immediately prior to date(s) of Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for continued use and reference. Submit to Robert and Company.
- G. Maintenance Manuals: Organize maintenance-and-operating manual information into suitable sets of manageable size and bind into individual binders properly identified and indexed (thumb tabbed). Include emergency instructions, spare parts listing, copies of warranties, wiring diagrams, recommended "turn-around" cycles, inspection procedures, shop drawings, product data, and similar applicable information. Bind each manual of each set in a heavy-duty 2" - 3-ring vinyl-covered binder and include pocket folders for folded sheet information. Mark identification on both front and spine of each binder.

2.00 PRODUCTS

Not Applicable

3.00 EXECUTION

3.01 CLOSEOUT PROCEDURES:

- A. General Operating/Maintenance Instructions: Arrange for each installer of work requiring continuing maintenance or operation, to meet with Owner's personnel, at project site, to provide basic instructions needed for proper operation and maintenance of entire work. Include instructions by manufacturer's representative where installers are not expert in the required procedures. Review maintenance manuals, record documentation, tools, spare parts and materials, lubricants, fuels, identification system, control sequences, hazards, cleaning, and similar procedures and facilities. For operational equipment, demonstrate start-up, shut-down, emergency operations, noise and vibration adjustments, safety, economy/efficiency adjustments, energy effectiveness, and similar operations. Review

maintenance and operations in relation with applicable warranties, agreements to maintain, bonds, and similar continuing commitments.

- B. Keys: Deliver at Date of Substantial Completion. Tag each key to indicate lock which key operates. Mount keys on posts in key cabinet. Identify key cabinet posts with same information as key, as specified in Finish Hardware Section.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

1.00 GENERAL

1.01 SUMMARY:

- A. The work specified in this Section consists of annotating and delivering one record copy of the Project Manual and one record printed copy of full-site Project Drawings. Store each copy in a fire-resistant, lockable cabinet in Contractor's field office, and apart from other documents. Label each record document PROJECT RECORD DOCUMENT in either rubber-stamped or in neatly hand-printed letters approximately one-inch high. As drawing revisions are issued, annotate new revision with all information depicted on old drawing and insert current drawing in set to replace old drawing. Allow Engineer and/or Owner's Representative to inspect Project Record Documents during normal business hours.

1.02 RECORDING:

- A. Record information legibly, and concurrently with construction progress. Do not conceal work until required information has been recorded.
- B. Marking devices shall be felt-tip pens, except that device for marking books and calculations shall be ink ball-point pens. Mark changes accepted by Engineer, but not otherwise shown by updated issue of Project Manual and Project Drawings, in green. Mark deviations necessitated by field adjustments not necessitating change orders in red.
- C. Mark Project Manual to show names of manufacturers, trade names, model number, and style numbers of installed products.
- D. Mark Project Drawings to show true locations, elevations, and dimensions of underground and concealed structures, utilities, casings, abandoned cut-off piles, abandoned tie-backs, unforeseen subsurface obstructions, and appurtenances insofar as those locations, elevations, and dimensions may vary from those indicated. Reference locations and elevations to permanent surface features. Show distance from sewer service connections to downstream manhole.
- E. Mark Project Manual and Project Drawings to show "as-built" conditions which deviate from updated issues of those documents.
- F. Record "as-built" survey data in separate field books.

1.03 SUBMITTALS:

- A. Before Project close-out, deliver Project Record Documents to Engineer.
- B. Accompany delivery with transmittal letter, in duplicate, indicating date, Project title and number, Contractor's name and address, title of each Project Record Document, and signature of Contractor or his authorized representative.

END OF SECTION

SECTION 01740

WARRANTIES AND BONDS

1.00 GENERAL

1.01 SUMMARY:

- A. Requirements:
 - 1. Compile specified warranties and bonds.
 - 2. Compile specified service and maintenance contracts.
 - 3. Co-execute submittals when so specified.
 - 4. Review submittals to verify compliance with Contract Documents.
 - 5. Submit to Owners Representative for review and transmit to Owner.

- B. Related Sections:
 - 1. Instructions to Bidders: Bid or Proposal Bonds.
 - 2. Conditions of the Contract: Performance Bond and Labor and Material Payment Bond.
 - 3. Supplementary Conditions: Maintenance Bonds.
 - 4. Conditions of the Contract: General Warranty of Construction.
 - 5. Section 01700: Contract Closeout.
 - 6. Each respective section of Specifications: Warranties and Bonds Required for Specific Products.
 - 7. Respective section of specifications which specifies product: Provisions of Warranties and Bonds, Duration.

1.02 SUBMITTAL REQUIREMENTS:

- A. Assemble warranties, bonds, and service and maintenance contracts, executed by each of the respective manufacturers, suppliers, and subcontractors.

- B. Number of original signed copies required: Two each.

- C. Table of Contents: Neatly typed, in orderly sequence. Provide complete information for each item.
 - 1. Product or work item.
 - 2. Firm, with name of principal, address and telephone number.
 - 3. Scope.
 - 4. Date of beginning of warranty, bond or service maintenance contract.
 - 5. Duration of warranty, bond or service maintenance contract.
 - 6. Provide information for Owner's personnel:
 - a. Proper procedure in case of failure.
 - b. Instances which might affect the validity of warranty or bond.
 - 7. Contractor, name of responsible principal, address and telephone number.

1.03 FORM OF SUBMITTALS:

- A. Prepare in duplicate packets.
- B. Format:
 - 1. Size 8-1/2" by 11", punch sheets for standard three-ring binder. Fold larger sheets to fit into binders.
 - 2. Cover: Identify each packet with typed or printed title "**WARRANTIES AND BONDS**". List:
 - a. Title of Project.
 - b. Name of Contractor.
- C. Binders: Commercial quality, three-ring, with durable and cleanable plastic covers.

1.04 TIME OF SUBMITTALS:

- A. Make submittals within ten days after Date of Substantial Completion, prior to final request for payment.
- B. Items of work, where acceptance is delayed materially beyond Date of Substantial Completion: Provide updated submittal within ten days after acceptance, listing date of acceptance as start of warranty period.

END OF SECTION

SECTION 01741

CONTRACTOR WARRANTY FORM

PROJECT: _____

LOCATION: _____

OWNER: _____

We _____ Contractor for the above
(Company Name)

referenced _____ Project, do hereby warranty that all labor and materials
furnished and work performed are in accord with the Contract

Documents and authorized modifications thereto and will be free from defects due to defective
materials or workmanship for a period of one year from Date of Substantial Completion. This

Warranty commences on _____ and expires on _____

Should any defect develop during the Warranty period due to improper materials, workmanship or
arrangement, the same shall, upon written notice by the Owner, be made good by the undersigned
at no expense to the Owner.

Nothing in the above shall be deemed to apply to Work which has been abused or neglected by the
Owner.

DATE: _____

FOR: _____

BY: _____

TITLE: _____

DATE: _____

SECTION 01742

SUBCONTRACTOR WARRANTY FORM

PROJECT: _____

LOCATION: _____

OWNER: _____

GENERAL CONTRACTOR: _____

We _____ Subcontractor for _____, as
(Company Name)

described _____
(List trade)

in Specification Section(s) _____ do hereby warrant
(List appropriate spec sections)

that all labor and materials furnished and Work performed in conjunction with the above
referenced Project are in accord with the Contract Documents and authorized modifications
thereto, and will be free from defects due to defective materials or workmanship for a period of
_____ year(s) from Date of Substantial Completion.

This warranty commences on _____ and expires on _____
(Date of Sub. Camp.) (Expiration Date)

Should any defect develop during the warranty period due to improper materials, workmanship,
or arrangement, the same shall, upon written notice by the Owner, be made good by the
undersigned at no expense to the Owner.

Nothing in the above shall be deemed to apply to Work which has been abused or neglected by
the Owner.

DATE: _____

FOR _____

BY _____ TITLE: _

_ DATE: _____

SECTION 02000

SITWORK GENERAL PROVISIONS

1.00 GENERAL

1.01 SUMMARY:

A. Definitions:

1. Unsuitable Material: Natural soils having physical properties, because of organic content, plasticity, excessive moisture content or other characteristics which cannot be readily upgraded by draining, manipulation, blending with select earth materials, or densification to provide required structural support values are designated as unsuitable material.

1.02 JOB CONDITIONS:

- A. Soils conditions: Site Topography and topographic maps, soil reports, and other topographic or soil data indicated in Contract Documents are for information and neither Robert and Company nor Owner is responsible for their accuracy, completeness, or usefulness and meaning. Contractor shall make such additional investigations as required to acquaint himself adequately with site topography and subsurface soil condition for preparation of his bid and for successful execution of the Work.
- B. Existing conditions: Investigate site to determine necessary data to bid Project and perform Work required under Contract Documents. Investigation may include, but not be limited to, site visits, soil borings, chemical and physical tests, and research of public and private records.
- C. Protection of monuments, landscape features, Work and structures:
 1. Monuments: Prevent destruction of all survey monuments, benchmarks, property corners and all other survey points. Where removal of such points is necessary for accomplishment of Work, inform Owners Representative in writing, prior to disturbance of any point; do not disturb point until written permission has been issued by Owners Representative. Permanent reference points whose removal is allowed prior to their disturbance. Furnish clear notes and sketches of all reference points to the Owner; all affected property owners, government bodies, or utility companies.
 2. Landscapes: Protect from damage trees, shrubs, grass or other growth designated to remain in place, or outside of limits of work, during accomplishment of Work. Repair growth damaged as directed, at no cost to Owner. Regrade to original shape embankments, cut slopes, ditches, or other surfaces disturbed by Contractor and replace grass in kind, at no additional cost to Owner.
 3. Structures: Protect structures outside of limits of Work or designated to remain in place during progress of Work. Repair or restore any structure damaged in any manner to its original condition, at no cost to Owner. Replace in kind sidewalks, curbs, concrete, or asphaltic pavement in accord with applicable section of specifications or as directed by Owners Representative.
 4. Protection of Work: Contractor shall be solely responsible for Work of other contractors in area and protection of his Work. Such grading as is necessary to prevent damage to Work by water shall be solely the responsibility of Contractor and will be at no additional cost to Owner.

D. Work within easements:

1. All Work on private or public property not owned by Owner shall be within limits of permanent or construction easements obtained by Owner. Coordinate with Owner to determine which easements have been acquired: ensure that all Work, materials and equipment do not encroach beyond limits of easements.

1.03 QUALITY ASSURANCE:

A. Applicable Standards:

1. General: Current editions or revisions of following standards shall apply unless otherwise noted. Modifications to standards will be noted within Project Manual and will be noted as revisions to standards. Unaffected portions of standard remain intact.
2. Comparable standard specifications for American Society for Testing and Materials (ASTM), and American Association of State Highway Officials (AASHTO), are listed below. Where only one specification number is shown, standard for that society shall apply.

ASTM AASHTO TITLE

A 36 Structural Steel
 A 47 Malleable Iron Castings
 A 48 Gray Iron Casting
 A 74 Cast Iron Soil Pipe and Fitting
 A 120 Specification for Black and Hot-Dipped Zinc-Coated (Galvanized), Welded, and Seamless Steel Pipe for Ordinary Use
 A 121 Galvanized Steel Barbed Wire
 A 123 Hot-Dipped Galvanized Structural Steel
 A 392 Zinc-Coated Steel Chain-Link Fence Fabric
 C 5 Quicklime for Structural Purposes
 C 206 Normal Finishing Hydrated Lime
 C 32M 91 Sewer Brick (Made from Clay or Shale) C
 144 M 45 Aggregate for Masonry Mortar
 C 150 Portland Cement, Type II
 M 145 Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes
 C 478 M 199 Precast Reinforced Concrete Manhole Sections
 D 564 Rubber Gaskets for Cast Iron Soil Pipe
 D 698 Moisture-Density Relations of Soils Using 5.5 Pound Rammer and Twelve Inch Drop (Standard Proctor)
 D 1556 Density of Soil in Place by the Sand Cone Method
 D 1557 Moisture-Density Relations of Soils Using 10.0 Pound Rammer and Eighteen Inch Drop (Modified Proctor)
 D 2167 Density of Soil in Place by the Rubber Balloon Method

3. Comparable standards for American Water Works Association (AWWA), and American National Standards Institute (ANSI), are listed below. Where only one specification number is shown, standard for that society shall apply.

AWWA ANSI TITLE

C 101 A 21.1 Thickness Design of Cast Iron Pipe
 C 104 A 21.4 Cement-mortar Lining for Cast Iron and Ductile-Iron Pipe and Fittings for Water
 C 106 A 21.6 Cast Iron Pipe Centrifugally Cast in Metal Molds, for Water or Other Liquids
 C 108 A 21.8 Cast Iron Pipe Centrifugally Cast in Sand-lined Molds, for Water or Other Liquids

- C 110 A 21.10 Gray *Iron* and Ductile *Iron* Fittings, 2" through 48" for Water and Other Liquids
- C 111 A 21.11 Rubber-Gasket Joints for Cast Iron and Ductile Iron Pressure Pipe and Fittings
- C 500 Gate Valves for Ordinary Water Works Service
- C 502 Standard for Fire Hydrants for Ordinary Water Works Service
- C 600 Installation of Cast Iron Water Mains
- C 601 Disinfecting Water Mains

4. Federal Specifications.

- WW-P-406b Pipe, Steel (Seamless and Welded) (For Ordinary Use)
- WW-P-521e Pipe Fittings, Flange Fittings and Flanges, Ferrous and Steel, (Screwed and Butt-Welded), 150 Pound
- WW-U-531c Union, Pipe Steel or Malleable Iron; Threaded Connection
- WW-V-54c Valve, Gate, Bronze, (125, 150 and 200 Pound), Screwed, Flanged, Solder-End, (For Land Use)

5. Georgia Department of Transportation (DOT) Standard Specifications for Construction of Roads and Bridges, current edition.

2.00 PRODUCTS

2.01 EQUIPMENT:

- A. Choice of equipment to perform required operations in accord with Contract Documents shall be responsibility of Contractor. Any equipment that results in waste or damage of material, inaccurate work, or is otherwise objectionable shall be promptly replaced as directed by Owners Representative.
- B. When Contractor performs any type of operation after daylight hours, he shall provide and maintain at his expense sufficient artificial lighting to permit proper construction, safety, observations, and inspection. If in opinion of Robert and Company, lighting is insufficient for construction, inspection, safety, or observation, Contractor shall provide additional lighting as directed by Owners Representative.

3.00 EXECUTION

3.01 FIELD ENGINEERING:

- A. Contractor shall be solely responsible for all field engineering required for construction, furnishing all lines, grades, and control points necessary for construction, and starting from control points and elevations furnished.

3.02 FIELD DRAWINGS:

- A. If changes to design drawings are required due to field conditions and are approved by Owners Representative, records of changes shall be kept and turned into Owners Representative before submitting final request for payment. Field drawing must show change to size, location, and elevations and shall be approved by Owners Representative before approval of Final Payment.

3.03 SPECIAL SAFETY REQUIREMENTS:

- A. Comply with all Federal, State, and Local Safety Codes and Regulations at all times; be responsible for educating supervisors and employees of the safety requirements and practices to be followed during course of Work:

1. Barricade any open excavations and install adequate warning lights. Install and maintain temporary bridges to maintain traffic and accessibility of facilities in area of Work during excavation operations. Provide flagmen as required for safety.
2. Access: Provide safe access to bottom trenches or excavations.
3. Side Slopes: Sides of excavations and trench walls shall be sloped, benched, sheeted and shored to maintain stability of wall or sides. Pile materials obtained from excavation minimum of four feet from edge of excavation. Roads, streets, railroad tracks and traveled ways shall be kept clear of excavation material at all times. It is Contractor's responsibility to ensure stability of trench and excavation walls for safety of personnel and Work.
4. Working Conditions: Nothing contained shall be construed to relieve Contractor of his responsibility to provide and maintain safe and clean working conditions for his employees and others in area of his Work.

3.04 CLEAN-UP:

- A. Keep area in which he is working free of debris, trash, garbage, and other offensive waste material; keep all construction materials such as, but not limited to, sheeting, shoring, form work, pipes, and reinforcing steel, stockpiled in a neat, orderly manner at areas designated, until ready for use on site. Walkways, passages, traveled ways, railroad tracks adjacent to area of work shall be kept clean and open to vehicular and pedestrian traffic during construction.

Owners Representative may advise Owner to withhold payment of any funds due Contractor under following specifications, if in opinion of the Owners Representative, Contractor has not maintained work area covered by his contract. Such funds, less any retainage or other sums due Contractor or others, shall be paid by Owner when required clean-up has been completed.

END OF SECTION

SECTION 02010

SUBSURFACE INVESTIGATION

1.00 GENERAL

1.01 SUMMARY:

- A. If a Bidder wishes to conduct independent investigations of subsurface conditions, he must first obtain a permit to do so from the City. The Bidder must neither trespass, nor conduct investigations of subsurface conditions, on private property without written and signed consent to do so from the owner of the private property. The Bidder must neither interfere with, nor create hazardous conditions during, the use and occupancy of public property and private property, and MUST restore areas damaged, as a result of his investigations, to essentially the conditions which existed before the investigations were started. Costs of conducting independent investigations of subsurface conditions must be borne by the Bidder conducting those investigations, and will be reimbursed by neither the Owner nor the Engineer.

END OF SECTION

SECTION 02050

DEMOLITION

1.00 GENERAL

1.01 WORK INCLUDED

- A. Furnishing all material, labor, tools, equipment, plant, appliances and services necessary to complete all demolition and relocation work required in the Drawings and specified herein. The Contractor shall examine the various Drawings, visit the site and determine for himself the extent of the work, the extent of work affected therein and all conditions under which he is required to perform the various operations.
- B. Existing site structures and appurtenances affected herein are indicated generally on the Demolition Plan and Layout Plans.

1.02 RELATED WORK

- A. The Contractor shall coordinate the work of this section with related work specified under these specifications.

1.03 QUALITY ASSURANCE

- A. Permits and Licenses: Contractor shall obtain all necessary permits and licenses for performing the work and shall furnish as copy of same to the Owner prior to commencing the work. The Contractor shall comply with the requirements of the permits.
- B. Notices: Contractor shall issue written notices of planned demolition to companies or local authorities owning utility conduit, wires or pipes running to or through the project site. Copies of said notices shall be submitted to the Owner.
- C. Utility Services: Contractor shall notify utility companies or local authorities furnishing gas, water, electrical, telephone or sewer service to remove any equipment owned by them in structures to be demolished and to remove, disconnect, cap or plug their services to facilitate demolition.

1.04 JOB CONDITIONS

- A. Sequence of Construction: Demolition, removal and relocation work shall be coordinated with the Owner and an agreed upon sequence of construction to minimize down time at the site.

1.05 DISPOSITION OF DEMOLISHED MATERIALS

- A. Salvaged materials designated as property of the Owner shall be stored in areas designated by the Owner. The Contractor shall promptly and legally remove and discard all other materials from the site.

2.00 PRODUCTS

This section is not applicable.

3.00 EXECUTION

3.01 PREPARATION

A. Salvage:

1. Material to be salvaged shall be removed with the minimum amount of damage and stored on the site as directed by the Owners Representative. Material stacked on the ground shall be placed on blocks, and all stored material shall be stacked and placed in an orderly manner. Salvaged equipment and materials which can be damaged by the weather shall be stored in a weather-tight building or area on site until removed by the Contractor. Any salvaged items that are determined to be of no value to the Owner after removal and Owner's inspection shall be removed from the site by the Contractor.
2. Repair or replace, at no cost to the Owner, salvaged items which are damaged during removal by Contractor's operations, as required to match and equal construction, condition and finish existing at time of award of contract.

3.02 PERFORMANCE

- A. General: Demolition shall result in the complete removal and disposal of existing structures and appurtenances from the site as indicated on Drawings, the salvaging of indicated items and the cleanup after completion of the demolition work.
- B. Remove and demolish materials in a legal, orderly and careful manner.
- C. Use of explosives will not be permitted without the written approval of the Owners Representative and then only after the contractor has obtained the proper permits and approvals required by the local governing authority.
- D. If deviation from demolition drawings is deemed necessary by the Contract, the Contractor should submit details and reasons for the deviation to the Owners Representative for action. The Contractor shall not make said deviations without prior written approval.

3.03 CLEANUP

- A. Site shall be left in a clean condition satisfactory to the Owner, free from demolished materials, rubbish or debris. Site shall be graded to meet adjacent contours and provide flow for surface drainage.
- B. The Contractor shall restore items intended to remain that have been damaged by demolition work.
- C. All interrupted utility services shall be returned to their preexisting state and disconnect temporary services, unless otherwise specified.

- D. No burning or bury materials on site will be approved.
- E. Contractor is to inspect erosion control devices and replace where necessary to insure proper control of erosion and sedimentation.

3.04 EXISTING STRUCTURES TO BE ABANDONED

- A. Existing drainage structures to be abandoned shall be completely removed and backfilled with appropriate material (per City requirements). All line openings shall be plugged.
- B. Structure grates or tops shall be legally removed and discarded.

END OF SECTION

SECTION 02200

EARTHWORK

1.00 GENERAL

1.01 SUMMARY:

- A. Work described in this section includes excavating, filling and grading as indicated or required, trench excavation and finish grading in preparation for landscaping and grassing.
- B. Definitions:
 - 1. Subgrade: Is lowest elevation of excavation required to accommodate indicated construction.
 - 2. Satisfactory soil material: clean subsoil, free from debris, roots, topsoil, frozen material and rock larger than 1/2 cu. ft. Fill material shall be tested and approved by Testing Agency for degree of compaction required by its intended use.
 - 3. Unsuitable soil materials: Soil materials not capable of being compacted to density required, mass or trench rock material, debris and organic material.
 - 4. Mass rock: Material more than one cu. yd. in original volume and cannot be excavated with a single-toothed ripper drawn by equivalent of a Caterpillar D8K crawler tractor having a minimum draw bar pull of 56,000 lbs. or by equivalent of a Caterpillar 977 front end loader.
 - 5. Trench rock: Material more than 1/2 cu. yd. in original volume and cannot be excavated by equivalent of a Caterpillar 215 backhoe having a bucket curling force of 18,300 lbs.
 - 6. Muck: Wet organic material which will not support a light crawler tractor and requires removal by power shovels or draglines.

1.02 SUBMITTALS:

- A. Excavation bracing drawings and calculations: Submit for shoring and bracing systems proposed for use. Indicate system materials, sequence of installation and removal, complete design calculations and other pertinent data. Drawings and calculations shall bear the seal of a professional engineer registered in the State of Georgia. Cost of excavation bracing design shall be borne by Contractor. No review will be made of this submittal by Engineer. Submittal will remain as part of permanent files.

1.03 JOB CONDITIONS:

- A. Verify existing grades and lay out grade stakes for building and appurtenances. If existing grades are at variance with drawings, notify Robert and Company and receive instructions prior to proceeding.
- B. Protection:
 - 1. Protect benchmarks and monuments; if disturbed or destroyed, replace in original position.
 - 2. Protect existing facilities and adjacent property. Prevent ponding or washing of water on site, on adjacent property or downstream. Erect straw bale barricades and retention pond as indicated.

3. Protect areas outside limits of construction from encroachment by construction personnel or equipment, regardless of property ownership. Access shall be by specific, written permission or easement only.
 4. Protect active utilities and remove or relocate as shown on the drawings. Remove or relocate active utilities encountered but not shown on drawings in accord with Robert and Company's written instructions and Contract Sum will be adjusted in accord with Contract Conditions.
 5. Plug or cap inactive utilities encountered, not less than 5'-0" outside building lines.
 6. Identify and protect utilities for duration of Project.
 7. Analyze fill material, forward recommendations and reports to Robert and Company, including:
 - a. Indications of source of material.
 - b. Soil classification.
 - c. Grain size distribution.
 - d. Liquid limit.
 - e. Plastic limit.
 - f. Plasticity index.
 - g. Moisture-density curve.
 - h. Other pertinent data, and a statement of compliance with structural requirements.
- C. Items of historic or archaeological value discovered during earthwork operations shall remain property of Owner.

1.04 TESTING:

- A. Soil testing shall be performed by an independent Testing Agency selected and paid by the Contractor and acceptable to Robert and Company.
- B. Testing Agency shall perform the following testing:
 1. Compaction tests in accord with ASTM 0698, Standard Proctor method and ASTM 01557, Modified Proctor method.
 2. Inspection and testing subgrades and proposed fill materials.
 3. Examination of foundation excavations to determine if required soil bearing has been achieved.
 4. Measurement if unsuitable soil materials to be removed, where classified excavation is indicated.
 5. Inspection of excavation bracing system, including furnishing, installing, and monitoring slope indicator devices and settlement gauges.
 6. Analyze fill material, forward recommendations and reports to Robert and Company, including:
 - a. Indications of source of material.
 - b. Soil classification.
 - c. Grain size distribution.
 - d. Liquid limit.
 - e. Plastic limit.
 - f. Plasticity index.
 - g. Moisture-density curve.
 - h. Other pertinent data, and a statement of compliance with structural requirements.

1.05 QUALITY ASSURANCE:

- A. Applicable standards: Standards of the American Society for Testing and Materials (ASTM), as referenced.

2.00 PRODUCTS

2.01 MATERIALS:

- A. Porous fill: Crushed stone or gravel meeting ASTM C33, size 57.
- B. Compacted structural fill: Gravel, crushed gravel or crushed stone, in accord with ASTM C33, for coarse aggregate, meeting the following gradation and compacted to 95% Standard Proctor:
 - 3/4" Sieve: 50-to-100% passing.
 - No. 10 Sieve: 10-to 35% passing.
 - No. 100 Sieve: 1-to-10% passing.
- C. Foundation drainage piping: 4" diameter corrugated, perforated plastic pipe, complete with fittings and couplings as required.

3.00 EXECUTION

3.01 EXCESS, UNSUITABLE, AND INSUFFICIENT MATERIALS:

- A. Remove excess and unsuitable materials from project site. Dispose of materials off Owner's property.
- B. Provide satisfactory fill material in areas where existing materials are insufficient or unsuitable for earthwork operations.

3.02 EXCAVATION:

- A. Excavation shall be on an unclassified basis, including all materials encountered, at no additional cost to Owner. Excavation shall include that to establish grades indicated on drawings and for utilities, structures and appurtenances.
- B. Contractor shall assume responsibility for design and construction of excavation shoring and bracing capable of supporting excavations and construction loads. Materials and methods selected shall be Contractor's option.
- C. Base Proposal and Contract Price on 100% earth excavation with assumed quantities of stabilization material and structural backfill below foundations reflected in Proposal.
 - 1. Extra compensation will be allowed, at unit price stated in Proposal, for removal of unsuitable material and replacement with compacted backfill below bottom of foundations only. No extra compensation will be allowed for removal of material above bottom of foundations or for removal of rock or hard material.
 - 2. It shall be Contractor's responsibility to determine methods required for removal of rock or hard material, if encountered, and to obtain Robert and Company's approval of such methods prior to doing Work.

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Earthwork

- D. Excavate to lines and levels indicated. Provide space for foundation work and inspection. Cut excavations clean with level bottoms. Where changes in levels occur, provide vertical steps in horizontal runs.
- E. If soil conditions permit, cut footing trenches to exact size of footing and omit forms. Notify Robert and Company if earth of doubtful bearing is encountered. If adequate bearing is not encountered within 8" of depth shown, excavations shall be carried deeper upon Robert and Company's written authorization and paid for as additional work in accord with Contract Conditions.
- F. Excavate to neat size of concrete bottom surfaces and, where soil conditions permit, for sides of footings. Otherwise, excavate with sufficient clearance to permit forming, inspection and completion of Work.
- G. If excavations are by error carried deeper than shown, additional depth shall be filled with concrete of class specified for foundations at no additional cost.
- H. Protect excavations against cave-ins, ponding and freezing. Provide bracing, shoring and sheeting to contain excavations. Slope embankments over 5'-0" in height at 45-degree angle away from excavation, or shore. When freezing can be anticipated prior to placing of concrete, protect excavations or delay carrying excavations to full depth until the concrete can be placed.
- I. Maintain excavations including utility trenches free of surface water. Provide pumps and wellpoints if required to drain excavations. Provide and maintain temporary drainage ditches, as required.
- J. Notify Testing Lab when footing excavations are complete. Testing Lab shall verify bearing capacity as determined by the Soils Engineer just prior to placement of footings.
- K. Test soil bearing values of all areas beneath structures. Test shall be by penetrometer, rodding, rolling, or other approved methods conducted by Testing Laboratory.
- L. Trench excavation: Excavate trenches to a maximum width equal to pipe diameter plus 2'-0" for pipe 2'-6" diameter and smaller; 2'-6" for pipe exceeding 2'-6" diameter. Do not over-excavate. If specified trench widths are exceeded, Robert and Company may require installation of stronger pipe or special installation procedures at no additional cost.

3.03 FILL AND BACKFILL:

- A. Provide satisfactory soil material to perform earthwork operations indicated, included filling and backfilling to bring grade to elevations indicated. Additional fill material required as a result of existing unsuitable soil material will be paid for as additional Work in accord with Contract Conditions.
- B. Preparation of surfaces to receive fill:
 - 1. Remove vegetation, unsuitable soil materials, obstructions and deleterious materials from ground surface prior to placement of fills. Break up sloped surfaces steeper than one vertical to four horizontals so that fill material will bond with existing surface.

2. Proof roll areas to receive fill, foundations, pavements, and building slabs with fully loaded 20-ton dump truck or its equivalent. Make two complete coverages of areas in each of two perpendicular passes. Areas which exhibit "pumping" during proof rolling shall be undercut and replaced with selected fill materials compacted in accord with Standard Fill requirements of this section. Perform proof rolling under observation of testing agency.
 3. When existing ground surface has density less than specified for particular area classification, break up ground surface, pulverize, moisture condition to optimum moisture content, and compact to required depth and percentage of maximum density; or undercut to firm soil and replace with properly compacted structural fill.
- C. Placement and compaction: Place fill materials in layers not more than 6" in loose depth. Place no rocks exceeding 3" diameter in top 1'-0" of fill. Before compaction, moisten or aerate each layer to provide the "optimum moisture content. Compact each layer to specified percentage of maximum density for area classification. Place no backfill or fill material on surfaces that are muddy, frozen or contain frost or ice. Perform placement under observation of testing agency.
- D. Bed pipe in trenches on continuous soil foundation shaped to lowest one-fourth of pipe profile. Form depressions for hubs and similar joints only in sizes as required for making joints.
- E. Backfill against pipe in layers of not more than 6" loose depth. Place backfill evenly along both sides of pipe to level of top of piping. Compact each layer with power tampers. Place no rock exceeding 3" diameter in first 1'-0" of fill directly over top of piping.
- F. Backfill excavations promptly, but not prior to completion of the following:
1. Engineer's acceptance of below grade construction, including waterproofing.
 2. Inspecting, testing and recording locations of underground utilities.
 3. Removal of concrete formwork.
 4. Removal of shoring and bracing and backfilling of voids.
 5. Removal of debris from excavations.
 6. Permanent or temporary horizontal bracing for unsupported walls.
- G. Place backfill against below grade walls in uniform lifts to prevent wedging action. Place no backfill until slabs on grade and framed floors lending lateral bracing to such construction is in place and until concrete has developed design compressive strength.
- H. Place porous fill layer in indicated thickness underneath slabs on grade.

3.04 GRADING AND FILLING AROUND TREES:

- A. Maintain existing grade within drip line of trees unless otherwise shown.
- B. Lowering grades: Where existing grade is above new finish grade shown around trees, hand excavate within drip line to new grade. Cut exposed roots approximately 3" below elevation of new finish grade. Engage a tree surgeon to recommend procedures for pruning of branches and stimulation of root growth. Provide subsequent maintenance during the contract period as recommended and furnish tree surgeon's long-range maintenance procedures to be followed after completion of construction operations.
- C. Raising grades:
1. Minor fills: Where existing grade is 6" or less below elevation of finish grade shown, fill with topsoil. Place in single layer and do not compact.

2. Moderate fills: Where existing grade is more than 6" but less than 1'-0" below elevation of finish grade shown, place a layer of drainage fill on existing grade prior to placing of topsoil. Place fill against trunk of tree to an elevation of approximately 2" above finish grade, extending not less than 1'-6" from tree trunk on all sides. For balance of area within drip line perimeter, place drainage fill to an elevation 6" below finish grade and complete fill with a 6" layer of topsoil. Do not compact stone or topsoil layers.
3. Deep fills: Where existing grade is 1'-0" or more below elevation of finish grade shown, provide retaining walls, drainage fill, topsoil, vents and drainage lines as indicated.

3.05 **COMPACTION:**

- A. Perform compaction of soil materials for fills using mechanical soil compaction equipment for type and size materials to be compacted. Hand compact materials in areas inaccessible to machinery and within 5'-0" of below grade walls.
- B. Percentage of maximum density requirements: Provide not less than the following percentages of maximum density of the same soil materials compacted at optimum moisture content, for the actual density of each layer of soil material-in-place.
 1. Structural fill: 98% Modified Proctor for top 1'-0" of fill under building slabs, extending to 10'-0" outside building line and under walks, and pavements, and under and around utility piping.
 2. All other fill: 95% Standard Proctor for top 1'-0" of all other fill material.
- C. Moisture control: Where subgrade or soil layer must be moisture conditioned before compaction, apply water to surface of subgrade or soil layer. Scarify and air-dry soil material that is too wet to permit compaction to specified density.
- D. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread where directed by Robert and Company and permitted to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to satisfactory value, as determined by moisture-density relation tests. When accepted by Robert and Company, soil material may be used in compacted backfill or fill.

3.06 **GRADING:**

- A. Grading areas to lines and elevations indicated, including adjacent transition areas. Smooth finished surface within specified tolerances, compact and bring to uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- B. Finish surfaces shall be free from irregular surface changes, and as follows:
 1. Surfaces under walks and pavements: Shape surface of area under walks to line, grade and cross-section, with finish surface not more than 0.10' above or below required subgrade elevation.
 2. Surface under building slabs and foundations: Grade level, free of voids, compacted as specified, within 1/2" of required elevation. Proof roll in accord with 3.04, 8.2.
 3. Grassed areas: Shape areas to receive topsoil to within 0.10' above or below required subgrade elevation.
- C. Compaction: After grading, compact subgrade surfaces to depth and percentage of maximum density for each area classification.

- D. Grade areas adjacent to building lines to drain away from building and to prevent ponding. Finish grades shall be within 1/2" of indicated elevations.
- E. Where compacted areas are disturbed by construction operations, scarify surface, reshape and re-compact to required density.
- F. Redistribute stockpiled topsoil to uniform depth over graded areas.
- G. Remove excess topsoil and other soil matter and debris from site.
- H. At completion of finish grading operation, site shall be ready for landscaping.
- I. Where finish grading meets or abuts curbs, walks or pavements, uphill grades shall be slightly higher than pavements to permit drainage.
- J. Protection of graded areas: Protect newly graded surfaces from traffic and erosion. Keep free of debris. Where graded or compacted surfaces are damaged by subsequent operations, return to indicated grade and state of compaction.

END OF SECTION

SECTION 02270

SLOPE PROTECTION AND EROSION CONTROL

1.00 GENERAL

1.01 SUMMARY:

- A. Work described in this section includes temporary erosion control during construction and permanent control after construction.
- B. Work shall consist of control measures as indicated on drawings or ordered by the Owner to control water pollution, siltation, and erosion during construction through use of berms, dikes, sediment basins, mulches, grassing, slope drains, and other erosion control devices or methods or as shown on the drawings.
- C. Temporary erosion and pollution control may include construction work outside job boundaries where such work is necessary as a result of construction such as borrow pit operations, haul roads, and storage sites.
- D. Related Sections:
 - 1. Section 02000: Site General Provisions
 - 2. Section 02050: Demolition
 - 3. Section 02400: Site Drainage

1.02 SUBMITTALS:

- A. Schedule of operations: Submit schedule of proposed operations including program for erosion control measures, maintenance of control facilities, and vegetative practices. Show anticipated starting and completion dates for land-disturbing activities including excavation, filling and rough grading, finish grading, construction of temporary and permanent control measures, and disposition of temporary sediment control measures.

1.03 JOB CONDITIONS:

- A. Schedule erosion control construction prior to any major grading or utility installation.
- B. Schedule grading operations to allow paving and permanent erosion control to take place in the same construction season, if possible. Avoid or minimize exposure of soils to winter weather.
- C. Construct and maintain temporary erosion control construction until such time as permanent paving, planting and restoration of natural areas is effective in control of erosion from site. Extent of erosion control construction shall be responsibility of Contractor based on conditions at the Project.
- D. Protect adjacent and downstream properties from siltation resulting from erosion of graded areas.

1.04 QUALITY ASSURANCE:

- A. Applicable standards of the following, as referenced:
 - 1. American Society for Testing and Materials (ASTM).

2. Georgia Seed Laws and Rules and Regulations.
3. Georgia Department of Transportation, "Standard Specification Construction of Transportation Systems," 2021 edition, hereinafter referred to as Georgia DOT Specifications.
4. Manual for Erosion and Sediment Control in Georgia, 2000 edition, published by the Georgia Soil and Water Conservation Commission.

2.00 PRODUCTS

2.01 MATERIALS:

- A. Fertilizer shall be a standard commercial grade acceptable to Robert and Company, bearing manufacturer's statement of analysis and meeting quality requirements of Georgia DOT 891.
- B. Italian Rye (*Lolium Multiflorum*) seed: Fresh, clean seed testing 90% for purity and 70% for germination, 0.5% maximum weed content.
- C. Bermuda (*Cynodon Dactylon*) seed: Fresh, clean, hulled, new seed crop; 90% minimum purity, 70% minimum germination, 1% maximum weed content.
- D. Straw bales: clean bales of straw of hay, wheat, rye, oats, or barley.
- E. Hydro mulch: Wood cellulose fiber containing germination inhibiting or growth inhibiting agents. Characteristics shall be as follows:
 1. Percent moisture content: 9.0% (+ 3.0%).
 2. Percent organic matter: 99.2% ((+ 0.8%).
 3. Percent ash content: 0.8% (++ 0.2%).
 4. Ph: 4.8 (+ 0.5).
 5. Water holding capacity: 1150 grams water/100 grams fiber, minimum.
- F. Mulch: Clean, seed free straw of hay, wheat, rye, oats or barley in accord with Georgia DOT 893.2.02.
- G. Asphalt emulsion: Meeting ASTM D977, Grade SS1.
- H. Staking pegs: 3/4" diameter by 8" long softwood.
- I. Water: Clean, potable.
- J. Coarse aggregate: Meeting Georgia DOT Specifications, Section 800, #57.
- K. Stone rip-rap: Meeting Georgia DOT Specifications, Section 603 for plain rip-rap.

3.00 EXECUTION

3.01 TEMPORARY EROSION CONTROL DEVICES:

- A. Construct temporary sediment barriers at all points where surface water flows from construction area, including entire perimeter of construction area where slope is outward, and at other locations specified.
 1. Construct barriers of staked straw bales choked with coarse aggregate.

2. Arrange barriers to create ponding. Remove accumulated sediments at intervals as required to maintain original ponding capacity.
3. Maintain temporary barriers until permanent erosion control measures are established. Repair and replace barriers damaged or displaced by construction activity.

3.02 EROSION CONTROL DURING GRADING OPERATIONS:

- A. Schedule grading operations to minimize exposure of graded surfaces prior to installation of permanent construction.
- B. Stockpile and compact excavated materials to be reused. Remove excess materials from Project site.
- C. Maintain large areas as flat as possible to minimize run-off. Where slopes of one vertical to four horizontal or steeper are indicated, construct a temporary sediment barrier at top of slope drain. In no case shall surface water be allowed to flow uncontrolled down-graded slopes.
- D. Slope drains: Provide temporary drains to convey surface water down slopes. Provide drains with a top apron to anchor drain and to direct water. Place stone rip-rap at drain outlets in minimum 6" thickness to prevent scour.

3.03 STORM DRAINAGE SYSTEM:

- A. Construct storm drainage system as expediently as possible as a permanent erosion control measure. Surface water may be directed into complete portions of drainage system as soon as practicable.
- B. Maintain temporary sediment barriers around drainage structures until final subgrade preparation is begun to prevent washing of sediment into storm drainage system.
- C. Flush drainage lines between manholes and drainage structures as required during construction and after establishment of permanent erosion control measures to remove collected debris.

3.04 GROUND COVER:

- A. Protect exposed soils having a slope of five percent or greater with ground cover.
- B. Ground cover may consist of any effective erosion preventive treatment such as straw mulch, stone base, plastic sheeting, hydroseeding, or installation of permanent grassing or planting, as applicable.
- C. All grassing or planting operations shall include mulching as stabilization until ground cover by planting is effective.
- D. Apply seed/fertilizer/hydro mulch mixture in water slurry. Dispense using hydraulic mulching equipment in following minimum quantities:
 1. Fertilizer: 1300 lbs. per acre.
 2. Bermuda seed: 70 lbs. per acre.
 3. Hydro mulch: 1200- 1500 lbs. per acre.
- E. Seed only during the period from April 1 to September 1 using Bermuda seed. For grassing during other seasons, substitute Italian Rye seed.

- F. Grassing accomplished by hydroseeding for erosion control will not be an acceptable substitute for permanent grassing as specified in Grassing Section.

3.06 REMOVAL OF TEMPORARY EROSION CONTROL DEVICES:

- A. As soon as permanent erosion control devices are established, Contractor may remove temporary devices, including sediment barriers, berms, slope drains and similar devices.
- B. Remove all debris resulting from temporary erosion from Project site.

END OF SECTION

SECTION 02400

SITE DRAINAGE

1.00 GENERAL

1.01 SUMMARY:

- A. Work described in this section includes site drainage piping and structures.

1.02 SUBMITTALS:

- A. Shop drawings: Indicate extent of drainage system, with piping sizes, wall thickness, casting details, weights, gauge, locations and elevations. Indicate drainage structures with inlet and outlet elevations. Submit reinforcement details for all concrete work; design data for precast concrete structures.
- B. Product data: Submit for each type of piping materials, prefabricated structure, casting and for compression type joint gaskets. Indicate product descriptions and installation procedures.

1.03 QUALITY ASSURANCE:

- A. Applicable standards of the following, as referenced:
1. American Society for Testing and Materials (ASTM).
 2. American Concrete Institute (ACI).
 3. Georgia Department of Transportation, "Standard Specification, Construction of Transportation Systems", 2021 Edition, hereinafter referred to as Georgia DOT Specifications.

2.00 PRODUCTS

2.01 PIPING:

- A. Concrete pipe: Meeting ASTM C76, Class II, Wall B reinforced, bell and spigot type with tongue and groove compression gasket joints meeting ASTM C443.
- B. Fittings: Furnish all piping with ells, tees, couplings and similar prefabricated shapes as required, of same type and class of material as piping.

2.02 CONCRETE, MASONRY AND ACCESSORY MATERIALS:

- A. Concrete: 3000 psi compressive strength, in accord with Division 3, Concrete, including formwork, reinforcement and finish.
- B. Manhole brick: Meeting ASTM C32, MS.
- C. Mortar: Meeting ASTM C270, Type M.
- D. Construction castings: Meeting ASTM A48, Class 40A, with angle frames; solid grating type cover with legend "STORM DRAIN" on face.

- E. Manhole steps: Meeting ASTM A48, Class 30B, integrally cast into manhole sidewalls.
- F. Gravel fill: Meeting Georgia DOT Specifications, Section 800, #57 stone.
- G. Precast concrete manholes: Meeting ASTM C478, eccentric cone top and base riser section with integral floor.
- H. Plastic marking tape: Four mil thickness polyethylene, 6" minimum width, in bright color with the words "SEWER LINE BELOW" printed continuously along length.

3.00 EXECUTION

3.01 CONSTRUCTION OF DRAINAGE SYSTEM:

- A. Excavation, filling and compaction for construction of drainage system shall be in accord with Earthwork section.
- B. Inspect piping prior to placing in trenches. Install no defective or damaged piping.
- C. Lay piping beginning at low point of drainage system with joints lapped upgrade. Lay in proper alignment and to slopes indicated, fully supported on firm subgrade.
- D. Install compression type gaskets in accord with manufacturer's product data to ensure complete joint sealing.
- E. Handle bituminous coated materials to prevent damage to coating. After piping installation, repair damage to coating using material of same type. Replace piping which cannot be repaired.
- F. Make connections of cast iron pipe to other types using cast iron adapters and fittings. Grout joints between cast iron pipe and concrete pipe with cement grout.
- G. Clean interior of piping of dirt and debris as work progresses. Place plugs in the ends of uncompleted piping at the end of each work period. Flush lines between manholes and drainage structures as required to remove collected debris.

3.02 DRAINAGE- STRUCTURES:

- A. Construction catch basins, weirs, headwalls and similar structures of reinforced concrete unless otherwise indicated; manholes of masonry, concrete or precast units at Contractor's option.
 - 1. Provide concrete foundations for manholes and other structures as indicated.
 - 2. Concrete structures shall be reinforced as indicated on drawings as indicated on approved shop drawings.
 - 3. All concrete construction shall receive smooth formed finish in accord with ACI-301 on all surfaces exposed to exterior or interior of structure; rough formed for all unexposed construction.
 - 4. Moist cure concrete for minimum of seven days after placing.
- B. Mix mortar with only enough water for workability. Re-tempering of mortar will not be permitted. Keep mortar mixing and conveying equipment clean. Do not deposit mortar upon or permit contact with ground.

- C. Lay masonry in full mortar bed with ends and with full vertical joints, not more than 5/8" wide. Protect fresh masonry from freezing and from too rapid drying.
- D. Apply a 1/2" thickness mortar parge coating on interior and exterior of masonry wall surfaces.
- E. Where manholes occur in pavements, set tops of frames and covers flush with finish surface. Elsewhere, set tops 3" above finish surface, unless otherwise indicated.
- F. Backfill at structures and compact as specified for building walls, in accord with Earthwork section.
- G. Set drainage gratings to elevations indicated on drawings.
- H. Install plastic marking tape centered over piping locations during backfilling operations. Locate marking tape approximately 9" above sewer line.

END OF SECTION

SECTION 02511

ASPHALT CONCRETE PAVING

1.00 GENERAL

1.01 SUBMITTALS:

- A. Certificates: Provide certificates stating that the materials supplied comply with Section 400 of the Georgia DOT Standard Specifications. Certificates shall be signed by asphalt producer and Contractor.
- B. Mix design: Submit mix design for mix type "19 mm Superpave, Design Level B" modified to the Owner for approval.
- C. Mix design: Submit mix design for type "9.5 mm Superpave, Design level B" surface course.

1.02 JOB CONDITIONS:

- A. Weather limitations:
 - 1. Apply bituminous prime and tack coats only when the ambient temperature in the shade is 50 degrees F. for 12 hours immediately prior to application.
 - 2. Do not apply when surface is wet or contains excess moisture which would prevent uniform distribution and required penetration.
 - 3. Construct asphaltic courses only when atmospheric temperature is above 40 degrees F.; when the underlying base is dry; and when weather is not rainy.
 - 4. Place base course when air temperature is above 35 degrees F. and rising.
- B. Grade control: Establish and maintain the required lines and grades for each course during construction operations.
- C. Traffic control:
 - 1. Maintain vehicular and pedestrian traffic during paving operations, as required for other construction activities.
 - 2. Provide flagmen, barricades, warning signs, and warning lights for movement of traffic and safety and to cause the least interruption of work.

1.03 QUALITY ASSURANCE:

- A. Industry standards: Georgia Department of Transportation (DOT) Standard Specifications for Construction of Transportation Systems, 2013 edition.

1.04 TESTING:

- B. Asphalt paving testing shall be performed by the Georgia DOT Testing Lab. Contractor shall be responsible to coordinate and schedule testing with the Georgia DOT testing personnel.
- C. Testing laboratory shall test in-place courses for compliance with specified density, thickness, and surface smoothness requirements.
- D. Density: Shall be in accordance with GA DOT Specification 400.3.06.B.

- E. Allowable variation in thickness:
 - 1. Base course: + 1/2"
 - 2. Intermediate course: + 1/4"
 - 3. Surface course: + 1/8"

- F. Surface smoothness: Test finished surface of each asphalt course for smoothness using 10'-0" straightedge. Intervals of tests shall be as directed by Robert and Company. Surfaces will not be acceptable if exceeding the following:
 - 1. Base course: 1/2" in 10'-0".
 - 2. Intermediate course: 1/4" in 10'-0".
 - 3. Surface course: 1/8" in 10'-0".

2.00 PRODUCTS

2.01 PAVING MATERIALS:

- A. Graded aggregate: Meeting Georgia DOT Specifications, Section 815.
- B. Intermediate course: Meeting Georgia DOT Specifications for "19mm Superpave, Design Level B" hot-mixed asphaltic concrete.
- C. Surface course: Meeting Georgia DOT Specifications for Type "9.5mm Superpave, Design Level B" hot-asphaltic concrete.

3.00 EXECUTION

3.01 SUBGRADE PREPARATION:

- A. Prior to beginning paving Work, inspect subgrade for loose or soft material, rock, or organic matter. No stones over 2" dia. will be allowed in top 6" of subgrade.
- B. Proof-roll cut subgrade using heavy rubber-tired vehicle to verify that exposed subgrades are stable and to identify loose or soft areas requiring under cutting or stabilization. Proof rolling shall be under observation of testing laboratory.
- C. Stabilization of soft or unstable subgrades shall be accomplished to full depth of Stabilization aggregate shall be of type specified for base coarse aggregate.
- D. Verify proper elevations and cross sections of subgrade immediately prior to placing base material.

3.02 APPLICATION:

- A. Place and spread aggregate base material to 4" compacted depth, to elevation and shape. Compact base course to dry density of 98% in accord with ASTM D1557.
- B. Following application and curing of prime coat in accord with Georgia DOT Specifications, Section 412, apply intermediate course in minimum 1-1/2" compacted thickness.

- C. Intermediate course shall be free of dust, soil, and debris. Apply tack coat immediately prior to surface course application. Tack coat material and application procedures shall comply with Georgia DOT Specifications, Section 413.
- D. Apply asphaltic surface course in 1 1/8" minimum compacted thickness, for type "F" asphalt.
- E. Mix, transport, and place asphalt in accord with Georgia DOT Specifications.
- F. Place asphalt at proper temperature and compact to at least 95% of laboratory density as specified in ASTM D1559. While hot, compact mixture by rolling. Asphalt temperature at time of application shall be in conformance with Georgia DOT Specifications, Sections 400 and 424.

3.03 SEALING:

- A. Preparation:
 - 1. Inspect surfaces to receive pavement sealer and repair or replace damaged surfaces. Cut out defective areas which are softened or deteriorated by the elements and exposure to solvents. Fill cut out areas and areas which are depressed using asphalt of the same type as used in original pavement. Compact patched areas to equal or greater density than surrounding work. Cut out and fill cracks over 3/8" in width.
 - 2. Remove grease and oil concentrations with detergent and stiff brushes. Rinse with clean water. If residue is still present, coat areas with white shellac and allow to dry.
 - 3. Immediately prior to application, sweep area to receive sealer. Surfaces shall be clean and free of loose or foreign materials.
- B. Sealer application:
 - 1. Mix pavement sealer in original container adding no additional water until contents are of uniform consistency. Add mineral aggregate at rate of three to five lbs. per gal. of sealer; continue to mix until ingredients are homogeneous.
 - 2. Fog pavement with clean water. Remove water which stands or ponds.
 - 3. Apply first coat of pavement sealer by brush, squeegee or mechanical spreader at rate of one gal. per six sq. yds. Allow sealer to dry.
 - 4. Apply second coat of pavement sealer as described for first coat with direction of application at right angle to first coat.
 - 5. Prohibit traffic on completed installation until sealer is completely cured. Repair or replace damaged or marred surfaces.

3.04 CLEANING AND PROTECTION:

- A. Remove excess or spilled materials from Project site at completion of each operation. Dumping or spreading of excess asphalt materials on Project site is prohibited.
- B. Vehicular or pedestrian traffic on pavement is prohibited after placement of surface course, until it has cooled and hardened for a minimum period of 24 hours.

END OF SECTION

SECTION 02518

INTERLOCKING CONCRETE PAVERS

1.00 GENERAL

1.01 CONFORMITY- Conform to the requirements of the general conditions of the Contract.

1.02 RELATED WORK

- A. Section 03300 Cast -in-Place Concrete
- B. Section 02511 Asphaltic Concrete Paving.

1.03 WORK INCLUDED

- A. Supply and place granite screenings laying course.
- B. Install interlocking concrete paving stones in quality, shape, thickness and color as specified.
- C. Place all necessary items as required by the Contract.

1.4 PRODUCT HANDLING

- A. Paving stones shall be delivered and unloaded at job site with or without pallets and bound in such a manner that no damage occurs to the product during handling, hauling and unloading.

2.00 MATERIALS

2.01 SOLID CONCRETE INTERLOCKING PAVING STONES: ASTM DESIGNATION C936-82

Paving stones shall be: Holland-Stone and City-Square precast concrete unit pavers as manufactured by Pavestone Co., 169 Peggy Lane, Tyrone, Georgia 30290, (770) 306-9691 or approved equal.

Paving stones thickness shall be: 2 3/8" (6 cm) in sidewalk applications and 3 1/8" (8cm) in all vehicular driveway and street applications. Paving stones color shall be: as indicated on the plans and to match Phase 1. All paving stones will be supplied and installed by the contractor. All other materials related to paver installation will be supplied and installed by the contractor.

- A. Cementitious Materials: Portland Cements shall conform to ASTM Specification C-150.
- B. Aggregates shall conform to ASTM Specification C-33 for Normal Weight Concrete Aggregate (no expanded shale or lightweight aggregates) except that grading requirements shall not necessarily apply.
- C. Other Constituents: Coloring pigments air-entraining agents, integral water repellents, finely ground silica, etc., shall conform to ASTM standards where applicable, or shall be previously established as suitable for use in concrete.

- D. Physical Requirements
1. Compressive Strength - At the time of delivery to the work site, the average compressive strength shall not be less than 8,000 psi with no individual unit strength less than 7,200 psi, with testing procedures in accordance with ASTM Standard C-140.
 2. Absorption- The average absorption shall not be greater than five percent (5%) with
no individual absorption greater than seven percent (7%).
 3. Proven Field Performance - Satisfying field performance is indicated when units similar in composition and made with the same manufacturing equipment as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least one (1) year.
- E. Visual Inspection
1. All units shall be sound and free of defects that would interfere with the proper placing of the or impair the strength or permanence of the construction.
- F. Sampling and Testing
1. The purchaser or his authorized representative shall be accorded proper facilities to inspect a sample the units at the place of manufacture from lots ready for delivery or random samples taken from each delivery at the job site.
 2. Sample and test units in accordance with ASTM Methods C-140.
- G. Rejection
1. In case the shipment fails to conform to the specified requirements, the manufacturer may sort it, and new test units shall be selected at random by the purchaser from the retained lot and tested at the expense of the manufacturer. In case the second set of test units fails to conform to the specified requirements, the entire lot shall be rejected.
- H. Expense of Tests
- The expense of inspection and testing shall be borne by the Contractor.

2.02 SAND LAYING COURSE

- A. The sand laying course shall be a well graded clean washed sharp sand with 100% passing a 3/8" sieve size and a maximum of 3% passing a No. 200 sieve size. This is commonly known as manufactured concrete sand, granite screening, or similar. DO NOT USE MASON SAND. The sand laying course shall be the responsibility of the paving stone installer.

2.03 EDGE RESTRAINT

- A. All edges of the installed paving stones shall be restrained. The type of edge restraint shall be approved at locations as noted on plans.

3.00 EXECUTION

- B. The paving stone installer/contractor must have three years of direct experience in the installation of interlocking concrete paving stones.

3.01 PREPARATION OF THE BASE COURSE

- A. A suitable base must be prepared as detailed in other sections of the project specifications.
- B. The base course shall be shaped to grade and cross section with the allowable tolerance of 1/4" (5 mm).
- C. The compacted base shall be 3-1/8" (80 mm) below final grade for 2-3/8" (6 mm) pavers and 3-7/8" (100 mm) below final grade for 3-1/8" (8 mm) pavers.

3.02 CONSTRUCTION OF THE SAND LAYING COURSE

- A. The finished base shall be approved before the placement of the sand laying course.
- B. The uncompacted sand laying course shall be spread evenly over the area to be paved and then screeded to a level that will produce 1" (25 mm) thickness when the paving stones have been placed. Normally, it is good practice to have final elevation of the paving stones slightly higher than adjacent curb, gutters, other paving, to allow for any minor settling that may occur within the base.
- C. Once screeded and leveled to the desired elevation, this sand laying course shall not be disturbed in any way.

3.03 LAYING OF CONCRETE PAVING STONES

- A. The paving stones shall be laid in the approved pattern as noted or shown on drawings.
- B. The paving stones shall be laid in such a manner that the desired pattern is maintained and the joints between the stones are as tight as possible. For maximum interlock, it is recommended that the joints between stones do not exceed 1/8" (3 mm).
- C. String lines should be used to hold all pattern lines true.
- D. Gaps at the edge of the paver surface shall be filled with standard edge stones or with stones cut to fit. Cutting shall be accomplished to leave a clean edge to the traffic surface using a double headed breaker or masonry saw. Whenever possible, no cuts should result with a paver less than 1/3 of the original dimension.
- E. Paving stones shall be vibrated into the sand laying course using a vibrator capable of 3,000 to 5,000 pounds compaction force with the surface clean and joints open.
- F. After vibration, clean masonry type sand containing at least 30% of 1/8" (3 mm) particles shall be spread over the paving stone surface, allowed to dry, and vibrated into joints with additional vibrator passes and brushing so as to completely fill joints.
- G. Surplus material shall be swept from the surface or left on surface during construction time to insure complete filling of joints during initial use. This sand also may provide surface protection from construction debris.
- H. Upon completion of work covered in the Section, the Contractor shall clean up all work areas by removing all debris, surplus material and equipment from the site.

END OF SECTION

SECTION 02513

IMPRINTED ASPHALT SURFACING

1.00 GENERAL

- A. Imprinted asphalt surfacing system to be utilized shall be approved by the Owner prior to installation.
- B. System shall be installed by authorized applicator of the approved system.
- C. Pattern and color as specified in the Plans.

2.00 PRODUCTS

2.01 MATERIALS

- A. Thermoplastic
 - 1. Thermoplastic shall consist of homogeneously mixed non-hazardous polymer resins, pigments, fillers consisting of TiO and CaCO, glass beads and at least 12% coarse aggregate particles sized 6-14 mesh.
 - 2. Thermoplastic shall be supplied in pre-cut panels to match the selected pattern at a standard thickness of 180 mils (+/- 10 mils).
 - 3. Thermoplastic transverse lines for crosswalk applications shall be pre-formed, white line stripe material 90 mils thick, 12" wide.

2.02 EQUIPMENT

- A. Templates
 - 1. Wire rope templates shall be used to imprint the asphalt with the selected pattern. The wire rope diameter for the template used to imprint the specified pattern into the asphalt pavement shall be 3/8". The post printing template shall be made from 1/4" diameter woven wire rope material.

3.00 EXECUTION

3.01 GENERAL

- A. The Contractor must submit shop drawings for approval by the Owner indicating type of system proposed for use.
- B. The system shall be supplied and installed only by an accredited applicator of the approved system to be used. The Work shall be carried out as specified in the plans or as directed by the Owner.
- C. Do not begin installation without written approval of the proposed system and written confirmation of applicator accreditation or authorization.

3.02 PRE-CONDITIONS

A. Existing Asphalt Pavement

1. Existing asphalt pavement must be free of all visible defects including cracks, ruts or potholes. It shall not display any signs of flushing, excessive raveling or like deficiencies.
2. Maximum recommended age of the asphalt surface is 5 years.
3. The accredited applicator shall advise on the suitability of the existing asphalt pavement. Failure to identify an unsuitable existing pavement surface, which results in an improperly installed or rejected finished product shall be the responsibility of the Contractor.

B. Removal of Existing Pavement Markings

1. Pavement markings may be removed by sandblasting, water-blasting, grinding or other approved mechanical methods. The removal methods should, to the fullest extent possible, cause no significant damage to the existing pavement surface.

C. Mill & Fill Applications

1. If the existing asphalt pavement is deemed unsuitable, the Owner may elect to remove and replace the existing asphalt pavement. If so, an approved mix design must be used with a minimum lift thickness of 2".

3.03 SURFACE PREPARATION

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- A. The asphalt pavement surface shall be dry and free from all foreign matter, including but not limited to dirt, dust, de-icing materials, and chemical residues.

3.04 LAYOUT

- A. Layout of the pattern for imprinting into the surface of the asphalt pavement shall be as per the drawings and specifications.

3.05 HEATING THE ASPHALT PAVEMENT

- A. The optimal pavement temperature for imprinting the template is dependent upon mix design, modifiers used in the mix, and the age of the pavement. Care should be taken to avoid overheating the pavement surface; excessive blue smoke emanating from the surface of the pavement should be avoided. Typically, the surface temperature of the pavement should not exceed 325°F (1600C) as determined by reading a calibrated infra-red thermometer.

3.06 SURFACE IMPRINTING

- A. Once the asphalt pavement has reached imprinting temperature, the first (3/8" dia. wire rope) template shall be placed in position and pressed into the surface using vibratory plate compactors. Once the top of the template is level with the surrounding asphalt pavement, the template may be removed. Areas that have an imprint depth less than the depth of the template shall be re-heated and re-stamped prior to installation of the thermoplastic material.

3.07 INSTALLATION OF THERMOPLASTIC AND SAND

- A. The area must be thoroughly cleaned and dried before installing the thermoplastic. B.

Do not install during periods of precipitation.
- C. Both the ambient air temperature and the pavement temperature must be above 45 °F (70C).
- D. Place pre-formed thermoplastic sheets over top of the imprinted asphalt pavement and in-line with the pattern. The sheets are to be butted together without overlap and shall cover the entire area designated to receive the imprinted surfacing system.
- E. Apply heat to the thermoplastic to gradually raise the temperature so that the thermoplastic is melted throughout and begins to flow into the grout lines and fuse with both the surface of the asphalt pavement and the edges of the adjacent thermoplastic sheet.
- F. As the thermoplastic begins to flow, and adhesion to the pavement surface is attained, sand shall be seeded evenly into and on top of the thermoplastic using a sand spreader at a rate of one 50-pound bag per 200 SF.
- G. The thermoplastic shall be post-printed using the second (1/4" dia. wire rope) template using a vibratory plate compactor.
- H. At crosswalk applications, applicator shall install 12" wide, white thermoplastic transverse lines according to the plans.

3.08 SURFACE PROTECTION AND OPENING TO TRAFFIC

- A. The melted thermoplastic shall be protected until it cools and hardens. Water may be introduced to the surface as a way to accelerate the cooling process. Do not allow any debris such as dust, excessive water, pollen, etc. to come in contact with the melted thermoplastic.
- B. The area may be opened to vehicular traffic once the thermoplastic has cooled to the adjacent pavement temperature.

END OF SECTION

SECTION 02781

INTERLOCKING CLAY BRICK PAVERS

1.00 GENERAL

1.01 CONFORMITY- Conform to the requirements of the general conditions of the Contract.

1.02 RELATED WORK

- A. Section 03300 Cast-in-Place Concrete
- B. Section 02511 Asphaltic Concrete Paving.

1.03 WORK INCLUDED

- A. Supply and place granite screenings laying course.
- B. Install interlocking clay brick pavers in quality, shape, thickness and color as specified. C.
Place all necessary items as required by the Contract.

1.04 PRODUCT HANDLING

- A. Pavers shall be delivered and unloaded at job site with or without pallets and bound in such a manner that no damage occurs to the product during handling, hauling and unloading.

1.05 MOCK-UP

- A. Paving Contractor shall construct one (1) sample panel on-site for review and approval by the Architect and Owner. Install setting bed and clay paver in pattern indicated on the plans. Mock-up shall be a minimum of 25 SF (5' x 5'). Mock-up may not remain as part of the finished Work.

2.00 MATERIALS

2.01 SOLID INTERLOCKING CLAY BRICK PAVERS: ASTM C902 & C1272

- A. Pedestrian Rated Pavers:
 - 1. Pavers shall conform to ASTM Specification Standard C902 (Class SX, Type 1, Application PX); ASTM C67 for freeze and thaw.
 - 2. Nominal Size: 2 1/4" x 4 x 8 with dimensional tolerance of 1/16".
 - 3. Features: Chamfers on both bed surfaces for reversibility; spacer nibs to control joint spacing; full range color.
 - 4. Color: As indicated in the Plans
- B. Heavy Vehicular Rated Pavers:
 - 1. Pavers shall conform to ASTM Specification Standard C1272 (Type F, Application PX); ASTM C67 for freeze and thaw.
 - 2. Nominal Size: 2 3/4" x 4 x 8 with dimensional tolerance of 1/16".
 - 3. Features: Chamfers on both bed surfaces for reversibility; spacer nibs to control joint spacing; full range color.

4. Color: As indicated in the Plans.
- C. Physical Requirements
1. Compressive Strength - At the time of delivery to the work site, the average compressive strength shall not be less than 8,000 psi with no individual unit strength less than 7,200 psi, with testing procedures in accordance with ASTM Standard C-140.
 2. Absorption- The average absorption shall not be greater than six percent (6%) with no individual absorption greater than seven percent (7%).
 3. Proven Field Performance- Satisfying field performance is indicated when units similar in composition and made with the same manufacturing equipment as those to be supplied to the purchaser, do not exhibit objectionable deterioration after at least one (1) year.
- D. Visual Inspection
1. All units shall be sound and free of defects that would interfere with the proper placing of the pavers or impair the strength or permanence of the construction.
- E. Sampling and Testing
1. The purchaser or his authorized representative shall be accorded proper facilities to inspect a sample the units at the place of manufacture from lots ready for delivery or random samples taken from each delivery at the job site.
 2. Sample and test units in accordance with ASTM Methods C-140.
- F. Rejection
1. In case the shipment fails to conform to the specified requirements, the manufacturer may sort it, and new test units shall be selected at random by the purchaser from the retained lot and tested at the expense of the manufacturer. In case the second set of test units fails to conform to the specified requirements, the entire lot shall be rejected.
- G. Expense of Tests
- The expense of inspection and testing shall be borne by the Contractor.

2.02 SAND LAYING COURSE

- A. The sand laying course shall be a well graded clean washed sharp sand with 100% passing a 3/8" sieve size and a maximum of 3% passing a No. 200 sieve size. This is commonly known as manufactured concrete sand, granite screening, or similar. DO NOT USE MASON SAND. The sand laying course shall be the responsibility of the paving stone installer.

2.03 EDGE RESTRAINT

- A. All edges of the installed paving stones shall be restrained. The type of edge restraint shall be approved at locations as noted on plans.

3.00 EXECUTION

- A. The paving stone installer/contractor must have three years of direct experience in the installation of interlocking clay brick pavers.

3.01 PREPARATION OF THE BASE COURSE

- A. A suitable base must be prepared as detailed in other sections of the project specifications.
- B. The base course shall be shaped to grade and cross section with the allowable tolerance of 1/4" (5 mm).
- C. Verify substrate is ready to support pavers and imposed loads, and that gradients and elevations of substrate are correct.

3.02 CONSTRUCTION OF THE SAND LAYING COURSE

- A. The finished base shall be approved before the placement of the sand laying course. B.

The uncompacted sand laying course shall be spread evenly over the area to be paved and then screeded to a level that will produce 1" (25 mm) thickness when the paving stones have been placed. Normally, it is good practice to have final elevation of the paving stones slightly higher than adjacent curb, gutters, other paving, to allow for any minor settling that may occur within the base.
- C. Once screeded and leveled to the desired elevation, this sand laying course shall not be disturbed in any way.

3.03 LAYING OF CLAY BRICK PAVERS

- A. The pavers shall be laid in the approved pattern as noted or shown on drawings.
- B. The pavers shall be laid in such a manner that the desired pattern is maintained and the joints between the stones are as tight as possible. For maximum interlock, it is recommended that the joints between stones do not exceed 1/8" (3 mm).
- C. String lines should be used to hold all pattern lines true.
- D. Gaps at the edge of the paver surface shall be filled with standard edge stones or with stones cut to fit. Cutting shall be accomplished to leave a clean edge to the traffic surface using a double headed breaker or masonry saw. Whenever possible, no cuts should result with a paver less than 1/3 of the original dimension.
- E. Pavers shall be vibrated into the sand laying course using a vibrator capable of 3,000 to 5,000 pounds compaction force with the surface clean and joints open.
- F. After vibration, clean masonry type sand containing at least 30% of 1/8" (3 mm) particles shall be spread over the paving stone surface, allowed to dry, and vibrated into joints with additional vibrator passes and brushing so as to completely fill joints.
- G. Surplus material shall be swept from the surface or left on surface during construction time to insure complete filling of joints during initial use. This sand also may provide surface protection from construction debris.
- H. Upon completion of work covered in the Section, the Contractor shall clean up all work areas by removing all debris, surplus material and equipment from the site.

END OF SECTION

SECTION 02930

LAWNS AND GRASS

1.00 GENERAL

1.01 SUMMARY:

- A. Work described in this section includes seeding, sodding, and hydroseeding, of grass over areas indicated. Work to be performed shall include furnishing labor, materials, equipment, transportation, services and guarantee necessary for spreading of topsoil; proper soil preparation, including fine raking and necessary fertilization; seeding or laying of sod at prescribed locations and as indicated on drawings.
- B. Related Sections:
 - 1. Section 02270: Slope Protection and Erosion Control.
 - 2. Section 02950: Landscape Planting
- C. Definitions:
 - 1. Satisfactory stand of grass: Full lawn cover over disturbed areas, with living grass free of weeds and with no bare spots exceeding 6" square.

1.02 SUBMITTALS:

- A. Submit grower's certificates for sod. Indicate grass species, weed content, location from which cut, and dates cut.
- B. Test reports and certificates of fertilizer analysis: Indicate fertilizer type and contents.

1.03 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver sod on pallets with identification attached. Deliver only quantity which can be placed within 48 hours of harvesting.
- B. Protect sod against dehydration and contamination during transportation and delivery. Keep materials moist and cover with wet burlap. Sod which has been broken in transit, stored more than 36 hours, or delivered in any condition that renders survival doubtful, will be rejected.
- C. Limit stacking of sod to 2'-0" high.
- D. Fertilizer and lime shall be delivered to Project site in original containers bearing manufacturer's guaranteed statement of analysis. Store in weatherproof locations. If bulk fertilizer or lime is used, Contractor shall furnish Owner a letter from the dealer with guaranteed statement of analysis and tonnage delivered to Project site.

1.04 QUALITY ASSURANCE:

- A. Reference standards of the following organizations apply to materials furnished under this section:
 - 1. American Sod Producers Association (ASPA).
 - 2. Georgia Seed Laws and Rules and Regulations.

3. Grassing Bulletins by the Cooperative Extension Service of University of Georgia College of Agriculture:
 - a. Georgia Lawns; Establishment and Maintenance.
 - b. Fertilization for Lawns.

2.00 PRODUCTS

2.01 LAWN MATERIALS:

- A. Fertilizer:
 1. Regular type: Nitrogen content derived from organic or inorganic sources; bearing manufacturer's statement of analysis. Minimum requirements: 12% nitrogen, 4% phosphoric acid, 8% potash.
 2. Slow-release type: 50% of nitrogen is in slow-release form, the content derived from organic or inorganic sources; bearing manufacturer's statement of analysis. Minimum requirements: 12% nitrogen, 4% phosphoric acid, 8% potash.
 3. Commercial mixed type: Nitrogen content derived from organic or inorganic sources, bearing manufacturer's statement of analysis. Minimum requirements: 10% nitrogen, 10% phosphoric acid, 10% potash.
- B. Lime: Ground limestone containing not less than 85% calcium carbonates; 50% passing 100 mesh sieve and 90% passing 20 mesh sieves.
- C. Italian Rye (*Lolium Multiflorum*) seed: Fresh, clean seed testing 98% for purity and 90% minimum germination, 0.5% maximum weed content.
- D. Centipede (*Eremochloa ophiuroides*) seed: Fresh, clean, hulled, new seed crop; 98% minimum purity, 90% minimum germination, 1% maximum weed content.
- E. Straw bales: clean bales of straw of hay, wheat, rye, oats, or barley.
- F. Hydro mulch: Wood cellulose fiber containing no germination inhibiting or growth inhibiting agents. Characteristics shall be as follows:
 1. Percent moisture content: 9.0% (+ 3.0%).
 2. Percent organic matter: 99.2% (+ 0.8%).
 3. Percent ash content: 0.8% (+ 0.2%).
 4. pH: 4.8 (+ 0.5).
 5. Water holding capacity: 1150 grams water per 100 grams fiber, minimum.
- G. Mulch: Clean, seed free straw of hay, wheat, rye, oats, or barley.
- H. Water: Clean, potable. All water needed during seeding and sodding operations, shall be supplied by Contractor.
- I. Topsoil: 6" compacted layer of topsoil.
 1. Fertile, friable, sandy loam free of lumps, stones, sticks, and debris in excess of 1" in any dimension.
 2. Natural soil uniform in composition without admixture of subsoil capable of sustaining vigorous plant growth.
 3. Imported topsoil will not be stripped from source deeper than 12".

3.00 EXECUTION

3.01 PREPARATION:

- A. Grade lawn areas to finish grades at a smooth, uniform grade as indicated on grading. Lawn areas shall slope to drain properly. Allow for settlement and compaction by
 1. Where no grades are shown, areas shall have a smooth and continual grade between existing or fixed controls such as walks, curbs, catch basins, elevations at steps or building and elevations shown on plans. Scarify, rake, and level as necessary to obtain true, even lawn surfaces.
 2. Areas shall be carefully raked by hand or by approved power equipment.
 3. Stones 1" or more in dia. and all vegetation or debris brought to the surface during operations shall be collected and removed from Project site. Finish grade shall be even, smooth, free of any depressions, thin basins, lumps, and flat mounds.
- B.
 1. Prior to start of Work, subgrade shall be inspected by Owner and if required, checked for elevation and grade. Any necessary adjustments shall then be made.
 2. Prior to spreading of topsoil, subgrade shall be loosened by discing or scarifying to a depth of at least 4" to promote proper drainage and bonding of topsoil.
 3. Topsoil formerly stockpiled or imported shall be spread over approved subgrade to a depth of 6" bringing finished grade to 1" above proposed grades shown on drawings.
 4. Contractor shall be responsible for 6" minimum depth of topsoil after compaction on all lawn areas.
- C. Spread 30 lbs. of lime and 16 lbs. of fertilizer per 1000 sq. ft. Thoroughly mix soil, lime and fertilizer to a depth of 4". In areas adjacent to existing trees which are to be retained, mix depth shall be adjusted to avoid disturbance of roots.

3.02 TEMPORARY SEEDING:

- A. In the event that areas are ready for grassing between November 1 and March 1, seed with Italian Rye Grass at a rate of five lbs. per 1000 sq. ft. of area.
- B. Prior to seeding, and/or sodding with permanent grass, scarify and incorporate temporary grass into top 4" of soil.
- C. Protect and maintain temporary grass in accord with maintenance provisions specified.

3.03 SEEDING:

- A. Seeded areas shall be lightly watered upon completion. Seeding shall be accomplished by experienced workman. Contractor is responsible for protection of all seeded areas from vehicular and pedestrian traffic or other common disturbances. Seeded areas will be kept moist until germination is complete and new growth is vigorous.
- B. Areas to be seeded with Tall Fescue will be prepared and seeded between September 1 and October 30 at the specified rate and overseeded at the rate of four pounds per 1000 sq. ft., between April 1 and May 15 of the following Spring. If construction sequence should make this schedule impossible, initial seeding can take place in Spring followed by overseeding in Fall.

3.04 SODDING:

- A. Transplant sod within 48 hours after harvesting.
- B. Sod bed shall be rolled firm before placing sod and free of depressions. Begin sodding at bottom of slopes. Lay first row of sod in straight line with long dimension of pads parallel to slope contours. Butt side and end joints. Stagger end joints in adjacent rows. Do not stretch or overlap sod.
- C. Peg sod on slope ratio of three to one or greater with minimum two stakes per sq. yd.
- D. Sprinkle sod with water immediately after transplanting. Roll sod, except on pegged areas, with roller weighing not more than 150 lbs. per ft. of roller width.
- E. Water sod and soil to depth of 4" within four hours after rolling.
- F. Fescue sod will be installed between September 1 and November 1 or March 1 and May 1.

3.05 HYDROSEEDING:

- A. Apply seed/fertilizer/hydro mulch mixture in water slurry. Dispense using hydraulic mulching equipment in following minimum quantities:
 - 1. Fertilizer: 1300 lbs. per acre.
 - 2. Bermuda seed: 70 lbs. per acre.
 - 3. Tall Fescue Seed: 350 lbs. per acre.
 - 4. Hydro mulch: 1200-1500 lbs. per acre.
- B. Seed only during the period from April 1 to September 1 using Bermuda seed or September 1 to October 15 using Fescue seed. For grassing during other seasons, substitute Italian Rye seed for temporary erosion control.

3.06 MAINTENANCE:

- A. Provide straw bale silt dams as temporary erosion control measures. Maintain dams during construction period to prevent erosion. Remove straw bales at completion of Work, after areas have been stabilized by grassing.
- B. Maintain sodded areas in a moist condition for seven days after placing.
- C. Water grassed areas and maintain at a height of 1-1/2" to 2" until Date of Substantial Completion. First mowing of sodded areas shall not take place until sod is rooted. Remove grass clippings.
- D. Maintain and fertilize grassed areas in accord with University of Georgia College of Agriculture Bulletins #642, dated March 1971, and 3710, dated April 1972.
- E. Re-grass areas larger than six inches square not having a uniform stand of grass. Eradicate weeds appearing in grassed areas.
- F. Remove excess soil and debris from Project site at completion of grassing operation.

3.07 RESTORATION AND CLEAN-UP:

- A. Excess and waste material shall be removed daily. When turfing in an area has been completed, area shall be cleaned of all debris and excess material. When existing turf areas have been damaged during turfing operations, Contractor shall restore areas to their original condition at his expense. At least one paved pedestrian access route and one paved vehicular access route to each building shall be kept at all times. Other paving shall be cleaned when Work in adjacent areas is complete.

3.08 TURF ESTABLISHMENT PERIOD:

- A. Ten to fourteen days following completion of seeding and initial watering, seeded areas shall be inspected by Contractor to determine success of germination. Areas in which germinating seed is not observed shall be scarified and reseeded as necessary until germination is successful.
- B. Establishment of turf shall be considered successful when 98% of the area seeded is covered with grass. All areas larger than 6 inches square, which fail to show a uniform stand of grass shall be reseeded or resodded.
- C. Maintenance during establishment period shall include mowing, removal of excess clippings, eradicating weeds, watering, fertilization, overseeding, and any other operation necessary to promote growth of grass. Seeded and sodded areas shall be mowed to a height of 2" whenever the average height becomes 3".
- D. When the seeded or sodded areas have been cut a minimum of three times and a uniform catch of the specified grasses is established without evidence of excessive weed or crab grass infestation, Contractor shall submit a written request to the Owner for an inspection of the established lawn. The Owner will make an inspection of the site within ten days of receipt of written request for inspections. Acceptance will be based upon a satisfactory stand of turf, as defined in paragraph 3.08 B.

END OF SECTION

SECTION 02950

LANDSCAPE PLANTING

1.00 GENERAL

1.01 SUMMARY

- A. Section Includes:
 - 1. Excavation of Plant Pits.
 - 2. Installation of Plants.
 - 3. Installation of Mulch.
 - 4. Installation of Fertilizer Tablets.
- B. Related Sections:
 - 1. Section 02930 Lawns & Grass
 - 2. Section 02970 Landscape Maintenance.

1.02 REFERENCES

- A. ANSI -American National Standards Institute:
 - 1. ANSI Z60.1-2014- American Standard for Nursery Stock.
- B. NAAPS - National Arborist Association Pruning Standards.
- C. ICBN - International Code of Botanical Nomenclature.
- D. ICNCP - International Code of Nomenclature of Cultivated Plants.

1.03 DEFINITIONS

- A. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of the Owner, in writing.

1.04 SUBMITTALS

- A. General Requirements: Refer to Section 01300.
- B. Product Data:
 - 1. Fertilizer Tablets.
 - 2. Stress Reducing Agent.
 - 3. Wetting Agent and Soil Penetrant.
- C. Samples:
 - 1. Mulch – ½ pound bag
- D. Plant Material Photographs:
 - 1. At least 14 days prior to submittal of plant material location data, submit three color photographs each of representative plants of each type of plant material.
 - 2. Include a scale object in each photograph such as a ruler or person.
- E. Plant Material Location Data Including the Following:
 - 1. Quantities of each plant material type at each nursery or other place of growth.

2. Address, phone number, and contact person for each nursery or other place of growth.

- F. Test Reports:
1. Soil percolation test results keyed to location plan.
- G. Manufacturer's Current Printed Instructions:
1. Fertilizer Tablets.
 2. Stress Reducing Agent.
 3. Wetting Agent and Soil Penetrant.

1.05 QUALITY ASSURANCE

- A. General Requirements: Refer to Section 01400.
- B. Regulatory Requirements:
1. Meet requirements of applicable laws, codes, and regulations required by authorities having jurisdiction over Work.
 2. Provide for inspections and permits required by federal, state and local authorities in furnishing, transporting, and installing materials.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. General Requirements: Refer to Section 01600
- B. Handling Plants:
1. Do not lift or handle container plants by tops, stems or trunks at any time.
 2. Do not bind or handle plants with wire or rope at any time.
- C. Anti-Desiccant:
1. Spray plant material in full leaf immediately before transporting with anti-desiccant.
 2. Meet requirements of anti-desiccant manufacturer's current printed instructions.
- D. Digging Plants: Dig ball and burlap plants with firm, natural balls of earth of diameter meeting requirements of ANSI Z60.1 and of sufficient depth to include the fibrous and feeding roots.
- E. Plant Storage Prior to Installation:
1. Protect plant root balls from sun and drying, winds.
 2. Keep root balls moist.
 3. Keep sun-sensitive plants shaded.
 4. Anchor plants to prevent damage from strong winds.

1.07 SITE CONDITIONS

- A. Environmental Requirements:
1. Protect plant material being stored on site from sun and drying winds.
- B. Existing Conditions:
1. Review and clearly mark in field horizontal and vertical locations of public existing underground utilities and structures with respective utility companies.
 2. Review and clearly mark in field horizontal and vertical locations of private underground utilities and structures with the Owner.

1.08 WARRANTY

- A. Trees, Shrubs and Ground Covers: Warrant that trees, shrubs and ground covers will be healthy and in vigorous, flourishing condition of active growth one year from date of Final Completion.
- B. Delays: Delays in completion of planting operations which extend the planting into more than one planting season shall extend the Warranty Period correspondingly.
- C. Condition of Plants: Plants shall be free of dead or dying branches and branch tips, with foliage of a normal density, size and color.
- D. Incorrect Materials:
 - 1. During Warranty Period, replace at no cost to the Owner, plants revealed as being untrue to name.
 - 2. Provide replacements of a size and quality to match the planted materials at the time the mistake is discovered.
- E. Replacements:
 - 1. As soon as weather conditions permit, replace, without cost to the Owner, dead plants and plants not in a vigorous, thriving condition, as determined by the Designer during and at the end of Warranty Period.
 - 2. Apply requirements of this Specification to replacements.
- F. Exceptions: Contractor shall not be held responsible for failures due to neglect by the Owner, vandalism and other causes outside the Contractor's control.

1.09 MAINTENANCE

- A. Maintenance Service: Refer to Section 02970.

2.00 PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

- A. Fertilizer Tablets: Gro-Power, Inc., Chino, CA; (800) 473-1307.
- B. Anti-Desiccant: Aquatrols Corporation, Cherry Hill, NJ; (609) 751-0309.
- C. Stress Reducing Agent: Roots, Inc., New Haven, CT; (203) 786-5295.
- D. Wetting Agent and Soil Penetrant: Roots, Inc., New Haven, CT; (203) 786-5295.

2.02 SUBSTITUTIONS

- A. Plant Substitutions:
 - 1. Accepted substituted plants shall be true to species and variety and shall conform to measurements specified except those plants larger than specified may be used if accepted.

2. Use of such plants shall not increase Contract price.
3. If larger plants are accepted, increase the ball of earth in proportion to the size of the plant.

2.03 MATERIALS

- A. Plants:
1. Growing Practices: Nursery grown in accordance with good horticultural industry practices.
 2. Nomenclature: Meet requirements of ICBN and ICNCP.
 3. Climatic Growing Conditions: Grown under climatic conditions similar to those of project for at least two years unless otherwise accepted.
 4. Container Growth Limitations: Container stock shall have been grown in the containers in which delivered for at least six months, but not over two years.
 5. Root Ball Size: Meet requirements of ANSI Z60. 1 and the American Association of Nurserymen.
 6. Appearance: Exceptionally heavy, symmetrical, tightly knit, so trained or favored in development and appearance as to be superior in form, number of branches, compactness and symmetry.
 7. Vigor: Sound, healthy and vigorous, well branched and densely foliated when in
 8. leaf
 9. Disease and Pests: Free of disease, insect pests, eggs, or larvae.
Condition of Root System: Healthy well-developed root systems, free of kinked, circling, girdling and center roots, root-bound condition and cracked/ broken root balls.
 10. Measurements: Measure plants when branches are in their normal upright position.
 11. Height and Spread Dimensions: Height and spread dimensions specified refer to main body of plant and not branch tip to tip.
 12. Caliper: Take caliper measurement at a point on the trunk 6 inches above natural ground line for trees Lip to 4 inches in caliper, and at a point 12 inches above the natural around line for trees over 4 inches in caliper.
 13. Pruning: Do not prune, thin or shape plants before delivery without acceptance.
 14. Unacceptable Conditions: Multiple leaders, unless specified, damaged or crooked leaders, bark abrasions, sun-scalds, disfiguring knots, or fresh cuts of limbs over 3/4-inch diameter which have not completely callused.
- B. Fertilizer Tablets: Gro-Power 21gram tablets with 20-10-5 (N-P-K) or accepted equal.
- C. Water: Clean, fresh and potable. Not available at the site. Contractor shall provide quantity required.
- D. Mulch: Composted pine bark.
- E. Anti-Desiccant: Commercially available spray protective coating, designed to reduce plant transpiration loss, which produces a moisture retarding barrier not removable by rain or snow.
- F. Steel Header: Flexible carbon steel, 1/4 inch by 5 inches by minimum 16 feet minimum length pieces, black factory paint finish, double staked overlap joints and designed to receive tapered steel stakes.
- G. Steel Header Stakes: Steel, tapered, 16inch minimum length, with black paint finish, designed specifically to anchor steel header in place, manufactured by manufacturer of the

steel header for which they will be used.

- H. Stress Reducing Agent: Roots Concentrate or accepted equal.
- I. Wetting Agent and Soil Penetrant: Roots No burn or accepted equal.

2.04 SOURCE QUALITY CONTROL

- A. Plant Material Review and Tagging:
 - 1. Trees will be reviewed, photographed and tagged by the Contractor at the nursery, or other place of growth prior to delivery of trees to site.
 - 2. Shrubs will be reviewed and photographed, and some shrubs may be tagged, by the contractor at the nursery or other place of growth.
 - 3. Tagging of plant material at the nursery or place of growth does not cancel the right of the Owner to reject plant material at the site, if damage or unacceptable conditions are found that were not detected at the nursery, place of growth or in the submitted photographs.

3.00 EXECUTION

3.01 EXAMINATION

- A. General: Examine site and verify that conditions are suitable to receive Work and that no defects or errors are present which would cause defective installation of products or cause latent defects in workmanship and function.
- B. Fine Grading and Soil Preparation: Verify that fine grading and soil preparation work is complete.
- C. Verification of Surface Drainage: Verify positive surface drainage of areas to be planted.
- D. Notification: Before proceeding with Work, notify the Owner and Designer in writing of unsuitable conditions.

3.02 PREPARATION

- A. Protection of Existing Conditions:
 - 1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of tile Work.
 - 2. Provide barricades, fences or other barriers to protect existing conditions to remain from damage during construction.
 - 3. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants to remain.
 - 4. Submit written notification of damaged plants and structures to the Owner and Designer immediately.

3.03 SOIL PERCOLATION TESTS

- A. Tests Prior to Plant Pit Excavation:
 - 1. In areas of suspected poor drainage and at locations shown on the Drawings, drill 5~~in~~ diameter minimum, 4 feet deep holes and fill with water twice in succession.
 - 2. Submit to the Owner written notification of retention of water in holes for more than 24 hours with scale plan showing, locations of holes failing test.
- B. Plant Pit Tests:
 - 1. In areas of suspected poor drainage, fill each plant pit twice in succession.
 - 2. Submit to the Owner written notification of retention of water in holes for more than 24 hours with scale plan showing locations of holes failing test.

3.04 SUBSURFACE OBSTRUCTIONS

- A. Plant Pit Excavation: If rock, underground utilities, structures, tree roots or other obstructions are encountered in the excavation of plant pits, alternate locations may be accepted by the Designer.
- B. Cost for Removal of Obstructions: Where locations cannot be changed, submit cost estimate for Work to remove the obstructions to a depth of not less than 6 inches below the required pit depth, and proceed with Work after the Owner's approval.

3.05 EXCAVATION OF PLANT PITS

- A. Equipment:
 - 1. Excavate pits with a backhoe or hand digging.
 - 2. Do not use an auger.
- B. Dimensions: Excavate plant pits to the dimensions shown on the Drawings.

3.06 PLANTING AND BACKFILL OPERATIONS

- A. Protection of Plants Prior to Installation:
 - 1. Protect plant root balls from sun or drying winds.
 - 2. Keep root balls of plants that cannot be planted immediately upon delivery in the shade, well-protected and well-watered.
- B. Removal of Containers:
 - 1. Remove canned stock carefully after cans have been cut on two sides with accepted cutter.
 - 2. Do not use spade to cut containers.
- C. Scarification: After removing plant from container, scarify side of root ball to prevent root-bound condition.
- D. Unamended Backfill Placement:
 - 1. To allow for settlement, fill bottom of the pits with unamended topsoil to a level that will place the top of the root ball 1 inch above finish grade when the plant is installed.
 - 2. Set plants higher if more settlement is anticipated.
- E. Unamended Backfill Compaction: Compact unamended topsoil by saturating the entire plant pit with water.

- F. Unamended Backfill Filling of Settlement: Fill settled topsoil as required to bring top of soil to a level that place the top of the root ball even with finish grade.
- G. Plant Placement: Handling plant carefully, set plant root ball on unamended topsoil.
- H. Removal of Root ball Wrapping Materials: Remove burlap, nylon cord, wire baskets, twine and other materials prior to backfilling.
- I. Amended Backfill Mix Placement:
 - 1. Complete filling pit until top of amended backfill mix is even with top of root ball.
 - 2. Place mix carefully as not to damage the plant root ball, trunk, branches, or foliage.
- J. Settled Plant Adjustment: Raise plant root balls which settle below finish grade so that top of root balls are flush with adjacent finish grade.
- K. Final Filling of Settlement: Fill settled backfill mix with additional soil mix as required to bring it even with top of root ball.
- L. Final Compaction: Compact soil mix by saturating with water.

3.07 MULCH INSTALLATION

- A. Depth: Install a 3-inch-deep layer of mulch over tree watering basins, shrub, and ground cover areas, unless indicated otherwise on Drawings.
- B. Surface: Rake mulch surface smooth.
- C. Woody Plant Stems: Slope mulch away from woody plant stems so that mulch does not touch stems.

3.08 FIELD QUALITY CONTROL

- A. Field Observation Reviews by the Owner and Designer: Coordinate and schedule with the Owner and Designer.

END OF SECTION

SECTION 02970

LANDSCAPE MAINTENANCE

1.00 GENERAL

1.01 SUMMARY

A. Section Includes:

1. Weed Control and Prevention.
2. Pest Control and Prevention.
3. Disease Control and Prevention.
4. Fertilization.
5. Pruning of Plant Material.
6. Replacement of Dead or Unhealthy Plant Material.
7. Watering Plant Material.
8. Monitoring, Adjustment and Repair of Irrigation System.
9. Monitoring Changing Soil Moisture and Weather Conditions.
10. Adjusting Length of Watering Cycles.

B. Related Sections:

1. Section 02930 Lawns & Grass
2. Section 02950 Landscape Planting

1.02 REFERENCES

- A. ANSI - American National Standards Institute:
1. 260.1-2014 - American Standard for Nursery Stock.
- B. NAA - National Arborist Association:
1. Pruning Standards for Shade Trees, 2016.
- C. ICBN - International Code of Botanical Nomenclature.
- D. ICNCP- International Code of Nomenclature of Cultivated Plants.

1.03 DEFINITIONS

- A. Acceptance: Wherever the terms "acceptance" or "accepted" are used herein, they mean acceptance of the Owner, in writing.
- B. IPM- Integrated Pest Management: An approach to pest control that utilizes regular monitoring to determine if and when treatments are needed and employs physical, mechanical, cultural, biological and educational tactics to keep pest numbers low enough to prevent intolerable damage or annoyance. Least-toxic chemical controls are used as a last resort.

1.04 SUBMITTALS

- A. General Requirements: Refer to Section 01300.
- B. Product Purchase and Delivery Documentation:

1. Fertilizer: Within 5 working days of each application submit purchase orders, invoices and receipts showing supplier name and address, person who sold product, date of purchase, specific product purchased, quantity purchased, and delivery date.
- C. Manufacturer's Current Printed Instructions:
 1. Fertilizer.
 2. Required chemicals.
- D. Documentation of Accepted Conditions: Within 7 working days after Owner's acceptance of maintenance, submit color photographs and a written report documenting the accepted conditions of the plant material.
- E. Inspection Reports:
 1. Monthly plant inspection report documenting signs of stress.

1.05 QUALITY ASSURANCE

- A. General Requirements: Refer to Section 01300.
- B. Contractor Qualifications:
 1. Maintenance Contractor: Minimum 5 years experience in maintenance of commercial landscape projects.
 2. Maintenance Supervisor: Minimum of 5 years experience in landscape maintenance supervision, with experience and training in integrated pest management, turf management, entomology, pest control, soils, fertilizers and plant identification.
 3. Labor Force: Thoroughly familiar and trained in the work to be accomplished and perform the task in a competent, efficient manner acceptable to the Owner.
 4. Supervision: Directly employ and supervise the Work force at all times.
- C. Notification of Change in Supervision: Notify the Owner, of changes in supervision.
 1. Identification: Provide proper identification for landscape maintenance firm's labor force.
- D. Regulatory Requirements:
 1. Meet requirements of applicable laws, codes, and regulations required by authorities having jurisdiction over Work.
 2. Provide for inspections and permits required by Federal, State, or local authorities in furnishing, transporting, and installing of chemicals.
 3. Submit a record of herbicides, insecticides and disease control chemicals used to the County Agricultural Commissioner's Office as required by law.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. General Requirements: Refer to Section 01300.
- B. Plant Material: Meet requirements of Section 02950.

1.07 SITE CONDITIONS

- A. Environmental Requirements:
 1. Do not apply chemicals during windy conditions.

1.08 SEQUENCING AND SCHEDULING

- A. Work Schedule:
 - 1. Perform maintenance during hours accepted by the Owner.
 - 2. Be present at the project site at least once a week and as often as necessary to perform specified maintenance.

- B. Chemical Applications:
 - 1. Notify the Owner in advance of required chemical applications.
 - 2. Obtain the Owner approval of application schedule.

2.00 PRODUCTS

2.01 MANUFACTURERS

- A. Gro-Power Products: Gro-Power Co., Inc., Chino, CA; (800) 473-1307, or accepted equal.

2.02 MATERIALS

- A. Replacement Plant Material:
 - 1. Match existing genus, species, cultivar and size.
 - 2. Meet requirements of Section 02970.
 - 3. Meet requirements of ANSI Z60. 1, ICBN and ICNCP.

- B. Seed: Match existing, genus, species and cultivar.

- C. Fertilizers: Gro-Power Plus 5-3-1, Gro-Power Hi-Nitrogen (14-4-9) and Gro-Power Premium Hi-Nitrogen 18-3-7, and Gro-Power Controlled Release 12-8-8, or accepted equal.

- D. Fertilizer Tablets for Replacement Plants: Gro-Power 21 Gram Planting Tablet 20-10-5 or accepted equal.

- E. Herbicides, Insecticides, and Fungicides: Legal commercial quality non-staining materials with original manufacturers' containers, properly labeled with guaranteed analysis, least toxic required.

- F. Mulch: Same as original installation.

- G. Water: Clean, fresh and potable. Not available at the site. Contractor shall provide quantity required.

3.00 EXECUTION

3.01 PREPARATION

- A. Protection of Existing Conditions:
 - 1. Use every possible precaution to prevent damage to existing conditions to remain such as structures, utilities, plant materials and walks on or adjacent to the site of the Work.
 - 2. Provide barricades, fences or other barriers to protect existing conditions from damage during maintenance operations.
 - 3. Do not store materials or equipment, permit burning, or operate or park equipment under the branches of existing plants.
 - 4. Submit written notification of damaged plants and structures-to the Owner and Designer immediately.

3.02 GENERAL MAINTENANCE

- A. Maintenance Period: Continuously maintain each plant and each portion after installation, during progress of work until the Certificate of Substantial Completion has been issued and the Owner

accepts maintenance.

- B. Integrated Pest Management: Employ principles of integrated pest management for each aspect of maintenance.

3.03 TREE AND SHRUB MAINTENANCE A.

Watering:

1. Using a soil sample tube, check root ball moisture and surrounding soil moisture at representative plants at least twice a week.
2. Maintain watering basins around trees and shrubs so that enough water can be applied to establish moisture through root zones.
3. In rainy season, open basins to allow surface drainage away from the root crown where excess water may accumulate.
4. Restore watering basins at end of rainy season.
5. Adjust frequency and length of time for watering cycles according to changing soil and weather conditions.
6. For supplemental hand watering of watering basins, use a water wand to break the water force.
7. Do not permit crown roots to become exposed to air through dislodging of soil and mulch.
8. Maintain depth of mulch to reduce evaporation and frequency of watering.

- B. Settled or Leaning Plants: Reset plants to proper grades or upright position. C.

Weed Control:

1. Keep mulched areas between plants and watering basins weed free.
2. As a last resort use least toxic herbicides.
3. Avoid frequent soil cultivation that destroys shallow roots.

- D. General Pruning:

1. Meet requirements of Pruning Standards for Shade Trees.
2. Prune trees to eliminate diseased or damaged growth.
3. Reduce toppling and wind damage by thinning out crowns.
4. Prune trees to maintain growth within space limitations, maintaining a natural appearance and balancing crown with roots.
5. Retain lower branches in a "tipped back" or pinched condition to promote caliper trunk growth.
6. Do not cut back to fewer than six buds or leaves on branches.
7. Prune damaged trees or those that constitute health or safety hazards at any time of year.
8. Make cuts clean and close to the trunk, without cutting into the branch collar.
9. Make larger cuts (one inch in diameter or larger) parallel to shoulder rings, with the top edge of the cut at the trunk or lateral branch.

- E. Replacement of Plants: Replace, without cost to the Owner and as soon as weather conditions permit, plants not in a vigorous, thriving condition, during, and at the end of the maintenance period and warranty period.

3.04 GROUND COVERS

- A. Watering:

1. Using a soil sampling tube, check for moisture penetration throughout the root zone at least twice a week.
2. Water as frequently as necessary to maintain healthy growth of ground covers.
3. Adjust frequency and length of time for watering cycles according to changing soil and weather conditions.

- B. Weed Control:
 - 1. Maintain mulch layer.
 - 2. Minimize hoeing of weeds to avoid plant damage.
 - 3. As a last resort use least toxic herbicides required.
- C. Fertilization During Growing Season:
 - 1. Apply Gro-Power Plus, or accepted equal, at 30 pounds per 1,000 square feet every 10 weeks after planting until Owner accepts maintenance.
 - 2. Meet requirements of manufacturer's current printed instructions.
 - 3. Apply fertilizers evenly over planting areas by spreading half the fertilizer in one direction and half in a direction 90 degrees to the first direction to assure even application.
 - 4. Apply dry fertilizers with either a broadcast centrifugal or gravity spreader on planting, bed areas.
 - 5. Water planting areas thoroughly after application.
- D. Replacement of Ground Cover: Replace, without cost to Owner, and as soon as weather conditions permit, ground cover plants not in vigorous, thriving, condition, during and at the end of the maintenance period.

3.05 ANNUALS

- A. Watering:
 - 1. Using a soil sampling tube, check for moisture penetration throughout the root zone as frequently as necessary to maintain healthy, vigorous plants.
 - 2. Water as frequently as necessary to maintain healthy growth of annuals.
 - 3. Adjust frequency and length of time for watering cycles according to changing soil and weather conditions.
- B. Weed Control:
 - 1. Maintain mulch layer.
 - 2. Minimize hoeing of weeds to avoid plant damage.
 - 3. As a last resort use least toxic herbicides required.
- C. Fertilization During Growing Season:
 - 1. Apply Gro-Power Plus, or accepted equal, at 30 pounds per 1,000 square feet every 10 weeks after planting until Owner accepts maintenance.
 - 2. Meet requirements of manufacturer's current printed instructions.
 - 3. Apply fertilizers evenly over planting areas by spreading half the fertilizer in one direction and half in a direction 90 degrees to the first direction to assure even application.
 - 4. Apply dry fertilizers with either a broadcast centrifugal or gravity spreader on planting, bed areas.
 - 5. Water planting areas thoroughly after application.
- D. Replacement of Annuals: Replace, without cost to the Owner and as soon as weather conditions permit, annual plants not in vigorous, thriving, condition, during the first growing season.

3.06 LAWN

- A. Watering:
 - 1. Using a soil sampling tube, check for moisture penetration throughout the root zone at least twice a week.
 - 2. Water lawns at such frequency as weather conditions require, to replenish soil moisture to 6 inches below root zone.
 - 3. Provide a total of 1-1/2 inches of water weekly during hot summer weather, in 3 applications per week.
 - 4. Water at night if irrigation system is electrically controlled. Otherwise, water during early morning hours.

- B. Weed Control:
 - 1. As a last resort, control broad leaf weeds with least toxic herbicides.
 - 2. Coordinate application of herbicides with thatch control and reseeding schedule.
- C. Mowing and Edging:
 - 1. Mow to a height of 2 inches when it reaches a height of 2-1/2
 - 2. Trim edges at least twice a month or as needed for neat
 - 3. Remove and dispose of grass clippings.
- D. Fertilization During Growing Season:
 - 1. Apply Gro-Power Plus, or accepted equal, at 30 pounds per 1,000 square feet every 10 weeks after planting until the Owner, accepts maintenance.
 - 2. Meet requirements of manufacturer's current printed instructions.
 - 3. Apply fertilizers evenly over planting areas by spreading half the fertilizer in one direction and half in a direction 90 degrees to the first direction to assure even application.
 - 4. Apply dry fertilizers with either a broadcast centrifugal or gravity spreader on planting bed areas.
 - 5. Water planting areas thoroughly after application.
- E. Reseeding of Lawn Areas: Replace, without cost to the Owner and as soon as weather conditions permit, lawn areas not in a vigorous, thriving condition, during and at the end of tile maintenance period.

3.07 INSECTS, PESTS, AND DISEASE CONTROL

- A. General:
 - 1. Employ principles of IPM in the selection of preventative and control measures for plant pests and diseases.
 - 2. Insignificant pests will be tolerated providing, they do not seriously threaten planting health and appearance.
 - 3. Monitor the site closely and take timely action to address problems identified.
 - 4. Use personnel licensed and experienced using materials approved by the EPA and conform to applicable laws, codes and regulations, under the direction of a licensed certified pest control operator.
 - 5. Spray with extreme care to avoid hazards to any person, pet, or automobile in the area or adjacent areas.
 - 6. Meet requirements of chemical manufacturer's current printed instructions.
 - 7. The Contractor shall be held liable for plant damage due to the use of chemicals.
- B. Inspection:
 - 1. Inspect plant material weekly for signs of stress and damage.
 - 2. Submit a written and photographic inspection report of findings monthly to the Owner.
- C. Spraying:
 - 1. When necessary, apply the least toxic chemical required for the existing problem.
 - 2. Apply in strict accordance with manufacturer's current printed instructions.
 - 3. Apply sprays only if a pest or disease is a serious threat and cease application after problem is under control.

3.08 FIELD QUALITY CONTROL

- A. Maintenance Review:
1. At the end of the maintenance period, request a review by the Owner to determine whether maintenance Work meets the requirements of the Contract Documents.
 2. Submit a written request at least five working days prior to the anticipated date of review.
 3. If it is found that the maintenance Work does not meet the requirements of the Contract Documents, the Contractor will receive written notification from the Owner of corrective Work preventing acceptance of the maintenance Work.
 4. Perform corrective Work within ten calendar days after the review.
 5. Upon completion of the corrective Work, request another review to determine whether the maintenance Work meets the requirements of the Contract Documents.
 6. Corrective Work followed by review will be required until the corrective Work is found by the Owner to meet the requirements of the Contract Documents.
- B. Owners Acceptance of Maintenance:
1. When the Owner determines that the maintenance Work conforms to the requirements of the Contract Documents the Contractor will receive written notification designating the day which the Owner will accept maintenance responsibility.
 2. Continue maintenance of landscape Work until the Owner, accepts maintenance.

END OF SECTION

SECTION 03100

CONCRETE FORMWORK

1.00 GENERAL

1.01 SUMMARY:

- A. Related Sections:
 - 1. Section 03200: Concrete Reinforcement.
 - 2. Section 03300: Cast-In-Place Concrete.

1.02 SUBMITTALS:

- A. Product data: Submit copies of manufacturer's product specifications and installation instructions for manufactured products, including form sealer and release agent.
- B. Samples: Submit the following:
 - 1. None

1.03 QUALITY ASSURANCE:

- A. Latest edition of applicable standards of the following, as referenced:
 - 1. American Concrete Institute:
 - a. ACI-301, Specifications for Structural Concrete for Buildings.
 - b. ACI-318, Building Code Requirements for Reinforced Concrete.
 - c. ACI-347, Recommended Practice for Concrete Formwork.
 - d. ACI-SP-15, Field Reference Manual.
 - 2. American Plywood Association (APA) Grading Rules.
 - 3. Southern Pine Inspection Bureau (SPIB) Grading Rules.
 - 4. Western Wood Products Association (WWPA) Grading Rules.
- B. Allowable tolerances: Construct formwork within tolerance requirements of ACI-347. Maximum deflection of form facing material between supports shall be limited to 0.0025 X span.
- C. Inspection: Notify Robert and Company at least 48 hours prior to placing of concrete to allow for inspection of formwork. Place no concrete in board forms without Robert and Company's approval of layout. Robert and Company's review is for aesthetic purposes only and does not diminish Contractor's sole responsibility for engineering and construction of formwork.

2.00 PRODUCTS

2.01 FORMING MATERIALS:

- A. Lumber for architectural board forms: No. 3 and BTR Douglas Fir.
 - 1. Widths: Random 4", 6", and 8".
 - 2. Thickness: 3/4" to 1" actual.
 - 3. Edges: Square, surfaced.
 - 4. Face texture: Form face side shall be rough saw textured.
- B. Lumber for work unexposed in finished work: No.2 Southern Yellow Pine.

- C. Plywood:
 - 1. For architectural exposed finishes: HDO-EXT-APA overlay plywood, or B-B Plyform- EXT-APA.
 - 2. For unexposed concrete: C-C EXT-APA.
- D. Metal or plastic forms: Smooth, undented, clean steel or new plastic forms.
- E. Earth forms: Forms for footings may be cut into earth, provided that earth is dry, stable, level and sound.
- F. Studs, walls, supports and centering: Types required for loads imposed; materials as selected by Contractor.
- G. Form ties:
 - 1. Architectural finishes: Breakback type with 5/8" removable vinyl sleeve.
 - 2. Retaining walls and walls below liquid level: Provide ties with positive water stopprojection at center of wall.
 - 3. All other conditions: Breakback type with 5/8" removable vinyl sleeve or 1" diameter breakback cone type.
- H. Plywood form sealer: Colored polyurethane coating of type acceptable to plywood manufacturer, for sealing cut edges of plywood.
- I. Form release agent: Type recommended by cement manufacturer as satisfactory for use without staining or causing surface imperfections in architectural finishes. Use same brand form release agent for all forms.
- J. Water stops: Extruded polyvinyl-chloride, minimum size 6" wide by 3/16" thickness with two 3/8" diameter bells, unless otherwise indicated.
- K. Joint gasket: medium density, closed cell foam gasket tape with adhesive one side.
- L. Form sealant:
 - 1. Acceptable products:
 - a. General Electric/Silicone Products Dept., SCS-1200.
 - b. Dow Chemical Company, #790.
 - 2. Type: One-part silicone.
 - 3. Color: Clear.
 - 4. Primer: Sealant manufacturer's recommended product.

3.00 EXECUTION

3.01 GENERAL FORMWORK CONSTRUCTION:

- A. Construct formwork to lines and elevations indicated.
- B. Contractor shall assume sole responsibility for design and construction of concrete formwork capable of supporting construction loads with adequate margin of safety and of maintaining plastic concrete to planes, dimensions and surfaces shown, within specified tolerances. Care shall be taken in the design to account for uplift, unbalanced and vibratory loads, and their effect upon the vertical and lateral stability of formwork. Design shall be such that joints may be maintained tight and true.

- C. Construct forms to be removed without hammering or prying against concrete.
- D. Layout of joints in formwork shall be in accord with approved shop drawings. Caulk and gasket tie holes and joints in exposed surfaces to prevent leakage of concrete. Joints shall bear tightly on solid back-up. Taping of formwork joints will not be permitted.
- E. Build trap doors into back of vertical forms to facilitate cleaning, inspection, and deposition of concrete. Box out for accessories, anchors, and openings as required. Secure items required to be built into concrete in forms.
- F. Clean forms of dirt, debris, concrete, and foreign matter before each use or re-use. Examine forms prior to each re-use and replace those which developed defects affecting the strength, tightness, or visual appearance.
- G. Immediately prior to placement of reinforcement, apply form release agent to forms in accord with manufacturer's printed instructions. Rate of application shall be constant to prevent discoloration of concrete. Remove excess material immediately.
- H. Construct bulkheads with keys at separation of pours, except as otherwise noted on drawings. Locations of bulkheads shall be as indicated on approved shop drawings.
- I. Removal of formwork shall take place only after concrete has developed sufficient strength to support itself and superimposed loads and to resist damage from removal operations.

END OF SECTION

SECTION 03200

CONCRETE REINFORCEMENT

1.00 GENERAL

1.01 SUBMITTALS:

- A. Shop drawings: Indicate bar bending details, bar lists, and placement drawings for reinforcement. Indicate dimensions on placement drawings.
 - 1. Form of placement drawings, including schedules, details, and notes shall contain same information as Contract Drawings.
 - 2. Show wall reinforcement in elevation.
 - 3. Indicate locations of accessories, conduits, and piping to be embedded in concrete.

1.02 DELIVERY, STORAGE, AND HANDLING:

- A. Deliver reinforcement in bundles with waterproof tags. Maintain tags attached until material is incorporated into Work.
- B. Deliver and handle materials to prevent damage or weakening to reinforcement.
- C. Prevent accumulation of rust or debris on reinforcement during storing. Store off ground and under cover.

1.03 QUALITY ASSURANCE:

- A. Latest edition of applicable standards of the following, as referenced:
 - 1. American Concrete Institute (ACI) Standards:
 - a. ACI 301, Specifications for Structural Concrete for Buildings.
 - b. ACI 315, Manual of Standard Practice for Detailing Reinforced Concrete Structures.
 - c. ACI 318, Building Code Requirements for Reinforced Concrete, with supplements.
 - 2. Concrete Reinforcing Steel Institute (CRSI) Manual of Standard Practice-Placing Reinforcing Bars.
 - 3. American Welding Society (AWS); AWS D12.1.

2.00 PRODUCTS

2.01 REINFORCEMENT:

- A. Bars: Meeting ASTM A615, deformed type for #3 and larger bars; Grade 60 for all bars.
- B. Welded wire fabric: Meeting ASTM A185, cold-drawn resistance welded; sizes as indicated on drawings.
- C. Tie wire: 16 gauge annealed steel wire.
- D. Accessories:

1. Prefabricated accessories shall comply with CRSI Manual of Standard Practice, Class E at exposed surfaces and Class A unexposed. Legs of all accessories used in exposed concrete shall be solid plastic or plastic coated.
2. Accessories on earth: Footing and slab on ground reinforcement may be supported on solid concrete brick.
3. Support bars: To maintain height for top reinforcement shall be #4 minimum.

3.00 EXECUTION

3.01 FABRICATION AND ERECTION:

- A. Shop fabricate reinforcement to shape and dimensions indicated on approved placement drawings. Bent bars shall be bent cold. Fabricate in accord with ACI315 and ACI318.
- B. Metal reinforcement, at the time concrete is placed, shall be free from rust, scale and other coatings reducing bond. Use no bars with kinks or bends not shown on placement drawings.
- C. Place metal reinforcement in accord with ACI 315, ACI 318, and placement drawings. Secure in position in forms. Minimum slab reinforcement support spacing shall be as recommended by CRSI. Do not weld items to reinforcing steel unless a written proposal is specifically approved in writing by Robert and Company.
- D. Protective concrete cover over reinforcement shall be as indicated on drawings.
- E. Splice reinforcement in accord with ACI 318. Mechanical compression splices will not be permitted unless prior written approval is obtained from Robert and Company. Where welded splices are indicated, use full penetration butt welds in accord with AWS specifications. Welded splices shall be inspected by an independent testing laboratory selected and paid by Contractor, acceptable to Robert and Company. Unless shown otherwise, lapped bars shall have Class "B" laps where less than 50% of the bars are lapped within a required lap length, and Class "C" laps where more than 50% of the bars are lapped within a required lap length.
- F. Install wire mesh reinforcement in sizes and locations indicated on the drawings. Lap joints one wire spacing plus 2" and extend mesh to within 1" of edges of slabs on grade.

END OF SECTION

SECTION 03300

CAST-IN-PLACE MISCELLANEOUS CONCRETE

1.00 GENERAL

1.01 SUBMITTALS:

- A. Mix design: Submit design mixes for review, in accord with the requirements of Georgia DOT Section 441 for Class "B" concrete specified for sidewalks, curbs, valley gutters, footings, and trench drains prior to placing any concrete.
- B. Submit certification for admixtures and curing and sealing compounds. Submit manufacturer's product data for all manufactured items used.

1.02 DELIVERY, STORAGE AND HANDLING:

- A. Mix and transport concrete in accord with the requirements of Georgia DOT.
- B. Stamp delivery tickets with date, time of leaving plant, and time truck is completely unloaded.
- C. No water will be allowed to be added over and above indicated in accepted "design mix" or approved by the Owner's Rep.

1.03 JOB CONDITIONS:

- A. Environmental conditions:
 - 1. No concrete shall be placed when the surrounding air is 40 degrees F. or less and falling, except concreting in colder weather shall be in accord with ACI 306.
 - 2. Take precaution to prevent high temperatures in fresh concrete during hot weather, in accord with ACI 305.
 - 3. Use water reducing and set retarding admixtures in such quantities as recommended by concrete supplier to assure that concrete remains workable and lift lines will not be visible in exposed Work.

1.04 QUALITY ASSURANCE:

- A. Industry standards of the following, as referenced:
 - 1. American Association of State Highway & Transportation Officials (AASHTO).
 - 2. American Concrete Institute (ACI).
 - 3. American Society for Testing and Materials (ASTM).
- B. Concrete testing:
 - 1. Tests:
 - a. All concrete testing will be provided by the Ga. D.O.T. Laboratory (see Section 01410).
 - b. Sampling: Conform to ASTM C172.
 - c. Slump tests: Conform to ASTM C143.
 - d. Make and cure compression test specimens in accordance with ASTM C31. e. Set of test cylinders shall consist of minimum of four. One cylinder shall be broken at seven days and two at 28 days. No 28-day test (average of two cylinders) shall fall below specified strength. Should any concrete fall below specified strength, Robert and Company may order concrete

- removed, further tests made, or other remedial measures taken; all at Contractor's expense.
- e. All tests shall be in accordance with General Conditions.

2.00 PRODUCTS

2.01 REINFORCEMENT:

- A. Bars: ASTM A615, Grade 60, deformed type for #3 and larger bars.

2.02 CONCRETE MATERIALS:

- A. Portland cement: Meeting ASTM C150, Type I or III, domestic manufacture. Use only one brand of cement throughout Project.
- B. Fine aggregates: Meeting the requirements of Georgia DOT for Class "B" Concrete.
- C. Coarse aggregates: Meeting the requirements of Georgia DOT for Class "B" Concrete.
- D. Water: Clean, potable, and free from deleterious amounts of alkalis, acids, and organic matter.

2.03 ADMIXTURES:

- A. Calcium chloride is not permitted. Provide certification of chloride ion content prior to mix design review:
 - 1. Water reducer:
 - a. Acceptable products: HP or Lignin
 - 1) Euclid Chemical Company; Eucon Retarder
 - 2) Master Builders; 300R
 - 3) W. R. Grace & Company; WRDA-79

2.04 CURING:

- A. Curing and sealing compounds:
 - 1. Acceptable products:
 - a. Euclid Chemical Company; Super Floor Coat.
 - b. L&M Construction Chemicals, Inc.; Dress and Seal 30.
 - c. Master Builders; Masterseal.
 - 2. Type: High solids, methyl methacrylate or chlorinated rubber type, 30% solids content, minimum.
 - 3. Meet requirements of:
 - a. AASHTO M-148, Type 1.
 - b. ASTM C309, Type 1, Class A.
 - c. Fed. Spec. TT-C-800A, Type I.
- B. Curing and sealing compounds:
 - 1. Acceptable products:
 - a. L&M Construction Chemicals, Inc.; Dress and Seal.
 - b. Master Builders; Masterkure.
 - c. Sonneborn-Contech; Kure-N-Seal 0800.
 - 2. Type: Clear acrylic base meeting Fed. Spec. TT-C-800A, Type I.

- C. Curing and sealing compounds:
 - 1. Acceptable products:
 - a. Chem-Master Corp.; Polyrez.
 - c. Sonneborn-Contech; Kure-N-Seal.
 - 2. Type: Clear acrylic-based meeting ASTM C309, Type 1, Class B.
- D. Wet curing materials:
 - 1. Moisture-retaining cover: Waterproof paper, polyethylene film, or burlap-polyethylene sheet meeting ASTM C171.
 - 2. Sand: Clean, natural sand, meeting ASTM C144.
 - 3. Water: Clean and potable.

2.05 CONCRETE DESIGN:

- A. Design requirements:
 - 1. 28-day strength: 3000 psi for walks and footings.
 - 2. Type: Normal weight.
 - 3. Slump: 4" maximum allowed.
 - 4. Weight: 135 to 160 lbs. per cu. ft.

3.00 EXECUTION

3.01 FORMS:

- A. Earth forms may be used for footing forms where sides of excavation are cut true, in firm soil.
- B. Forms: Construct to conform to shape, lines, grades, and dimensions indicated. Make forms substantial and sufficiently tight to prevent leakage of liquid and properly braced or tied together to maintain position and shape. Forms shall not deflect under dead load weight of liquid concrete or construction loads.
- C. Build bulkheads with keys in footings and slabs where necessary to stop concrete placement. Submit locations of construction joints and sequence of placements to Robert and Company for approval before starting concrete placement.

3.02 REINFORCEMENT:

- A. Protect metal reinforcement by concrete cover. Where not otherwise indicated on drawings, thickness of concrete over reinforcement shall be as follows:
 - 1. Slabs on ground: 2" clear to top.
 - 2. Footings: 3" clear to sides and bottom; 2" clear to top.
- B. Lap joints in wire mesh reinforcing one wire span plus 2" and extend mesh to within 1" of sides and ends of slabs.

3.03 PLACING CONCRETE:

- A. Place no concrete until all embedded items and reinforcement have been placed in forms and approval of Robert and Company has been obtained. Give Robert and Company ample notice of an impending pour so work may be inspected prior to placing.

- B. Convey concrete from mixer to place of final deposits by methods that prevent segregation or loss of material.
- C. Place no concrete in forms after concrete has taken its initial set. Re-tempering of concrete which has partially set is prohibited. Place all concrete in forms within one and one-half hours after water is added to mixture. No placing will be permitted when sun, temperature, wind, or limitations of facilities furnished by Contractor prevent proper finishing and curing.
- D. Deposit concrete as near final position as possible to avoid re-handling. Place in uniform, horizontal layers between 1'-6" and 2'-0", take care @ to avoid vertical joints or inclined planes. Piling up of concrete in forms in such a manner as to permit the escape of mortar, or flow of concrete itself, will not be permitted. Deposit concrete continuously and rapidly as practical until entire unit of pour is completed, with thorough consolidation by vibrating to ensure a dense, homogeneous mass without voids or pockets. Do not spade concrete at surfaces receiving finish.
- E. Work concrete into forms, around bars and embedded items with spades, rods, trowels, and vibration to produce a solid homogeneous mass, free of pockets, voids and honeycombs.
- F. Make and locate construction joints to least impair strength of structure. Clean surface of concrete; remove all laitance where a joint is made. In addition, vertical joints shall be mechanically roughened, dampened, and specified bonding compound applied. Place new concrete after bonding compound has dried.
- G. Saw control joints as soon as concrete has set at locations indicated on drawings. Concrete set is determined when surface is not moved by men or machine, but in no case less than 12 hours after pour.

3.04 CURING:

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperature; maintain without drying at relatively constant temperature for period of time necessary for hydration of cement and hardening of concrete.
- B. Begin initial curing as soon as free water has disappeared from concrete surface after placing and finishing. Keep moist continuously for not less than 72 hours.
- C. Begin final curing procedures immediately following initial curing and before the concrete has dried. Continue final curing for at least 168 cumulative hours during which concrete has been exposed to air temperatures above 50 degrees F. Avoid rapid drying at end of final curing period.
- D. Provide moisture curing by any of the following methods:
 - 1. Keeping surface of concrete continuously wet by covering with water.
 - 2. Continuous water-fog spray.
 - 3. Covering concrete surface with specified absorptive cover, thoroughly saturating cover with water, and keeping absorptive cover continuously wet.
- E. Provide moisture-retaining cover curing as follows: Cover concrete surfaces with specified moisture retaining cover for curing concrete, placed in widest practicable width with sides and ends lapped at least 3" and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

- F. Provide liquid curing-sealing compound as follows: Apply specified membrane-forming, curing-sealing compound to damp concrete surfaces as soon as concrete has set sufficiently so as not to be marred by application. Recoat areas which are subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage to coat during entire period.
- G. Do not use membrane curing-sealing compounds on surfaces which are to be covered with a coating material applied directly to concrete or with waterproofing, damp proofing, flooring, paint, and coatings and finish materials.
- H. Cure formed surfaces of concrete, including undersides of supported slabs and other similar surfaces by moist curing with forms in place in full curing period or until forms are removed. If forms are removed, continue curing by methods specified above, as applicable.
- I. Curing unformed surfaces:
 - 1. Initially cure unformed surfaces, such as slabs and other flat surfaces by moist curing.
 - 2. Final cure unformed surfaces, unless otherwise specified, by any of the methods specified above, as applicable.

3.06 PROTECTION:

- A. Protect freshly placed concrete from damage due to water, falling objects, or persons marring finish surface of concrete. Remove and replace surfaces damaged due to lack of protective measures with fresh concrete.
- B. Protect finishes from damage by work of other trades due to subsequent work.

END OF SECTION