

# **PROJECT MANUAL**

**Def. Maint: Roads, Parking Lots, Sidewalks,  
Walkways – Roads and Lot E  
State Project No.: H18-9584-MJ-B2**



**Francis Marion University**

April 2, 2024

Prepared By:  
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CA Project # 392912-22



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# SE-310 INVITATION FOR DESIGN-BID-BUILD CONSTRUCTION SERVICES

AGENCY: Francis Marion University

PROJECT NAME: Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E

PROJECT NUMBER: H18-9584-MJ-B2 CONSTRUCTION COST RANGE: \$1,500,000 to \$2,000,000

PROJECT LOCATION: Wallace Dr., Alumni Dr., Heyward Dr, and Parking Lot E

DESCRIPTION OF PROJECT/SERVICES: (450 character limit)

Full depth reclamation (20%) and milling (80%) of roadways (Wallace Dr., Alumni Dr., Heyward Dr.) and parking Lot E on Francis Marion University's main campus.

BID/SUBMITTAL DUE DATE: 04/25/2024 TIME: 02:00 PM NUMBER OF COPIES: 1

PROJECT DELIVERY METHOD: Design-Bid-Build

AGENCY PROJECT COORDINATOR: Taylor H. McMillan

EMAIL: [taylor.mcmillan2@fmarion.edu](mailto:taylor.mcmillan2@fmarion.edu) TELEPHONE: (843) 661-1488

DOCUMENTS OBTAINED FROM: <https://www.fmarion.edu/facilitiesmanagement/>

**BID SECURITY IS REQUIRED IN AN AMOUNT NOT LESS THAN 5% OF THE BASE BID.**

**PERFORMANCE AND LABOR & MATERIAL PAYMENT BONDS:** The successful Contractor will be required to provide Performance and Labor and Material Payment Bonds, each in the amount of 100% of the Contract Price.

DOCUMENT DEPOSIT AMOUNT: \$0.00 IS DEPOSIT REFUNDABLE:  Yes  No  N/A

Bidders must obtain Bidding Documents/Plans from the above listed sources(s) to be listed as an official plan holder. Bidders that rely on copies obtained from any other source do so at their own risk. All written communications with official plan holders & bidders will be via email or website posting.

Agency **WILL NOT** accept Bids sent via email.

All questions & correspondence concerning this Invitation shall be addressed to the A/E.

A/E NAME: Chao & Associates, Inc. A/E CONTACT: Gerald A. Lee, PE

EMAIL: [geralddl@chaoinc.com](mailto:geralddl@chaoinc.com) TELEPHONE: (803) 772-8420

PRE-BID CONFERENCE:  Yes  No MANDATORY ATTENDANCE:  Yes  No

PRE-BID DATE: 04/11/2024 TIME: 10:00 AM

PRE-BID PLACE: FMU - Facilities Management Building Conference Room - 4822 E. Palmetto St. Florence, SC

BID OPENING PLACE: FMU - Facilities Management Building Conference Room - 4822 E. Palmetto St. Florence, SC

BID DELIVERY ADDRESSES:

HAND-DELIVERY:

Attn: Taylor McMillan

Francis Marion University - Physical Plant  
4822 E. Palmetto St. Florence, SC 29506

MAIL SERVICE:

Attn: Taylor McMillan

P.O. Box 100547  
Florence, SC 29502-0547

IS PROJECT WITHIN AGENCY CONSTRUCTION CERTIFICATION?  Yes  No

APPROVED BY:



DATE: 04/03/2024

(OSE PROJECT MANAGER)

**BID BOND MUST BE IN THE FORM OF AIA 310**

**South Carolina Division of Procurement  
Services, Office of State Engineer Version of  
 AIA<sup>®</sup> Document A701<sup>™</sup> – 2018**

***Instructions to Bidders***

This version of AIA Document A701<sup>™</sup>–2018 is modified by the South Carolina Division of Procurement Services, Office of State Engineer (“SCOSE”). Publication of this version of AIA Document A701–2018 does not imply the American Institute of Architects’ endorsement of any modification by SCOSE. A comparative version of AIA Document A701–2018 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as “AIA Document A701<sup>™</sup>– 2018, Instructions to Bidders — SCOSE Version,” or “AIA Document A701<sup>™</sup>–2018 — SCOSE Version.”

# South Carolina Division of Procurement Services, Office of State Engineer Version of AIA<sup>®</sup> Document A701<sup>™</sup> – 2018

## *Instructions to Bidders*

for the following Project:

*(Name, State Project Number, location, and detailed description)*

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E

H18-9584-MJ-B2

4822 East Palmetto Street Florence, SC 29506

### **THE OWNER:**

*(Name, legal status, address, and other information)*

Francis Marion University

4822 East Palmetto Street

Florence, SC 29506

The Owner is a Governmental Body of the State of South Carolina as defined by S.C. Code Ann. § 11-35-310.

### **THE ARCHITECT:**

*(Name, legal status, address, and other information)*

Chao and Associates, Inc

7 Clusters Court

Columbia, SC 29210

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

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## ARTICLE 1 DEFINITIONS

§ 1.1 Bidding Documents include the Bidding Requirements and the Proposed Contract Documents. The Bidding Requirements consist of the advertisement or invitation to bid, Instructions to Bidders, supplementary instructions to bidders, the bid form, and any other bidding forms. The Proposed Contract Documents consist of the unexecuted form of Agreement between the Owner and Contractor and that Agreement's Exhibits, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, all Addenda, and all other documents enumerated in Article 8 of these Instructions.

§ 1.1.1 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA Document A101-2017 Standard Form of Agreement Between Owner and Contractor, SCOSE Version. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA Document A201-2017 General Conditions of the Contract for Construction, SCOSE Version.

§ 1.2 Definitions set forth in the General Conditions of the Contract for Construction, or in other Proposed Contract Documents apply to the Bidding Documents.

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

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

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

§ 1.6 An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from, or that does not change, the Base Bid if the corresponding change in the Work, as described in the Bidding Documents, is accepted.

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

§ 1.8 A Bidder is a person or entity who submits a Bid.

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

## ARTICLE 2 BIDDER'S REPRESENTATIONS

§ 2.1 By submitting a Bid, the Bidder represents that:

- .1 the Bidder has read and understands the Bidding Documents;
- .2 the Bidder understands how the Bidding Documents relate to other portions of the Project, if any, being bid concurrently or presently under construction;
- .3 the Bid complies with the Bidding Documents;
- .4 the Bidder has visited the site, become familiar with local conditions under which the Work is to be performed, has correlated the Bidder's observations with the requirements of the Proposed Contract Documents, and accepts full responsibility for any pre-bid existing conditions that would affect the Bid that could have been ascertained by a site visit. As provided in S.C. Code Ann. Reg. 19-445.2042(B), a bidder's failure to attend an advertised pre-bid conference will not excuse its responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the State;
- .5 the Bid is based upon the materials, equipment, and systems required by the Bidding Documents without exception;
- .6 the Bidder has read and understands the provisions for liquidated damages, if any, set forth in the form of Agreement between the Owner and Contractor; and
- .7 the Bidder understands that it may be required to accept payment by electronic funds transfer (EFT).

### § 2.2 Certification of Independent Price Determination

§ 2.2.1 GIVING FALSE, MISLEADING, OR INCOMPLETE INFORMATION ON THIS CERTIFICATION MAY RENDER YOU SUBJECT TO PROSECUTION UNDER SC CODE OF LAWS §16-9-10 AND OTHER APPLICABLE LAWS.



§ 2.2.2 By submitting a Bid, the Bidder certifies that:

- .1 The prices in this Bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to:
  - .1 those prices;
  - .2 the intention to submit a Bid; or
  - .3 the methods or factors used to calculate the prices offered.
- .2 The prices in this Bid have not been and will not be knowingly disclosed by the Bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and
- .3 No attempt has been made or will be made by the Bidder to induce any other concern to submit or not to submit a Bid for the purpose of restricting competition.

§ 2.2.3 Each signature on the Bid is considered to be a certification by the signatory that the signatory:

- .1 Is the person in the Bidder's organization responsible for determining the prices being offered in this Bid, and that the signatory has not participated and will not participate in any action contrary to Section 2.2.2 of this certification; or
- .2 Has been authorized, in writing, to act as agent for the Bidder's principals in certifying that those principals have not participated, and will not participate in any action contrary to Section 2.2.2 of this certification [As used in this subdivision, the term "principals" means the person(s) in the Bidder's organization responsible for determining the prices offered in this Bid];
- .3 As an authorized agent, does certify that the principals referenced in Section 2.2.3.2 of this certification have not participated, and will not participate, in any action contrary to Section 2.2.2 of this certification; and
- .4 As an agent, has not personally participated, and will not participate, in any action contrary to Section 2.2.2 of this certification.

§ 2.2.4 If the Bidder deletes or modifies Section 2.2.2.2 of this certification, the Bidder must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

#### § 2.2.5 Drug Free Workplace Certification

By submitting a Bid, the Bidder certifies that, if awarded a contract, Bidder will comply with all applicable provisions of The Drug-free Workplace Act, S.C. Code Ann. 44-107-10, et seq.

#### § 2.2.6 Certification Regarding Debarment and Other Responsibility Matters

§ 2.2.6.1 By submitting a Bid, Bidder certifies, to the best of its knowledge and belief, that:

- .1 Bidder and/or any of its Principals-
  - .1 Are not presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any state or federal 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) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of bids; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and
  - .3 Are not presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in Section 2.2.6.1.1.2 of this provision.
- .2 Bidder has not, within a three-year period preceding this Bid, had one or more contracts terminated for default by any public (Federal, state, or local) entity.
- .3 "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

§ 2.2.6.2 Bidder shall provide immediate written notice to the Procurement Officer if, at any time prior to contract award, Bidder learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

§ 2.2.6.3 If Bidder is unable to certify the representations stated in Section 2.2.6.1, Bidder must submit a written explanation regarding its inability to make the certification. The certification will be considered in connection with a review of the Bidder's responsibility. Failure of the Bidder to furnish additional information as requested by the Procurement Officer may render the Bidder non-responsible.

§ 2.2.6.4 Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by Section 2.2.6.1 of this provision. The knowledge and information of a Bidder is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

§ 2.2.6.5 The certification in Section 2.2.6.1 of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Bidder knowingly or in bad faith rendered an erroneous certification, in addition to other remedies available to the State, the Procurement Officer may terminate the contract resulting from this solicitation for default.

### § 2.2.7 Ethics Certificate

By submitting a Bid, the Bidder certifies that the Bidder has and will comply with, and has not, and will not, induce a person to violate Title 8, Chapter 13 of the SC Code of Laws, as amended (Ethics Act). The following statutes require special attention: S.C. Code Ann. §8-13-700, regarding use of official position for financial gain; S.C. Code Ann. §8-13-705, regarding gifts to influence action of public official; S.C. Code Ann. §8-13-720, regarding offering money for advice or assistance of public official; S.C. Code Ann. §8-13-755 and §8-13-760, regarding restrictions on employment by former public official; S.C. Code Ann. §8-13-775, prohibiting public official with economic interests from acting on contracts; S.C. Code Ann. §8-13-790, regarding recovery of kickbacks; S.C. Code Ann. §8-13-1150, regarding statements to be filed by consultants; and S.C. Code Ann. §8-13-1342, regarding restrictions on contributions by contractor to candidate who participated in awarding of contract. The State may rescind any contract and recover all amounts expended as a result of any action taken in violation of this provision. If the contractor participates, directly or indirectly, in the evaluation or award of public contracts, including without limitation, change orders or task orders regarding a public contract, the contractor shall, if required by law to file such a statement, provide the statement required by S.C. Code Ann. §8-13-1150 to the Procurement Officer at the same time the law requires the statement to be filed.

### § 2.2.8 Restrictions Applicable To Bidders & Gifts

Violation of these restrictions may result in disqualification of your Bid, suspension or debarment, and may constitute a violation of the state Ethics Act.

§ 2.2.8.1 After issuance of the solicitation, Bidder agrees not to discuss this procurement activity in any way with the Owner or its employees, agents or officials. All communications must be solely with the Procurement Officer. This restriction may be lifted by express written permission from the Procurement Officer. This restriction expires once a contract has been formed.

§ 2.2.8.2 Unless otherwise approved in writing by the Procurement Officer, Bidder agrees not to give anything to the Owner, any affiliated organizations, or the employees, agents or officials of either, prior to award.

§ 2.2.8.3 Bidder acknowledges that the policy of the State is that a governmental body should not accept or solicit a gift, directly or indirectly, from a donor if the governmental body has reason to believe the donor has or is seeking to obtain contractual or other business or financial relationships with the governmental body. SC Regulation 19-445.2165(C) broadly defines the term donor.

### § 2.2.9 Open Trade Representation

By submitting a Bid, the Bidder represents that Bidder is not currently engaged in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in S.C. Code Ann. §11-35-5300.

## ARTICLE 3 BIDDING DOCUMENTS

### § 3.1 Distribution

§ 3.1.1 Bidders shall obtain complete Bidding Documents from the issuing office designated in the advertisement or invitation to bid, for the deposit sum, if any, stated therein.

§ 3.1.2 Any required deposit shall be refunded to all plan holders who return the paper Bidding Documents in good condition within ten (10) days after receipt of Bids. The cost to replace missing or damaged paper documents will be deducted from the deposit. A Bidder receiving a Contract award may retain the paper Bidding Documents, and the Bidder's deposit will be refunded.

### § 3.1.3 Reserved

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

§ 3.1.5 The Bidding Documents will be available for the sole purpose of obtaining Bids on the Work. No license or grant of use is conferred by distribution of the Bidding Documents.

§ 3.1.6 All persons obtaining Bidding Documents from the issuing office designated in the advertisement shall provide that office with Bidder's contact information to include the Bidder's name, telephone number, mailing address, and email address.

### § 3.2 Modification or Interpretation of Bidding Documents

§ 3.2.1 The Bidder shall carefully study the Bidding Documents, shall examine the site and local conditions, and shall notify the Architect of errors, inconsistencies, or ambiguities discovered and request clarification or interpretation pursuant to Section 3.2.2. Failure to do so will be at the Bidder's risk. Bidder assumes responsibility for any patent ambiguity that Bidder does not bring to the Architect's attention prior to Bid Opening.

§ 3.2.2 Requests for clarification or interpretation of the Bidding Documents shall be submitted by the Bidder in writing and shall be received by the Architect at least ten (10) days prior to the date for receipt of Bids.

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

§ 3.2.4 As provided in S.C. Code Ann. Reg. 19-445.2042(B), nothing stated at the Pre-bid conference shall change the Bidding Documents unless a change is made by Addendum.

### § 3.3 Substitutions

§ 3.3.1 The materials, products, and equipment described in the Bidding Documents establish a standard of required function, dimension, appearance, and quality to be met by any proposed substitution. Where "brand name or equal" is used in the Bidding Documents, the listing description is not intended to limit or restrict competition.

#### § 3.3.2 Substitution Process

§ 3.3.2.1 Written requests for substitutions shall be received by the Architect at least ten (10) days prior to the date for receipt of Bids. Requests shall be submitted in the same manner as that established for submitting clarifications and interpretations in Section 3.2.2.

§ 3.3.2.2 Bidders shall submit substitution requests on a Substitution Request Form if one is provided in the Bidding Documents.

§ 3.3.2.3 If a Substitution Request Form is not provided, requests shall include (1) the name of the material or equipment specified in the Bidding Documents; (2) the reason for the requested substitution; (3) a complete description of the proposed substitution including the name of the material or equipment proposed as the substitute, performance and test data, and relevant drawings; and (4) any other information necessary for an evaluation. The request shall include a statement setting forth changes in other materials, equipment, or other portions of the Work, including changes in the work of other contracts or the impact on any Project Certifications (such as LEED), that will result from incorporation of the proposed substitution.

§ 3.3.2.4 No request to substitute materials, products, or equipment for materials, products, or equipment described in the Bidding Documents and no request for addition of a manufacturer or supplier to a list of approved manufacturers or suppliers in the Bidding Documents will be considered prior to receipt of Bids unless written request for approval has been received by the Architect at least ten (10) days prior to the date for receipt of Bids established in the invitation to bid.

Init.

Any subsequent extension of the date for receipt of Bids by addendum shall not extend the date for receipt of such requests unless the addendum so specifies. A statement setting forth changes in other materials, equipment or other portions of the Work, including changes in the Work of other contracts that incorporation of the proposed substitution would require, shall be included.

§ 3.3.3 The burden of proof of the merit of the proposed substitution is upon the proposer. The Architect's decision of approval or disapproval of a proposed substitution shall be final.

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

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

#### § 3.4 Addenda

§ 3.4.1 Addenda will be transmitted to Bidders known by the issuing office to have received complete Bidding Documents.

§ 3.4.2 Addenda will be available where Bidding Documents are on file.

§ 3.4.3 Addenda will be issued at least five (5) business days before the day of the Bid Opening, except an Addendum withdrawing the request for Bids or one which includes postponement of the date for receipt of Bids. A business day runs from midnight to midnight and excludes weekends and state and federal holidays.

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

§ 3.4.5 When the date for receipt of Bids is to be postponed and there is insufficient time to issue an Addendum prior to the original Bid Date, the Owner will notify prospective Bidders by telephone or other appropriate means with immediate follow up with an Addendum. This Addendum will verify the postponement of the original Bid Date and establish a new Bid Date. The new Bid Date will be no earlier than the fifth (5th) business day after the date of issuance of the Addendum postponing the original Bid Date.

§ 3.4.6 If an emergency or unanticipated event interrupts normal government processes so that Bids cannot be received at the government office designated for receipt of Bids by the exact time specified in the solicitation, the time specified for receipt of Bids will be deemed to be extended to the same time of day specified in the solicitation on the first work day on which normal government processes resume. In lieu of an automatic extension, an Addendum may be issued to reschedule Bid Opening. If state offices are closed in the county in which Bids are to be received at the time a pre-bid or pre-proposal conference is scheduled, an Addendum will be issued to reschedule the conference. Bidders shall visit <https://www.scecmd.org/closings/> for information concerning closings.

### ARTICLE 4 BIDDING PROCEDURES

#### § 4.1 Preparation of Bids

§ 4.1.1 Bids shall be submitted on the forms included with or identified in the Bidding Documents.

§ 4.1.2 All blanks on the Bid Form shall be legibly executed. Paper bid forms shall be executed in a non-erasable medium.

§ 4.1.3 Sums shall be expressed in numbers.

§ 4.1.4 Interlineations, alterations and erasures must be initialed by the signer of the Bid. Bidder shall not make stipulations or qualify his Bid in any manner not permitted on the Bid Form. An incomplete Bid or information not requested that is written on or attached to the Bid Form that could be considered a qualification of the Bid, may be cause for rejection of the Bid.

§ 4.1.5 All requested Alternates shall be bid. The failure of the Bidder to indicate a price for an Alternate shall render the Bid non-responsive. Indicate the change to the Base Bid by entering the dollar amount and marking, as appropriate, the box for "ADD TO" or "DEDUCT FROM". If no change in the Base Bid is required, enter "ZERO" or "No Change".

§ 4.1.6 Pursuant to S.C. Code Ann. § 11-35-3020(b)(i), as amended, Section 7 of the Bid Form sets forth a list of proposed subcontractors for which the Bidder is required to identify those subcontractors the Bidder will use to perform the work listed. Bidder must follow the instructions in the Bid Form for filling out this section of the Bid Form. Failure to properly fill out Section 7 may result in rejection of Bidder's bid as non-responsive.

§ 4.1.7 Contractors and subcontractors listed in Section 7 of the Bid Form who are required by the South Carolina Code of Laws to be licensed, must be licensed as required by law at the time of bidding.

§ 4.1.8 Each copy of the Bid shall state the legal name and legal status of the Bidder. Each copy of the Bid shall be signed by the person or persons legally authorized to bind the Bidder to a contract.

§ 4.1.9 A Bidder shall incur all costs associated with the preparation of its Bid.

## § 4.2 Bid Security

§ 4.2.1 If required by the invitation to bid, each Bid shall be accompanied by a bid security in an amount of not less than five percent of the Base Bid. The bid security shall be a bid bond or a certified cashier's check.

§ 4.2.2 The Bidder pledges to enter into a Contract with the Owner on the terms stated in the Bid and shall, if required, furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder. Should the Bidder refuse to enter into such Contract or fail to furnish such bonds if required, the amount of the bid security shall be forfeited to the Owner as liquidated damages, not as a penalty.

§ 4.2.3 If a surety bond is required as bid security, it shall be written on AIA Document A310™, Bid Bond and the attorney-in-fact who executes the bond on behalf of the surety shall affix to the bond a certified and current copy of an acceptable power of attorney. The Bid Bond shall:

- .1 be issued by a surety company licensed to do business in South Carolina;
- .2 be issued by a surety company having, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty", which company shows a financial strength rating of at least five (5) times the contract price.
- .3 be enclosed in the bid envelope at the time of Bid Opening, either in paper copy or as an electronic bid bond authorization number provided on the Bid Form and issued by a firm or organization authorized by the surety to receive, authenticate and issue binding electronic bid bonds on behalf the surety.

§ 4.2.4 The Owner will have the right to retain the bid security of Bidders to whom an award is being considered until either (a) the Contract has been executed and performance and payment bonds, if required, have been furnished; (b) the specified time has elapsed so that Bids may be withdrawn; or (c) all Bids have been rejected.

§ 4.2.5 By submitting a Bid Bond via an electronic bid bond authorization number on the Bid Form and signing the Bid Form, the Bidder certifies that an electronic bid bond has been executed by a Surety meeting the standards required by the Bidding Documents and the Bidder and Surety are firmly bound unto the State of South Carolina under the conditions provided in this Section 4.2.

## § 4.3 Submission of Bids

§ 4.3.1 A Bidder shall submit its Bid as indicated below:

§ 4.3.2 All paper copies of the Bid, the bid security, and any other documents required to be submitted with the Bid shall be enclosed in a sealed opaque envelope. The envelope shall, unless hand delivered by the Bidder, be addressed to the Owner's designated purchasing office as shown in the invitation to bid. The envelope shall be identified with the Project name, the Bidder's name and address, and, if applicable, the designated portion of the Work for which the Bid is submitted. If the Bid is sent by mail, or special delivery service (UPS, Federal Express, etc.), the sealed envelope shall be labelled "SEALED BID ENCLOSED" on the face thereof. Bidders hand delivering their Bids shall deliver Bids to the place of the Bid Opening as shown in the invitation for bids. Whether or not Bidders attend the Bid Opening, they shall give their Bids to the Owner's Procurement Officer or his/her designee as shown in the invitation to bid prior to the time of the Bid Opening.

§ 4.3.3 Bids shall be submitted by the date and time and at the place indicated in the invitation to bid. Bids submitted after the date and time for receipt of Bids, or at an incorrect place, will not be accepted.

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

§ 4.3.5 A Bid submitted by any method other than as provided in this Section 4.3 will not be accepted. Oral, telephonic, telegraphic, facsimile or other electronically transmitted bids will not be considered.

§ 4.3.6 The official time for receipt of Bids will be determined by reference to the clock designated by the Owner's Procurement Officer or his/her designee. The Procurement Officer conducting the Bid Opening will determine and announce that the deadline has arrived and no further Bids or bid modifications will be accepted. All Bids and bid modifications in the possession of the Procurement Officer at the time the announcement is completed will be timely, whether or not the bid envelope has been date/time stamped or otherwise marked by the Procurement Officer.

#### § 4.4 Modification or Withdrawal of Bid

§ 4.4.1 Prior to the date and time designated for receipt of Bids, a Bidder may submit a new Bid to replace a Bid previously submitted, or withdraw its Bid entirely, by notice to the party designated to receive the Bids. Such notice shall be received and duly recorded by the receiving party on or before the date and time set for receipt of Bids. The receiving party shall verify that replaced or withdrawn Bids are removed from the other submitted Bids and not considered. Notice of submission of a replacement Bid or withdrawal of a Bid shall be worded so as not to reveal the amount of the original Bid.

§ 4.4.2 Withdrawn Bids may be resubmitted up to the date and time designated for the receipt of Bids in the same format as that established in Section 4.3, provided they fully conform with these Instructions to Bidders. Bid security shall be in an amount sufficient for the Bid as resubmitted.

### ARTICLE 5 CONSIDERATION OF BIDS

#### § 5.1 Opening of Bids

Bids received on time will be publicly opened and read aloud. The Owner will not read aloud Bids that the Owner determines, at the time of opening, to be non-responsive.

§ 5.1.1 At Bid Opening, the Owner will announce the date and location of the posting of the Notice of Intend to Award. If the Owner determines to award the Project, the Owner will, after posting a Notice of Intend to Award, send a copy of the Notice to all Bidders.

§ 5.1.2 The Owner will send a copy of the final Bid Tabulation to all Bidders within ten (10) working days of the Bid Opening.

§ 5.1.3 If only one Bid is received, the Owner will open and consider the Bid.

#### § 5.2 Rejection of Bids

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

§ 5.2.2 The reasons for which the Owner will reject Bids include, but are not limited to:

- .1 Failure by a Bidder to be represented at a Mandatory Pre-Bid Conference or site visit;
- .2 Failure to deliver the Bid on time;
- .3 Failure to comply with Bid Security requirements, except as expressly allowed by law;
- .4 Listing an invalid electronic Bid Bond authorization number on the Bid Form;
- .5 Failure to Bid an Alternate, except as expressly allowed by law;
- .6 Failure to list qualified subcontractors as required by law;
- .7 Showing any material modification(s) or exception(s) qualifying the Bid;
- .8 Faxing a Bid directly to the Owner or Owner's representative; or
- .9 Failure to include a properly executed Power-of-Attorney with the Bid Bond.

§ 5.2.3 The Owner may reject a Bid as nonresponsive if the prices bid are materially unbalanced between line items or sub-line items. A Bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated in relation to cost for other work, and if there is a reasonable doubt that the Bid

will result in the lowest overall cost to the Owner even though it may be the low evaluated Bid, or if it is so unbalanced as to be tantamount to allowing an advance payment.

### § 5.3 Acceptance of Bid (Award)

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

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

## ARTICLE 6 POST-BID INFORMATION

### § 6.1 Contractor's Responsibility

Owner will make a determination of Bidder's responsibility before awarding a contract. Bidder shall provide all information and documentation requested by the Owner to support the Owner's evaluation of responsibility. Failure of Bidder to provide requested information is cause for the Owner, at its option, to determine the Bidder to be non-responsible.

### § 6.2 Reserved

### § 6.3 Submittals

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

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

### § 6.4 Posting of Intent To Award

The Notice of Intent to Award will be posted at the following location:

**Room or Area of Posting:** FMU Physical Plant Bulletin Board

**Building Where Posted:** FMU Physical Plant Building

**Address of Building:** 4822 East Palmetto Street Florence, SC 29506

**WEB site address (if applicable):** <https://www.fmarion.edu/facilitiesmanagement/>

**Posting date will be announced at Bid Opening.** In addition to posting the Notice, the Owner will promptly send all responsive Bidders a copy of the Notice of Intent to Award and the final bid tabulation

### § 6.5 Protest of Solicitation or Award

§ 6.5.1 If you are aggrieved in connection with the solicitation or award of a contract, you may be entitled to protest, but only as provided in S.C. Code Ann. § 11-35-4210. To protest a solicitation, you must submit a protest within fifteen (15) days of the date the applicable solicitation document is issued. To protest an award, you must (i) submit notice of your intent to protest within seven (7) business days of the date the award notice is posted, and (ii) submit your actual protest within fifteen (15) days of the date the award notice is posted. Days are calculated as provided in Section 11-35-310(13). Both protests and notices of intent to protest must be in writing and must be received by the State Engineer within the time provided. The grounds of the protest and the relief requested must be set forth with enough particularity to give notice of the issues to be decided.

§ 6.5.2 Any protest must be addressed to the CPO, Office of State Engineer, and submitted in writing:

- .1 by email to [protest-ose@mso.sc.gov](mailto:protest-ose@mso.sc.gov),
- .2 by facsimile at 803-737-0639, or
- .3 by post or delivery to 1201 Main Street, Suite 600, Columbia, SC 29201.

By submitting a protest to the foregoing email address, you (and any person acting on your behalf) consent to receive communications regarding your protest (and any related protests) at the e-mail address from which you sent your protest.

## ARTICLE 7 PERFORMANCE BOND AND PAYMENT BOND

### § 7.1 Bond Requirements

§ 7.1.1 If stipulated in the Bidding Documents, the Bidder shall furnish bonds covering the faithful performance of the Contract and payment of all obligations arising thereunder.

§ 7.1.2 If the furnishing of such bonds is stipulated in the Bidding Documents, the cost shall be included in the Bid.

§ 7.1.3 The Bidder shall provide surety bonds from a company or companies lawfully authorized to issue surety bonds in the state of South Carolina.

§ 7.1.4 Unless otherwise indicated below, the Penal Sum of the Payment and Performance Bonds shall be the amount of 100% of the Contract Sum.

### § 7.2 Time of Delivery of Contract, Certificates of Insurance, and Form of Bonds

§ 7.2.1 Following expiration of the protest period, the Owner will forward the Contract for Construction to the Bidder for signature. The Bidder shall return the fully executed Contract for Construction to the Owner within seven (7) days. The Bidder shall deliver the required bonds and certificate of insurance to the Owner not later than three (3) days following the date of execution of the Contract. Failure to deliver these documents as required shall entitle the Owner to consider the Bidder's failure as a refusal to enter into a contract in accordance with the terms and conditions of the Bidder's Bid and to make claim on the Bid Security for re-procurement cost.

§ 7.2.2 Unless otherwise provided, the bonds shall be written on the Performance Bond and Payment Bond forms included in the Bid Documents.

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

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

## ARTICLE 8 ENUMERATION OF THE PROPOSED CONTRACT DOCUMENTS

§ 8.1 Copies of the proposed Contract Documents have been made available to the Bidder and consist of the following documents:

- .1 AIA Document A101™–2017, Standard Form of Agreement Between Owner and Contractor, SCOSE Version.
- .2 AIA Document A101™–2017, Exhibit A, Insurance and Bonds, SCOSE Version.
- .3 AIA Document A201™–2017, General Conditions of the Contract for Construction, SCOSE Version.
- .4 Drawings

Number	Title	Date
C0.0	Key Plan	4/2/2024
C1.0 to C1.4	Roadway Repair Plan	4/2/2024
C2.0 to C2.4	Striping Plan	4/2/2024
C3.0	Parking Lot E	4/2/2024
C4.0 to C4.1	Construction Details	4/2/2024

- .5 Specifications

Section	Title	Date	Pages
015639	Tree and Plant Protection	4/2/2024	3
311000	Site Clearing	4/2/2024	3
312000	Earth Moving	4/2/2024	8
312300	Excavation and Backfill	4/2/2024	8
312510	Sediment & Erosion Contl	4/2/2024	4
321216	Asphalt Paving	4/2/2024	4

Init.



.6 Addenda:

Number	Date	Pages
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.7 Other Exhibits:

*(Check all boxes that apply and include appropriate information identifying the exhibit where required.)*

- AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, dated as indicated below:
- AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:
- The Sustainability Plan:
- Supplementary and other Conditions of the Contract:

.8 Other documents listed below:

*(List here any additional documents that are intended to form part of the Proposed Contract Documents.)*

## ARTICLE 9 Miscellaneous

### § 9.1 Nonresident Taxpayer Registration Affidavit Income Tax Withholding Important Tax Notice - Nonresidents Only

§ 9.1.1 Withholding Requirements for Payments to Nonresidents: SC Code of Laws §12-8-550 requires persons hiring or contracting with a nonresident conducting a business or performing personal services of a temporary nature within South Carolina to withhold 2% of each payment made to the nonresident. The withholding requirement does not apply to (1) payments on purchase orders for tangible personal property when the payments are not accompanied by services to be performed in South Carolina, (2) nonresidents who are not conducting business in South Carolina, (3) nonresidents for contracts that do not exceed \$10,000 in a calendar year, or (4) payments to a nonresident who (a) registers with either the S.C. Department of Revenue or the S.C. Secretary of State and (b) submits a Nonresident Taxpayer Registration Affidavit - Income Tax Withholding, Form I-312 to the person letting the contract.

§ 9.1.2 For information about other withholding requirements (e.g., employee withholding), contact the Withholding Section at the South Carolina Department of Revenue at 803-898-5383 or visit the Department's website at:

[www.sctax.org](http://www.sctax.org)

§ 9.1.3 This notice is for informational purposes only. This Owner does not administer and has no authority over tax issues. All registration questions should be directed to the License and Registration Section at 803-898-5872 or to the South Carolina Department of Revenue, Registration Unit, Columbia, S.C. 29214-0140. All withholding questions should be directed to the Withholding Section at 803-898-5383.

PLEASE SEE THE "NONRESIDENT TAXPAYER REGISTRATION AFFIDAVIT INCOME TAX WITHHOLDING" FORM (Available through SC Department of Revenue).

## § 9.2 Submitting Confidential Information

§ 9.2.1 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the word "CONFIDENTIAL" every page, or portion thereof, that the Bidder contends contains information that is exempt from public disclosure because it is either (a) a trade secret as defined in Section 30-4-40(a)(1), or (b) privileged & confidential, as that phrase is used in SC Code of Laws §11-35-410.

§ 9.2.2 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the words "TRADE SECRET" every page, or portion thereof, that the Bidder contends contains a trade secret as that term is defined by SC Code of Laws §39-8-20.

§ 9.2.3 For every document the Bidder submits in response to or with regard to this solicitation or request, the Bidder must separately mark with the word "PROTECTED" every page, or portion thereof, that the Bidder contends is protected by SC Code of Laws §11-35-1810.

§ 9.2.4 All markings must be conspicuous; use color, bold, underlining, or some other method in order to conspicuously distinguish the mark from the other text. Do not mark your entire Bid as confidential, trade secret, or protected! If your Bid, or any part thereof, is improperly marked as confidential or trade secret or protected, the State may, in its sole discretion, determine it nonresponsive. If only portions of a page are subject to some protection, do not mark the entire page.

§ 9.2.5 By submitting a response to this solicitation, Bidder (1) agrees to the public disclosure of every page of every document regarding this solicitation or request that was submitted at any time prior to entering into a contract (including, but not limited to, documents contained in a response, documents submitted to clarify a response, & documents submitted during negotiations), unless the page is conspicuously marked "TRADE SECRET" or "CONFIDENTIAL" or "PROTECTED", (2) agrees that any information not marked, as required by these bidding instructions, as a "Trade Secret" is not a trade secret as defined by the Trade Secrets Act, & (3) agrees that, notwithstanding any claims or markings otherwise, any prices, commissions, discounts, or other financial figures used to determine the award, as well as the final contract amount, are subject to public disclosure.

§ 9.2.6 In determining whether to release documents, the State will detrimentally rely on the Bidders' marking of documents, as required by these bidding instructions, as being either "Confidential" or "Trade Secret" or "PROTECTED".

§ 9.2.7 By submitting a response, the Bidder agrees to defend, indemnify & hold harmless the State of South Carolina, its officers & employees, from every claim, demand, loss, expense, cost, damage or injury, including attorney's fees, arising out of or resulting from the State withholding information that Bidder marked as "confidential" or "trade secret" or "PROTECTED".

## § 9.3 Solicitation Information From Sources Other Than Official Source

South Carolina Business Opportunities (SCBO) is the official state government publication for State of South Carolina solicitations. Any information on State agency solicitations obtained from any other source is unofficial and any reliance placed on such information is at the Bidder's sole risk and is without recourse under the South Carolina Consolidated Procurement Code.

## § 9.4 Builder's Risk Insurance

Bidders are directed to Exhibit A of the AIA Document A101, 2017 SCOSE Version, which, unless provided otherwise in the Bid Documents, requires the contractor to provide builder's risk insurance on the project.

## § 9.5 Tax Credit For Subcontracting With Minority Firms

§ 9.5.1 Pursuant to S.C. Code Ann. §12-6-3350, taxpayers, who utilize certified minority subcontractors, may take a tax credit equal to 4% of the payments they make to said subcontractors. The payments claimed must be based on work performed directly for a South Carolina state contract. The credit is limited to a maximum of fifty thousand dollars annually. The taxpayer is eligible to claim the credit for 10 consecutive taxable years beginning with the taxable year in which the first payment is made to the subcontractor that qualifies for the credit. After the above ten consecutive taxable years, the taxpayer is no longer eligible for the credit. The credit may be claimed on Form TC-2, "Minority Business Credit." A copy of the subcontractor's certificate from the Governor's Office of Small and Minority Business (OSMBA) is to be attached to the contractor's income tax return.

§ 9.5.2 Taxpayers must maintain evidence of work performed for a State contract by the minority subcontractor. Questions regarding the tax credit and how to file are to be referred to: SC Department of Revenue, Research and Review, Phone: (803) 898-5786, Fax: (803) 898-5888.

§ 9.5.3 The subcontractor must be certified as to the criteria of a "Minority Firm" by the Governor's Office of Small and Minority Business Assistance (OSMBA). Certificates are issued to subcontractors upon successful completion of the certification process. Questions regarding subcontractor certification are to be referred to: Governor's Office of Small and Minority Business Assistance, Phone: (803) 734-0657, Fax: (803) 734-2498. Reference: S.C. Code Ann. §11-35-5010 – Definition for Minority Subcontractor & S.C. Code Ann. §11-35-5230 (B) – Regulations for Negotiating with State Minority Firms.

## § 9.6 Other Special Conditions Of The Work

# SE-330 LUMP SUM BID FORM

*Bidders shall submit bids on only Bid Form SE-330.*

**BID SUBMITTED BY:** \_\_\_\_\_  
(Bidder's Name)

**BID SUBMITTED TO:** Francis Marion University  
(Agency's Name)

**FOR: PROJECT NAME:** Def. Maint: Roads, Parking Lots, Sidewalks, Walkways -Roads and Lot E  
**PROJECT NUMBER:** H18-9584-MJ-B2

## **OFFER**

§ 1. In response to the Invitation for Construction Services and in compliance with the Instructions to Bidders for the above-named Project, the undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into a Contract with the Agency on the terms included in the Bidding Documents, and to perform all Work as specified or indicated in the Bidding Documents, for the prices and within the time frames indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

§ 2. Pursuant to SC Code § 11-35-3030(1), Bidder has submitted Bid Security in the amount and form required by the Bidding Documents.

§ 3. Bidder acknowledges the receipt of the following Addenda to the Bidding Documents and has incorporated the effects of said Addenda into this Bid:

*(Bidder, check all that apply. Note, there may be more boxes than actual addenda. Do not check boxes that do not apply)*

**ADDENDA:**             #1             #2             #3             #4             #5

§ 4. Bidder accepts all terms and conditions of the Invitation for Bids, including, without limitation, those dealing with the disposition of Bid Security. Bidder agrees that this Bid, including all Bid Alternates, if any, may not be revoked or withdrawn after the opening of bids, and shall remain open for acceptance for a period of **60** Days following the Bid Date, or for such longer period of time that Bidder may agree to in writing upon request of the Agency.

§ 5. Bidder herewith offers to provide all labor, materials, equipment, tools of trades and labor, accessories, appliances, warranties and guarantees, and to pay all royalties, fees, permits, licenses and applicable taxes necessary to complete the following items of construction work:

§ 6.1 **BASE BID WORK** *(as indicated in the Bidding Documents and generally described as follows):* Full depth reclamation (20%) and milling (80%) of roadways (Wallace Dr., Alumni Dr., Heyward Dr) and parking lot E

\$ \_\_\_\_\_, which sum is hereafter called the Base Bid.

*(Bidder to insert Base Bid Amount on line above)*

**SE-330  
LUMP SUM BID FORM**

**§ 7. LISTING OF PROPOSED SUBCONTRACTORS PURSUANT TO SECTION 3020(b)(i), CHAPTER 35, TITLE 11 OF THE SOUTH CAROLINA CODE OF LAWS, AS AMENDED**  
*(See Instructions on the following page BF-2A)*

Bidder shall use the below-listed Subcontractors in the performance of the Subcontractor Classification work listed:

<b>(A) SUBCONTRACTOR LICENSE CLASSIFICATION or SUBCLASSIFICATION NAME</b> <i>(Completed by Agency)</i>	<b>(B) LICENSE CLASSIFICATION or SUBCLASSIFICATION ABBREVIATION</b> <i>(Completed by Agency)</i>	<b>(C) SUBCONTRACTOR and/or PRIME CONTRACTOR</b> <i>(Required - must be completed by Bidder)</i>	<b>(D) SUBCONTRACTOR'S and/or PRIME CONTRACTOR'S SC LICENSE NUMBER</b> <i>(Requested, but not Required)</i>
<b>BASE BID</b>			
No Subcontractor Listing Required			
<b>ALTERNATE #1</b>			
<b>ALTERNATE #2</b>			
<b>ALTERNATE #3</b>			

If a Bid Alternate is accepted, Subcontractors listed for the Bid Alternate shall be used for the work of both the Alternate and the Base Bid work.

## SE-330 LUMP SUM BID FORM

### § 8. LIST OF MANUFACTURERS, MATERIAL SUPPLIERS, AND SUBCONTRACTORS OTHER THAN SUBCONTRACTORS LISTED IN SECTION 7 ABOVE (*FOR INFORMATION ONLY*):

Pursuant to instructions in the Invitation for Construction Services, if any, Bidder will provide to Agency upon the Agency's request and within 24 hours of such request, a listing of manufacturers, material suppliers, and subcontractors, other than those listed in Section 7 above, that Bidder intends to use on the project. Bidder acknowledges and agrees that this list is provided for purposes of determining responsibility and not pursuant to the subcontractor listing requirements of SC Code § 11-35-3020(b)(i).

### § 9. TIME OF CONTRACT PERFORMANCE AND LIQUIDATED DAMAGES

#### a) CONTRACT TIME

Bidder agrees that the Date of Commencement of the Work shall be established in a Notice to Proceed to be issued by the Agency. Bidder agrees to substantially complete the Work within 90 Calendar Days from the Date of Commencement, subject to adjustments as provided in the Contract Documents.

#### b) LIQUIDATED DAMAGES

Bidder further agrees that from the compensation to be paid, the Agency shall retain as Liquidated Damages the amount of \$ 500 for each Calendar Day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. This amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty for nonperformance.

### § 10. AGREEMENTS

- a) Bidder agrees that this bid is subject to the requirements of the laws of the State of South Carolina.
- b) Bidder agrees that at any time prior to the issuance of the Notice to Proceed for this Project, this Project may be canceled for the convenience of, and without cost to, the State.
- c) Bidder agrees that neither the State of South Carolina nor any of its agencies, employees or agents shall be responsible for any bid preparation costs, or any costs or charges of any type, should all bids be rejected or the Project canceled for any reason prior to the issuance of the Notice to Proceed.

### § 11. ELECTRONIC BID BOND

By signing below, the Principal is affirming that the identified electronic bid bond has been executed and that the Principal and Surety are firmly bound unto the State of South Carolina under the terms and conditions of the AIA Document A310, Bid Bond, referenced in the Bidding Documents.

**ELECTRONIC BID BOND NUMBER:** \_\_\_\_\_

**SIGNATURE AND TITLE:** \_\_\_\_\_

**SE-330  
LUMP SUM BID FORM**

**CONTRACTOR'S CLASSIFICATIONS AND SUBCLASSIFICATIONS WITH LIMITATION**

**SC Contractor's License Number(s):** \_\_\_\_\_

**Classification(s) & Limits:** \_\_\_\_\_

**Subclassification(s) & Limits:** \_\_\_\_\_

**By signing this Bid, the person signing reaffirms all representation and certification made by both the person signing and the Bidder, including without limitation, those appearing in Article 2 of the SCOSE Version of the AIA Document A701, Instructions to Bidders, is expressly incorporated by reference.**

**BIDDER'S LEGAL NAME:** \_\_\_\_\_

**ADDRESS:** \_\_\_\_\_

\_\_\_\_\_

**TELEPHONE:** \_\_\_\_\_

**EMAIL:** \_\_\_\_\_

**SIGNATURE:** \_\_\_\_\_ **DATE:** \_\_\_\_\_

**PRINT NAME:** \_\_\_\_\_

**TITLE:** \_\_\_\_\_

**South Carolina Division of Procurement  
Services, Office of State Engineer Version of  
 AIA<sup>®</sup> Document A101<sup>®</sup> – 2017**

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

This version of AIA Document A101<sup>®</sup>–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer (“SCOSE”). Publication of this version of AIA Document A101–2017 does not imply the American Institute of Architects’ endorsement of any modification by SCOSE. A comparative version of AIA Document A101–2017 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as “AIA Document A101<sup>®</sup>–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum — SCOSE Version,” or “AIA Document A101<sup>®</sup>–2017 — SCOSE Version.”



# South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A101® – 2017

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

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

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

Francis Marion University  
4822 East Palmetto Street  
Florence, SC 29506

The Owner is a Governmental Body of the State of South Carolina as defined in S.C. Code Ann. § 11-35-310.

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

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

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E  
H18-9584-MJ-B2  
4822 East Palmetto Street Florence, SC 29506

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

Chao and Associates, Inc  
7 Clusters Court  
Columbia, SC 29210

The Owner and Contractor agree as follows.

This version of AIA Document A101–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer. Publication of this version of AIA Document A101 does not imply the American Institute of Architects' endorsement of any modification by South Carolina Division of Procurement Services, Office of State Engineer. A comparative version of AIA Document A101–2017 showing additions and deletions by the South Carolina Division of Procurement Services, Office of State Engineer is available for review on South Carolina state Web site.

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

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## TABLE OF ARTICLES

- 1 THE CONTRACT DOCUMENTS
- 2 THE WORK OF THIS CONTRACT
- 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION
- 4 CONTRACT SUM
- 5 PAYMENTS
- 6 DISPUTE RESOLUTION
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- 9 ENUMERATION OF CONTRACT DOCUMENTS

## EXHIBIT A INSURANCE AND BONDS

### ARTICLE 1 THE CONTRACT DOCUMENTS

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

§ 1.2 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101-2017 Standard Form of Agreement Between Owner and Contractor, SCOSE Version. Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201-2017 General Conditions of the Contract for Construction, SCOSE Version.

### ARTICLE 2 THE WORK OF THIS CONTRACT

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

### ARTICLE 3 DATE OF COMMENCEMENT AND SUBSTANTIAL COMPLETION

§ 3.1 The Date of Commencement of the Work shall be the date fixed in a Notice to Proceed issued by the Owner. The Owner shall issue the Notice to Proceed to the Contractor in writing, no less than seven (7) days prior to the Date of Commencement. Unless otherwise provided elsewhere in the Contract Documents and provided the Contractor has secured all required insurance and surety bonds, the Contractor may commence work immediately after receipt of the Notice to Proceed.

§ 3.2 The Contract Time as provided in the Notice to Proceed for this project shall be measured from the Date of Commencement of the Work to Substantial Completion.

#### § 3.3 Substantial Completion

§ 3.3.1 Subject to adjustments of the Contract Time as provided in the Contract Documents, the Contractor shall achieve Substantial Completion of the entire Work within the Contract Time indicated in the Notice to Proceed.

§ 3.3.2 If the Contractor fails to achieve Substantial Completion as provided in this Section 3.3, liquidated damages, if any, shall be assessed as set forth in Section 4.5.

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**ARTICLE 4 CONTRACT SUM**

§ 4.1 The Owner shall pay the Contractor the Contract Sum, including all accepted alternates indicated in the bid documents, in current funds for the Contractor’s performance of the Contract. The Contract Sum shall be

(\$ \_\_\_\_\_), subject to additions and deductions as provided in the Contract Documents.

**§ 4.2 Alternates**

§ 4.2.1 Alternates that are accepted, if any, included in the Contract Sum:

*(Insert the accepted Alternates.)*

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

§ 4.3 Allowances, if any, included in the Contract Sum:

*(Identify each allowance.)*

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

§ 4.4 Unit prices, if any:

*(Identify the item and state the unit price and quantity limitations, if any, to which the unit price will be applicable.)*

Item	Units and Limitations	Price per Unit (\$0.00)
------	-----------------------	-------------------------

**§ 4.5 Liquidated damages**

§ 4.5.1 Contractor agrees that from the compensation to be paid, the Owner shall retain as liquidated damages the amount indicated in Section 9(b) of the Bid Form for each calendar day the actual construction time required to achieve Substantial Completion exceeds the specified or adjusted time for Substantial Completion as provided in the Contract Documents. The liquidated damages amount is intended by the parties as the predetermined measure of compensation for actual damages, not as a penalty.

§ 4.6 Other:

*(Insert provisions for bonus or other incentives, if any, that might result in a change to the Contract Sum.)*

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## ARTICLE 5 PAYMENTS

### § 5.1 Progress Payments

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

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

§ 5.1.3 The Owner shall make payment of the certified amount to the Contractor not later than twenty-one (21) days after receipt of the Application for Payment.

§ 5.1.4 Each Application for Payment shall be based on the most recent schedule of values submitted by the Contractor in accordance with the Contract Documents. The schedule of values shall allocate the entire Contract Sum among the various portions of the Work. The schedule of values shall be prepared in such form, and supported by such data to substantiate its accuracy, as the Architect may require. This schedule of values shall be used as a basis for reviewing the Contractor's Applications for Payment.

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

§ 5.1.6 Subject to S.C. Code Ann. § 12-8-550 (Withholding Requirements for Payments to Non-Residents), in accordance with AIA Document A201®-2017, General Conditions of the Contract for Construction, and subject to other provisions of the Contract Documents, the amount of each progress payment shall be computed as follows:

§ 5.1.6.1 The amount of each progress payment shall first include:

- .1 That portion of the Contract Sum properly allocable to completed Work;
- .2 That portion of the Contract Sum properly allocable to materials and equipment delivered and suitably stored at the site for subsequent incorporation in the completed construction, or, if approved in advance by the Owner, suitably stored off the site at a location agreed upon in writing; and
- .3 That portion of Construction Change Directives that the Architect determines, in the Architect's professional judgment, to be reasonably justified.

§ 5.1.6.2 The amount of each progress payment shall then be reduced by:

- .1 The aggregate of any amounts previously paid by the Owner;
- .2 The amount, if any, for Work that remains uncorrected and for which the Architect has previously withheld a Certificate for Payment as provided in Article 9 of AIA Document A201-2017;
- .3 Any amount for which the Contractor does not intend to pay a Subcontractor or material supplier, unless the Work has been performed by others the Contractor intends to pay;
- .4 For Work performed or defects discovered since the last payment application, any amount for which the Architect may withhold payment, or nullify a Certificate of Payment in whole or in part, as provided in Article 9 of AIA Document A201-2017; and
- .5 Retainage withheld pursuant to Section 5.1.7.

### § 5.1.7 Retainage

§ 5.1.7.1 For each progress payment made prior to Substantial Completion of the Work, the Owner may withhold three and one-half percent (3.5%), as retainage, from the payment otherwise due.

§ 5.1.7.2 When a portion, or division, of Work as listed in the Schedule of Values is 100% complete, that portion of the retained funds which is allocable to the completed division must be released to the Contractor. No later than ten (10) days after receipt of retained funds from the Owner, the Contractor shall pay to the subcontractor responsible for such completed work the full amount of retainage allocable to the subcontractor's work.

§ 5.1.7.3 Upon Substantial Completion of the Work, the Contractor may submit an Application for Payment that includes the retainage withheld from prior Applications for Payment pursuant to this Section 5.1.7.

§ 5.1.8 If final completion of the Work is materially delayed through no fault of the Contractor, the Owner shall pay the Contractor any additional amounts in accordance with Article 9 of AIA Document A201–2017.

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

## § 5.2 Final Payment

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

- .1 the Contractor has fully performed the Contract except for the Contractor’s responsibility to correct Work as provided in Article 12 of AIA Document A201–2017, and to satisfy other requirements, if any, which extend beyond final payment; and
- .2 a final Certificate for Payment has been issued by the Architect.

§ 5.2.2 The Owner’s final payment to the Contractor shall be made no later than twenty-one (21) days after the issuance of the Architect’s final Certificate for Payment.

## ARTICLE 6 DISPUTE RESOLUTION

§ 6.1 Claims and disputes shall be resolved in accordance with Article 15 of AIA Document A201–2017.

## ARTICLE 7 TERMINATION OR SUSPENSION

§ 7.1 The Contract may be terminated by the Owner or the Contractor as provided in Article 14 of AIA Document A201–2017.

§ 7.2 The Work may be suspended by the Owner as provided in Article 14 of AIA Document A201–2017.

## ARTICLE 8 MISCELLANEOUS PROVISIONS

§ 8.1 Where reference is made in this Agreement to a provision of AIA Document A201–2017 or another Contract Document, the reference refers to that provision as amended or supplemented by other provisions of the Contract Documents.

§ 8.2 The Owner’s representative:

§ 8.2.1 The Owner designates the individual listed below as its Senior Representative (“Owner’s Senior Representative”), which individual has the responsibility for and, subject to Section 7.2.1 of the General Conditions, the authority to resolve disputes under Section 15.6 of the General Conditions:

**Name:** Ralph U. Davis  
**Title:** Vice President for Construction and Facilities  
**Address:** 4822 East Palmetto Street Florence, SC 29506  
**Telephone:** 843-661-1101  
**Email:** rdavis@fmarion.edu

§ 8.2.2 The Owner designates the individual listed below as its Owner’s Representative, which individual has the authority and responsibility set forth in Section 2.1.1 of the General Conditions:

**Name:** Taylor Hucks McMillian  
**Title:** Project Manager  
**Address:** 4822 East Palmetto Street Florence, SC 29506  
**Telephone:** 843-661-1488  
**Email:** taylor.mcmillan2@fmarion.edu

§ 8.3 The Contractor’s representative:

§ 8.3.1 The Contractor designates the individual listed below as its Senior Representative (“Contractor’s Senior Representative”), which individual has the responsibility for and authority to resolve disputes under Section 15.6 of the General Conditions:

**Name:**

**Title:**  
**Address:**  
**Telephone:**  
**Email:**

§ 8.3.2 The Contractor designates the individual listed below as its Contractor's Representative, which individual has the authority and responsibility set forth in Section 3.1.1 of the General Conditions:

**Name:**  
**Title:**  
**Address:**  
**Telephone:**  
**Email:**

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

§ 8.5 The Architect's representative:

**Name:** Gerald A. Lee, PE  
**Title:** Vice President  
**Address:** 7 Clusters Court Columbia, SC 29210  
**Telephone:** 803-772-8420  
**Email:** geraldL@chaoinc.com

#### § 8.6 Insurance and Bonds

§ 8.6.1 The Owner and the Contractor shall purchase and maintain insurance as set forth in AIA Document A101®–2017, Standard Form of Agreement Between Owner and Contractor where the basis of payment is a Stipulated Sum, Exhibit A, Insurance and Bonds, and elsewhere in the Contract Documents.

§ 8.6.2 The Contractor shall provide bonds as set forth in AIA Document A101®–2017 Exhibit A, and elsewhere in the Contract Documents.

§ 8.7 Notice in electronic format, pursuant to Article 1 of AIA Document A201–2017, may be given in accordance with AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, if completed, or as otherwise set forth below:

*(If other than in accordance with AIA Document E203–2013, insert requirements for delivering notice in electronic format such as name, title, and email address of the recipient and whether and how the system will be required to generate a read receipt for the transmission.)*

#### § 8.8 Other Provisions:

§ 8.8.1 Additional requirements, if any, for the Contractor's Construction Schedule are as follows:

*(Check box if applicable to this Contract)*

The Construction Schedule shall be in a detailed precedence-style critical path management (CPM) or primavera-type format satisfactory to the Owner and the Architect that shall also (1) provide a graphic representation of all activities and events that will occur during performance of the Work; (2) identify each phase of construction and occupancy; and (3) set forth milestone dates that are critical in ensuring the timely and orderly completion of the Work in accordance with the requirements of the Contract Documents.

- .1 Upon review by the Owner and the Architect for conformance with milestone dates and Construction Time given in the Bidding Documents, with associated Substantial Completion date, the Construction Schedule shall be deemed part of the Contract Documents and attached to the Agreement as an Exhibit. If returned for non-conformance, the Construction Schedule shall be promptly revised by the Contractor in accordance with the recommendations of the Owner and the Architect and resubmitted.

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- .2 The Contactor shall monitor the progress of the Work for conformance with the requirements of the Construction Schedule and shall promptly advise the Owner of any delays or potential delays. Whenever the Construction Schedule no longer reflects actual conditions and progress of the Work or the Contract Time is modified in accordance with the terms of the Contract Documents, the Contractor shall update the Construction Schedule to reflect such conditions.
- .3 In the event any progress report indicates any delays, the Contractor shall propose an affirmative plan to correct the delay, including overtime and/or additional labor, if necessary.
- .4 In no event shall any progress report constitute an adjustment in the Contract Time, any milestone date, or the Contract Sum unless any such adjustment is agreed to by the Owner and authorized pursuant to Change Order.

**§ 8.8.2** The Owner’s review of the Contractor’s schedule is not conducted for the purpose of either determining its accuracy, completeness, or approving the construction means, methods, techniques, sequences or procedures. The Owner’s review shall not relieve the Contractor of any obligations.

**ARTICLE 9 ENUMERATION OF CONTRACT DOCUMENTS**

**§ 9.1** This Agreement is comprised of the following documents:

- .1 AIA Document A101®–2017, SCOSE Version Standard Form of Agreement Between Owner and Contractor
- .2 AIA Document A101®–2017, Exhibit A, Insurance and Bonds
- .3 AIA Document A201®–2017, SCOSE Version General Conditions of the Contract for Construction
- .4 Form SE-390, Notice to Proceed – Construction Contract
- .5 Drawings

Number	Title	Date
C0.0	Key Plan	4/2/2024
C1.0 to C1.4	Roadway Repair Plan	4/2/2024
C2.0 to C2.4	Striping Plan	4/2/2024
C3.0	Parking Lot E	4/2/2024
C4.0 to C4.1	Construction Details	4/2/2024

- .6 Specifications

Section	Title	Date	Pages
015639	Tree and Plant Protection	4/2/2024	3
311000	Site Clearing	4/2/2024	3
312000	Earth Moving	4/2/2024	8
312300	Excavation and Backfill	4/2/2024	8
312510	Sediment & Erosion Contl	4/2/2024	4
321216	Asphalt Paving	4/2/2024	4

- .7 Addenda, if any:

Number	Date	Pages
--------	------	-------

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

- .8 Other Exhibits:  
(Check all boxes that apply and include appropriate information identifying the exhibit where required.)

AIA Document E204™–2017, Sustainable Projects Exhibit, dated as indicated below:  
(Insert the date of the E204-2017 incorporated into this Agreement.)

The Sustainability Plan:

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

Supplementary and other Conditions of the Contract:

Document	Title	Date	Pages
----------	-------	------	-------

- .9 Other documents, if any, listed below:  
(List here any additional documents that are intended to form part of the Contract Documents. AIA Document A201®–2017 provides that the advertisement or invitation to bid, Instructions to Bidders, sample forms, the Contractor’s bid or proposal, portions of Addenda relating to bidding or proposal requirements, and other information furnished by the Owner in anticipation of receiving bids or proposals, are not part of the Contract Documents unless enumerated in this Agreement. Any such documents should be listed here only if intended to be part of the Contract Documents.)

**Form SE-310, Invitation for Construction Services**  
**Instructions to Bidders (AIA Document A701-2018 OSE Version)**  
**Form SE-330, Contractor’s Bid (Completed Bid Form)**  
**Form SE-370, Notice of Intent to Award**  
**Certificate of Procurement Authority issued by the State Fiscal Accountability Authority**



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

\_\_\_\_\_  
**OWNER** *(Signature)*

\_\_\_\_\_  
**CONTRACTOR** *(Signature)*

\_\_\_\_\_  
*(Printed name and title)*

\_\_\_\_\_  
*(Printed name and title)*

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# South Carolina Division of Procurement Services, Office of State Engineer Version of AIA Document A101<sup>®</sup> – 2017 Exhibit A

## Insurance and Bonds

This Insurance and Bonds Exhibit is part of the Agreement, between the Owner and the Contractor, dated the \_\_\_\_\_ day of \_\_\_\_\_ in the year \_\_\_\_\_  
*(In words, indicate day, month and year.)*

for the following **PROJECT**:  
*(Name, State Project Number, and location or address)*

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E  
H18-9584-MJ-B2  
4822 East Palmetto Street Florence, SC 29506

**THE OWNER:**  
*(Name, legal status and address)*

Francis Marion University  
4822 East Palmetto Street  
Florence, SC 29506

The Owner is a Governmental Body of the State of South Carolina as defined by Title 11, Chapter 35 of the South Carolina Code of Laws, as amended.

**THE CONTRACTOR:**  
*(Name, legal status and address)*

This version of AIA Document A101–2017 Exhibit A is modified by the South Carolina Division of Procurement, Office of State Engineer. Publication of this version of AIA Document A101 Exhibit A does not imply the American Institute of Architects' endorsement of any modification by the South Carolina Division of Procurement, Office of State Engineer.

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

## TABLE OF ARTICLES

- A.1 GENERAL
- A.2 OWNER'S INSURANCE
- A.3 CONTRACTOR'S INSURANCE AND BONDS
- A.4 SPECIAL TERMS AND CONDITIONS

### ARTICLE A.1 GENERAL

The Owner and Contractor shall purchase and maintain insurance, and provide bonds, as set forth in this Exhibit. As used in this Exhibit, the term General Conditions refers to AIA Document A201<sup>®</sup>–2017, General Conditions of the Contract for Construction, SCOSE Version.

**ARTICLE A.2 OWNER'S INSURANCE**

**§ A.2.1 General**

Prior to commencement of the Work, the Owner shall secure the insurance, and provide evidence of the coverage, required under this Article A.2 and, upon the Contractor's request, provide a copy of the policies required by Section A.2.3. The copy of the policy or policies provided shall contain all applicable conditions, definitions, exclusions, and endorsements.

**§ A.2.2 Liability Insurance**

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

**§ A.2.3 Reserved**

**§ A.2.3.1 Reserved**

**§ A.2.3.1.1 Reserved**

**§ A.2.3.1.2 Reserved**

**§ A.2.3.1.3 Reserved**

**§ A.2.3.1.4 Reserved**

**§ A.2.3.2 Reserved**

**§ A.2.3.3 Reserved**

**§ A.2.4 Optional Insurance.**

The Owner shall purchase and maintain any insurance selected below.

**§ A.2.4.1 Other Insurance**

*(List below any other insurance coverage to be provided by the Owner and any applicable limits.)*

**Coverage**

**Limits**

**ARTICLE A.3 CONTRACTOR'S INSURANCE AND BONDS**

**§ A.3.1 General**

**§ A.3.1.1 Certificates of Insurance.** The Contractor shall provide certificates of insurance acceptable to the Owner evidencing compliance with the requirements in this Article A.3 at the following times: (1) prior to commencement of the Work; (2) upon renewal or replacement of each required policy of insurance; and (3) upon the Owner's written request. An additional certificate evidencing continuation of commercial liability coverage, including coverage for completed operations, shall be submitted with the final Application for Payment and thereafter upon renewal or replacement of such coverage until the expiration of the periods required by Section A.3.2.1 and Section A.3.3.1. The certificates will show the Owner as an additional insured on the Contractor's Commercial General Liability and excess or umbrella liability policy or policies. Information concerning reduction of coverage on account of revised limits or claims paid under the General Aggregate, or both, shall be furnished by the Contractor with reasonable promptness.

**§ A.3.1.2 Deductibles and Self-Insured Retentions.** The Contractor shall disclose to the Owner any deductible or self-insured retentions applicable to any insurance required to be provided by the Contractor.

**§ A.3.1.3 Additional Insured Obligations.** To the fullest extent permitted by law, the Contractor shall cause the commercial general liability coverage to include (1) the Owner, the Architect, and the Architect's consultants as additional insureds for claims caused in whole or in part by the Contractor's negligent acts or omissions during the

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Contractor's operations; and (2) the Owner as an additional insured for claims caused in whole or in part by the Contractor's negligent acts or omissions for which loss occurs during completed operations. The additional insured coverage shall be primary and non-contributory to any of the Owner's general liability insurance policies and shall apply to both ongoing and completed operations, whether such operations be by the Contractor or by a Subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable. To the extent commercially available, the additional insured coverage shall be no less than that provided by Insurance Services Office, Inc. (ISO) forms CG 20 10 07 04, CG 20 37 07 04, and, with respect to the Architect and the Architect's consultants, CG 20 32 07 04.

**§ A.3.1.4** A failure by the Owner to either (i) demand a certificate of insurance or written endorsement required by Section A.3, or (ii) reject a certificate or endorsement on the grounds that it fails to comply with Section A.3, shall not be considered a waiver of Contractor's obligations to obtain the required insurance.

### **§ A.3.2 Contractor's Required Insurance Coverage**

**§ A.3.2.1** The Contractor shall purchase and maintain the following types and limits of insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, for such other period for maintenance of completed operations coverage as specified in the Contract Documents, or unless a different duration is stated below:

*(If the Contractor is required to maintain insurance for a duration other than the expiration of the period for correction of Work, state the duration.)*

### **§ A.3.2.2 Commercial General Liability**

**§ A.3.2.2.1** Commercial General Liability insurance for the Project written on an occurrence form with policy limits of not less than \$1,000,000 each occurrence, \$1,000,000 general aggregate, \$1,000,000 aggregate for products-completed operations hazard, \$1,000,000 personal and advertising injury, \$50,000 fire damage (any one fire), and \$5,000 medical expense (any one person) providing coverage for claims including

- .1 damages because of bodily injury, sickness or disease, including occupational sickness or disease, and death of any person;
- .2 personal injury and advertising injury;
- .3 damages because of physical damage to or destruction of tangible property, including the loss of use of such property;
- .4 bodily injury or property damage arising out of completed operations; and
- .5 the Contractor's indemnity obligations under Section 3.18 of the General Conditions.

**§ A.3.2.2.2** The Contractor's Commercial General Liability policy under this Section A.3.2.2 shall not contain an exclusion or restriction of coverage for the following:

- .1 Claims by one insured against another insured, if the exclusion or restriction is based solely on the fact that the claimant is an insured, and there would otherwise be coverage for the claim.
- .2 Claims for property damage to the Contractor's Work arising out of the products-completed operations hazard where the damaged Work or the Work out of which the damage arises was performed by a Subcontractor.
- .3 Claims for bodily injury other than to employees of the insured.
- .4 Claims for indemnity under Section 3.18 of the General Conditions arising out of injury to employees of the insured.
- .5 Claims or loss excluded under a prior work endorsement or other similar exclusionary language.
- .6 Claims or loss due to physical damage under a prior injury endorsement or similar exclusionary language.
- .7 Claims related to residential, multi-family, or other habitational projects, if the Work is to be performed on such a project.
- .8 Claims related to roofing, if the Work involves roofing.
- .9 Claims related to exterior insulation finish systems (EIFS), synthetic stucco or similar exterior coatings or surfaces, if the Work involves such coatings or surfaces.
- .10 Claims related to earth subsidence or movement, where the Work involves such hazards.
- .11 Claims related to explosion, collapse and underground hazards, where the Work involves such hazards.

§ A.3.2.3 Automobile Liability covering vehicles owned, and non-owned vehicles used, by the Contractor, with policy limits of not less than \$1,000,000 per accident, for bodily injury, death of any person, and property damage arising out of the ownership, maintenance and use of those motor vehicles along with any other statutorily required automobile coverage.

§ A.3.2.4 The Contractor may achieve the required limits and coverage for Commercial General Liability, Employers Liability, and Automobile Liability through a combination of primary and excess or umbrella liability insurance, provided such primary and excess or umbrella insurance policies result in the same or greater coverage as the coverages required under Section A.3.2.2 and A.3.2.3, and in no event shall any excess or umbrella liability insurance provide narrower coverage than the primary policy. The excess policy shall not require the exhaustion of the underlying limits only through the actual payment by the underlying insurers. The umbrella policy limits shall not be less than \$3,000,000.

§ A.3.2.5 Workers' Compensation at statutory limits.

§ A.3.2.6 Employers' Liability with policy limits not less than \$100,000 each accident, \$100,000 each employee, and \$500,000 policy limit for claims, disability benefit and other similar employee benefit acts that are applicable to the Work to be performed.

§ A.3.2.7 Jones Act, and the Longshore & Harbor Workers' Compensation Act, as required, if the Work involves hazards arising from work on or near navigable waterways, including vessels and docks.

§ A.3.2.8 Insurance for maritime liability risks associated with the operation of a vessel, if the Work requires such activities, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

§ A.3.2.9 Insurance for the use or operation of manned or unmanned aircraft, if the Work requires such activities, with policy limits of not less than (\$ ) per claim and (\$ ) in the aggregate.

**§ A.3.4 Contractor's Other Insurance Coverage**

**§ A.3.4.1** Insurance selected and described in this Section A.3.4 shall be purchased from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Contractor shall maintain the required insurance until the expiration of the period for correction of Work as set forth in Section 12.2.2 of the General Conditions, unless a different duration is stated below:

*(If the Contractor is required to maintain any of the types of insurance selected below for a duration other than the expiration of the period for correction of Work, state the duration.)*

**§ A.3.4.2** The Contractor shall purchase and maintain the following types and limits of insurance in accordance with Section A.3.4.1.

*(Select the types of insurance the Contractor is required to purchase and maintain by placing an X in the box(es) next to the description(s) of selected insurance. Where policy limits are provided, include the policy limit in the appropriate fill point.)*

**§ A.3.4.2.1 Reserved**

**§ A.3.4.2.2** Insurance for physical damage to property while it is in storage and in transit to the construction site on an "all-risks" completed value form.

**§ A.3.4.2.3** Property insurance on an "all-risks" completed value form, covering property owned by the Contractor and used on the Project, including scaffolding and other equipment.

**§ A.3.4.2.4 Boiler and Machinery Insurance**  
The Contractor shall purchase and maintain boiler and machinery insurance as required, which shall specifically cover such insured objects during installation and until final acceptance by the Owner; this

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insurance shall include interests of the Owner, Contractor, Subcontractors and Sub-subcontractors in the Work, and the Owner and Contractor shall be named insureds.

**§ A.3.5 Performance Bond and Payment Bond**

The Contractor shall provide surety bonds, from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located, as follows:

*(Specify type and penal sum of bonds.)*

Type	Penal Sum (\$0.00)
Payment Bond	100% of Contract Price
Performance Bond	100% of Contract Price

**§ A.3.5.1** Before commencing any services hereunder, the Contractor shall provide the Owner with Performance and Payment Bonds, each in an amount not less than the Contract Price set forth in Article 4 of the Agreement. The Surety shall have, at a minimum, a "Best Rating" of "A" as stated in the most current publication of "Best's Key Rating Guide, Property-Casualty". In addition, the Surety shall have a minimum "Best Financial Strength Category" of "Class V", and in no case less than five (5) times the contract amount. The Performance Bond shall be written on Form SE-355, "Performance Bond" and the Payment Bond shall be written on Form SE-357, "Labor and Material Payment Bond", and both shall be made payable to the Owner.

**§ A.3.5.2** The Performance and Labor and Material Payment Bonds shall:

- .1 be issued by a surety company licensed to do business in South Carolina;
- .2 be accompanied by a current power of attorney and certified by the attorney-in-fact who executes the bond on the behalf of the surety company; and
- .3 remain in effect for a period not less than one (1) year following the date of Substantial Completion or the time required to resolve any items of incomplete Work and the payment of any disputed amounts, whichever time period is longer.

**§ A.3.5.3** Any bonds required by this Contract shall meet the requirements of the South Carolina Code of Laws and Regulations, as amended.

**ARTICLE A.4 SPECIAL TERMS AND CONDITIONS**

Special terms and conditions that modify this Insurance and Bonds Exhibit, if any, are as follows:

**South Carolina Division of Procurement  
Services, Office of State Engineer Version of  
 AIA<sup>®</sup> Document A201<sup>®</sup> – 2017**

***General Conditions of the Contract for Construction***

This version of AIA Document A201<sup>®</sup>–2017 is modified by the South Carolina Division of Procurement Services, Office of State Engineer (“SCOSE”). Publication of this version of AIA Document A201–2017 does not imply the American Institute of Architects’ endorsement of any modification by SCOSE. A comparative version of AIA Document A201–2017 showing additions and deletions by SCOSE is available for review on the SCOSE Web site.

Cite this document as “AIA Document A201<sup>®</sup>–2017, General Conditions of the Contract for Construction—SCOSE Version,” or “AIA Document A201<sup>®</sup>–2017 — SCOSE Version.”



# South Carolina Division of Procurement Services, Office of State Engineer Version of AIA® Document A201® – 2017

## General Conditions of the Contract for Construction

### for the following PROJECT:

*(Name, State Project Number, and location or address)*

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E  
H18-9584-MJ-B2  
4822 East Palmetto Street Florence, SC 29506

### THE OWNER:

*(Name, legal status, and address)*

Francis Marion University  
4822 East Palmetto Street  
Florence, SC 29506

The Owner is a Governmental Body of the State of South Carolina as defined in S.C. Code Ann. § 11-35-310.

### THE ARCHITECT:

*(Name, legal status, and address)*

Chao and Associates, Inc  
7 Clusters Court  
Columbia, SC 29210

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

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## ARTICLE 1 GENERAL PROVISIONS

### § 1.1 Basic Definitions

#### § 1.1.1 The Contract Documents

- .1 The Contract Documents are enumerated in the Agreement between the Owner and Contractor (hereinafter the Agreement) and consist of the Agreement, Conditions of the Contract (General, Supplementary and other Conditions), Drawings, Specifications, Addenda issued prior to execution of the Contract, other documents listed in the Agreement, and Modifications issued after execution of the Contract.
- .2 A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive, or (4) a written order for a minor change in the Work issued by the Architect.
- .3 Unless specifically enumerated in the Agreement, the Contract Documents do not include the advertisement or invitation to bid, Instructions to Bidders, sample forms, other information furnished by the Owner in anticipation of receiving bids or proposals, the Contractor's bid or proposal, or portions of Addenda relating to bidding or proposal requirements.
- .4 Any reference in this document to the Agreement between the Owner and Contractor, AIA Document A101, or some abbreviated reference thereof, shall mean the AIA A101-2017, Standard Form of Agreement Between Owner and Contractor, SCOSE Version.
- .5 Any reference in this document to the General Conditions of the Contract for Construction, AIA Document A201, or some abbreviated reference thereof, shall mean the AIA A201-2017, General Conditions of the Contract for Construction, SCOSE Version.

#### § 1.1.2 The Contract

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

#### § 1.1.3 The Work

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

#### § 1.1.4 The Project

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

#### § 1.1.5 The Drawings

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

#### § 1.1.6 The Specifications

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

#### § 1.1.7 Instruments of Service

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

#### § 1.1.8 Reserved

#### § 1.1.9 Notice to Proceed

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The Notice to Proceed is a document issued by the Owner to the Contractor directing the Contractor to begin prosecution of the Work in accordance with the requirements of the Contract Documents. The Notice to Proceed shall fix the date on which the Contract Time will commence and establish the initial date of the Substantial Completion.

#### **§ 1.1.10 State Engineer**

“State Engineer” means the person holding the position as head of the State Engineer’s Office. The State Engineer’s Office is created by S.C. Code Ann. § 11-35-830, and is sometimes referred to in the Contract Documents as “Office of State Engineer” or “OSE.” The State Engineer is also the Chief Procurement Officer for Construction, sometimes referred to in the Contract Documents as “CPOC”.

#### **§ 1.2 Correlation and Intent of the Contract Documents**

**§ 1.2.1** The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the Contractor. The Contract Documents are complementary, and what is required by one shall be as binding as if required by all; performance by the Contractor shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the indicated results. In the event of patent ambiguities within or between parts of the Contract Documents, the Contractor shall 1) provide the better quality or greater quantity of Work, or 2) comply with the more stringent requirement, either or both in accordance with the Architect’s interpretation.

**§ 1.2.1.1** The invalidity of any provision of the Contract Documents shall not invalidate the Contract or its remaining provisions. If it is determined that any provision of the Contract Documents violates any law, or is otherwise invalid or unenforceable, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

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

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

#### **§ 1.3 Capitalization**

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

#### **§ 1.4 Interpretation**

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

#### **§ 1.5 Ownership and Use of Drawings, Specifications, and Other Instruments of Service**

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

**§ 1.5.2** The Contractor, Subcontractors, Sub-subcontractors, and suppliers are authorized to use and reproduce the Instruments of Service provided to them, subject to any protocols established pursuant to Sections 1.7 and 1.8, solely and exclusively for execution of the Work. All copies made under this authorization shall bear the copyright notice, if any, shown on the Instruments of Service. The Contractor, Subcontractors, Sub-subcontractors, and suppliers may not use the Instruments of Service on other projects or for additions to the Project outside the scope of the Work without the specific written consent of the Owner, Architect, and the Architect’s consultants.

#### **§ 1.6 Notice**

**§ 1.6.1** Except as otherwise provided in Section 1.6.2, where the Contract Documents require one party to notify or give notice to the other party, such notice shall be provided in writing to the designated representative of the party to

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whom the notice is addressed and shall be deemed to have been duly served if delivered in person, by mail, by courier, or by electronic transmission if a method for electronic transmission is set forth in the Agreement.

§ 1.6.2 Notice of Claims as provided in Section 15.1.3 shall be provided in writing and shall be deemed to have been duly served only if delivered to the designated representative of the party to whom the notice is addressed by certified or registered mail, or by courier providing proof of delivery.

§ 1.6.3 Notice to Contractor shall be to the address provided in Section 8.3.2 of the Agreement. Notice to Owner shall be to the address provided in Section 8.2.2 of the Agreement. Either party may designate a different address for notice by giving notice in accordance with Section 1.6.1.

### § 1.7 Digital Data Use and Transmission

The parties shall agree upon protocols governing the transmission and use of Instruments of Service or any other information or documentation, including in digital form. The parties will use AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, to establish the protocols for the development, use, transmission, and exchange of digital data.

### § 1.8 Building Information Models Use and Reliance

Any use of, or reliance on, all or a portion of a building information model without agreement to protocols governing the use of, and reliance on, the information contained in the model and without having those protocols set forth in AIA Document E203™–2013, Building Information Modeling and Digital Data Exhibit, and the requisite AIA Document G202™–2013, Project Building Information Modeling Protocol Form, shall be at the using or relying party's sole risk and without liability to the other party and its contractors or consultants, the authors of, or contributors to, the building information model, and each of their agents and employees.

## ARTICLE 2 OWNER

### § 2.1 General

§ 2.1.1 The Owner is the person or entity identified as such in the Agreement and is referred to throughout the Contract Documents as if singular in number. The Owner shall designate in writing a representative who shall have express authority to bind the Owner with respect to all matters requiring the Owner's approval or authorization, except as provided in Section 7.1.7. Except as otherwise provided in Section 4.2.1, the Architect does not have such authority. The term "Owner" means the Owner or the Owner's Representative noted in the Agreement.

§ 2.1.2 The Owner shall furnish to the Contractor, within fifteen (15) days after receipt of a written request, information necessary and relevant for the Contractor to post Notice of Project Commencement pursuant to S.C. Code Ann. § 29-5-23.

### § 2.2 Reserved

### § 2.3 Information and Services Required of the Owner

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

§ 2.3.2 The Owner shall retain a design professional lawfully licensed to practice, or an entity lawfully practicing, in the jurisdiction where the Project is located. The person or entity is identified as the Architect in the Agreement and is referred to throughout the Contract Documents as if singular in number.

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

§ 2.3.4 The Owner shall furnish surveys describing physical characteristics, legal limitations and utility locations for the site of the Project, and a legal description of the site. Subject to the Contractor's obligations, including those in Section 3.2, the Contractor shall be entitled to rely on the accuracy of information furnished by the Owner pursuant to this Section but shall exercise proper precautions relating to the safe performance of the Work.

§ 2.3.5 The Owner shall furnish information or services required of the Owner by the Contract Documents with reasonable promptness. The Owner shall also furnish any other information or services under the Owner's control and relevant to the Contractor's performance of the Work with reasonable promptness after receiving the Contractor's written request for such information or services. However, the Owner does not warrant the accuracy of any such information requested by the Contractor that is not otherwise required of the Owner by the Contract Documents. Neither the Owner nor the Architect shall be required to conduct investigations or to furnish the Contractor with any information concerning subsurface characteristics or other conditions of the area where the Work is to be performed beyond that which is provided in the Contract Documents.

§ 2.3.6 The Owner shall furnish the Contract Documents to the Contractor in digital format.

#### § 2.4 Owner's Right to Stop the Work

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

#### § 2.5 Owner's Right to Carry Out the Work

If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a ten-day period after receipt of notice from the Owner to commence and continue correction of such default or neglect, including but not limited to providing necessary resources, with diligence and promptness, the Owner may, without prejudice to other remedies the Owner may have, correct such default or neglect. Such action by the Owner and amounts charged to the Contractor are both subject to prior approval of the Architect and the Architect may, pursuant to Section 9.5.1, withhold or nullify a Certificate for Payment in whole or in part, to the extent reasonably necessary to reimburse the Owner for the reasonable cost of correcting such deficiencies, including Owner's expenses and compensation for the Architect's additional services made necessary by such default, neglect, or failure. If current and future payments are not sufficient to cover such amounts, the Contractor shall pay the difference to the Owner. If the Contractor disagrees with the actions of the Owner, or the amounts claimed as costs to the Owner, the Contractor may file a Claim pursuant to Article 15.

### ARTICLE 3 CONTRACTOR

#### § 3.1 General

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

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

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

#### § 3.2 Review of Contract Documents and Field Conditions by Contractor

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

- .1 The Contractor acknowledges that it has investigated and satisfied itself as to the general and local conditions which can affect the Work or its cost, including but not limited to (a) conditions bearing upon transportation, disposal, handling, and storage of materials; (b) the availability of labor, water, electric power, and roads; (c) uncertainties of weather, river stages, tides, or similar physical conditions at the site; (d) the conformation and conditions of the ground; and (e) the character of equipment and facilities needed preliminary to and during work performance.
- .2 The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is

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reasonably ascertainable from an inspection of the site, including all exploratory work done by the Owner, as well as from the drawings and specifications made a part of this Contract.

- 3 Any failure of the Contractor to take the actions described and acknowledged in this Section will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the Owner.

§ 3.2.2 Because the Contract Documents are complementary, the Contractor shall, before starting each portion of the Work, carefully study and compare the various Contract Documents relative to that portion of the Work, as well as the information furnished by the Owner pursuant to Section 2.3.4, shall take field measurements of any existing conditions related to that portion of the Work, and shall observe any conditions at the site affecting it. These obligations are for the purpose of facilitating coordination and construction by the Contractor and are not for the purpose of discovering errors, omissions, or inconsistencies in the Contract Documents; however, the Contractor shall promptly report to the Architect any errors, inconsistencies or omissions discovered by or made known to the Contractor as a request for information in such form as the Architect may require. It is recognized that the Contractor's review is made in the Contractor's capacity as a contractor and not as a licensed design professional, unless otherwise specifically provided in the Contract Documents.

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

§ 3.2.4 If the Contractor believes that additional cost or time is involved because of clarifications or instructions the Architect issues in response to the Contractor's notices or requests for information pursuant to Sections 3.2.2 or 3.2.3, the Contractor shall submit Claims as provided in Article 15. If the Contractor fails to perform the obligations of Sections 3.2.2 or 3.2.3, the Contractor shall pay such costs and damages to the Owner, subject to Section 15.1.7, as would have been avoided if the Contractor had performed such obligations. If the Contractor performs those obligations, the Contractor shall not be liable to the Owner or Architect for damages resulting from latent errors, inconsistencies or omissions in the Contract Documents, for differences between field measurements or conditions and the Contract Documents, or for nonconformities of the Contract Documents to applicable laws, statutes, ordinances, codes, rules and regulations, and lawful orders of public authorities.

§ 3.2.5 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

### § 3.3 Supervision and Construction Procedures

§ 3.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for, and have control over, construction means, methods, techniques, sequences, and procedures, and for coordinating all portions of the Work under the Contract. If the Contract Documents give specific instructions concerning construction means, methods, techniques, sequences, or procedures, the Contractor shall evaluate the jobsite safety thereof and shall be solely responsible for the jobsite safety of such means, methods, techniques, sequences, or procedures. If the Contractor determines that such means, methods, techniques, sequences or procedures may not be safe, the Contractor shall give timely notice to the Owner and Architect, and shall propose alternative means, methods, techniques, sequences, or procedures. The Architect shall evaluate the proposed alternative solely for conformance with the design intent for the completed construction and provide its findings to the Owner. Unless the Owner objects to the Contractor's proposed alternative, the Contractor shall perform the Work using its alternative means, methods, techniques, sequences, or procedures.

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

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

## § 3.4 Labor and Materials

§ 3.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.

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

§ 3.4.2.1 After the Contract has been executed, the Owner and Architect may consider requests for the substitution of products in place of those specified. The Owner and Architect may, but are not obligated to, consider only those substitution requests that are in full compliance with the conditions set forth in the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:

- .1 represents that it has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to the product specified;
- .2 represents that it will provide the same warranty for the substitution as it would have provided for the product specified;
- .3 certifies that the cost data presented is complete and includes all related costs for the substituted product and for Work that must be performed or changes as a result of the substitution, except for the Architect's re-design costs, and waives all claims for additional costs related to the substitution that subsequently become apparent;
- .4 agrees that it shall, if the substitution is approved, coordinate the installation of the accepted substitute, making such changes as may be required for the Work to be complete in all respects; and
- .5 represents that the request includes a written representation identifying any potential effect the substitution may have on Project's achievement of a Sustainable Measure or the Sustainable Objective.

§ 3.4.2.2 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and making agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

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

## § 3.5 Warranty

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

§ 3.5.2 All material, equipment, or other special warranties required by the Contract Documents shall be issued in the name of the Owner, or shall be transferable to the Owner, and shall commence in accordance with Section 9.8.4.

## § 3.6 Taxes

The Contractor shall pay sales, consumer, use and similar taxes for the Work provided by the Contractor that are legally enacted when bids are received or negotiations concluded, whether or not yet effective or merely scheduled to go into effect. The Contractor shall comply with the requirements of S.C Code Ann. Title 12, Chapter 8, regarding withholding tax for nonresidents, employees, contractors and subcontractors.

### § 3.7 Permits, Fees, Notices and Compliance with Laws

§ 3.7.1 Pursuant to S.C. Code Ann. § 10-1-180, no local general or specialty building permits are required for state buildings. Unless otherwise provided in the Contract Documents, the Contractor shall secure and pay for all other permits, fees, and licenses by government agencies necessary for proper execution and completion of the Work that are customarily secured after execution of the Contract and legally required at the time bids are received or negotiations concluded.

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

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

### § 3.7.4 Concealed or Unknown Conditions

If the Contractor encounters conditions at the site that are (1) subsurface or otherwise concealed physical conditions that differ materially from those indicated in the Contract Documents or (2) unknown physical conditions of an unusual nature that differ materially from those ordinarily found to exist and generally recognized as inherent in construction activities of the character provided for in the Contract Documents, the Contractor shall promptly provide notice to the Owner and the Architect before conditions are disturbed and in no event later than 14 days after first observance of the conditions. The Architect will promptly investigate such conditions and, if the Architect determines that they differ materially and cause an increase or decrease in the Contractor's cost of, or time required for, performance of any part of the Work, will recommend that an equitable adjustment be made in the Contract Sum or Contract Time, or both. If the Architect determines that the conditions at the site are not materially different from those indicated in the Contract Documents and that no change in the terms of the Contract is justified, the Architect shall promptly notify the Owner and Contractor, stating the reasons. If either party disputes the Architect's determination or recommendation, that party may submit a Claim as provided in Article 15.

§ 3.7.5 If, in the course of the Work, the Contractor encounters human remains or recognizes the existence of burial markers, archaeological sites or wetlands not indicated in the Contract Documents, the Contractor shall immediately suspend any operations that would affect them and shall notify the Owner and Architect. Upon receipt of such notice, the Owner shall promptly take any action necessary to obtain governmental authorization required to resume the operations. The Contractor shall continue to suspend such operations until otherwise instructed by the Owner but shall continue with all other operations that do not affect those remains or features. Requests for adjustments in the Contract Sum and Contract Time arising from the existence of such remains or features may be made as provided in Article 15.

### § 3.8 Allowances

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

§ 3.8.2 Unless otherwise provided in the Contract Documents,

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

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

### § 3.9 Superintendent

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



§ 3.9.2 The Contractor, as soon as practicable after award of the Contract, shall notify the Owner and Architect of the name and qualifications of a proposed superintendent. Within 14 days of receipt of the information, the Owner may notify the Contractor, stating whether the Owner has reasonable objection to the proposed superintendent. Failure of the Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.

§ 3.9.3 The Contractor shall not employ a proposed superintendent to whom the Owner has made reasonable and timely objection. The Contractor shall notify the Owner of any proposed change in the superintendent, including the reason therefore, prior to making such change. The Contractor shall not change the superintendent without the Owner's consent, which shall not unreasonably be withheld or delayed.

### § 3.10 Contractor's Construction and Submittal Schedules

§ 3.10.1 The Contractor, promptly after being awarded the Contract, shall submit for the Owner's and Architect's information a Contractor's construction schedule for the Work. Subject to any additional requirements in the Contract Documents, the schedule shall contain detail appropriate for the Project, including at a minimum (1) the date of commencement of the Work, interim schedule milestone dates, and the date of Substantial Completion; (2) an apportionment of the Work by construction activity; and (3) the time required for completion of each portion of the Work. The schedule shall provide for the orderly progression of the Work to completion and shall not exceed time limits current under the Contract Documents. The schedule shall be revised at appropriate intervals as required by the conditions of the Work and Project.

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

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

### § 3.11 Documents and Samples at the Site

The Contractor shall make available, at the Project site, the Contract Documents, including Change Orders, Construction Change Directives, and other Modifications, in good order and marked currently to indicate field changes and selections made during construction, and the approved Shop Drawings, Product Data, Samples, and similar required submittals. These shall be in electronic form or paper copy, available to the Architect and Owner, and delivered to the Architect for submittal to the Owner upon completion of the Work as a record of the Work as constructed.

### § 3.12 Shop Drawings, Product Data and Samples

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

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

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

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

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

- .1 The fire sprinkler shop drawings shall be prepared by a licensed fire sprinkler contractor and shall accurately reflect actual conditions affecting the required layout of the fire sprinkler system. The fire sprinkler contractor shall certify the accuracy of its shop drawings prior to submitting them for review and approval.
- .2 The fire sprinkler shop drawings shall be reviewed and approved by the Architect's engineer of record (EOR) prior to submittal to the Office of State Fire Marshal (OSFM).
- .3 The EOR shall submit to OSFM in accordance with the OSFM process.
- .4 Unless authorized in writing by OSE, neither the Contractor nor subcontractor at any tier shall submit the fire sprinkler shop drawings directly to OSFM.

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

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

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

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

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

**§ 3.12.10.1** If professional design services or certifications by a design professional related to systems, materials, or equipment are specifically required of the Contractor by the Contract Documents, the Owner and the Architect will specify all performance and design criteria that such services must satisfy. The Contractor shall be entitled to rely upon the adequacy and accuracy of the performance and design criteria provided in the Contract Documents. The Contractor shall cause such services or certifications to be provided by an appropriately licensed design professional, who shall comply with reasonable requirements of the Owner regarding qualifications and insurance and whose signature and seal shall appear on all drawings, calculations, specifications, certifications, Shop Drawings, and other submittals prepared by such professional. Shop Drawings, and other submittals related to the Work, designed or certified by such professional, if prepared by others, shall bear such professional's written approval when submitted to

the Architect. The Owner and the Architect shall be entitled to rely upon the adequacy and accuracy of the services, certifications, and approvals performed or provided by such design professionals, provided the Owner and Architect have specified to the Contractor the performance and design criteria that such services must satisfy. Pursuant to this Section 3.12.10, the Architect will review and approve or take other appropriate action on submittals only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents.

§ 3.12.10.2 The Contractor shall not be responsible for the adequacy of the performance and design criteria specified in the Contract Documents.

### § 3.13 Use of Site

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

§ 3.13.2 The Contractor and any entity for which the Contractor is responsible shall not erect any sign on the Project site without the prior written consent of the Owner.

### § 3.14 Cutting and Patching

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

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

### § 3.15 Cleaning Up

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

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

### § 3.16 Access to Work

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

### § 3.17 Royalties, Patents and Copyrights

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

### § 3.18 Indemnification

§ 3.18.1 To the fullest extent permitted by law, the Contractor shall indemnify and hold harmless the Owner, Architect, Architect's consultants, and agents and employees of any of them from and against claims, damages, losses, and expenses, including but not limited to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, but

only to the extent caused by the negligent acts or omissions of the Contractor, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity that would otherwise exist as to a party or person described in this Section 3.18.

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

## ARTICLE 4 ARCHITECT

### § 4.1 General

§ 4.1.1 The Architect is the person or entity retained by the Owner pursuant to Section 2.3.2 and identified as such in the Agreement.

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

### § 4.2 Administration of the Contract

§ 4.2.1 The Architect will provide administration of the Contract as described in the Contract Documents and will be an Owner's representative during construction until the date the Architect issues the final Certificate for Payment. The Architect will have authority to act on behalf of the Owner only to the extent provided in the Contract Documents. Any reference in the Contract Documents to the Architect taking action or rendering a decision with a "reasonable time" is understood to mean no more than ten (10) days, unless otherwise specified in the Contract Documents or otherwise agreed to by the parties.

§ 4.2.2 The Architect will visit the site as necessary to fulfill its obligation to the Owner for inspection services, if any, and, at a minimum, to assure conformance with the Architect's design as shown in the Contract Documents and to observe the progress and quality of the portion of the Work completed, and to determine in general if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the Contract Documents. However, the Architect will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. The Architect will not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for the safety precautions and programs in connection with the Work, since these are solely the Contractor's rights and responsibilities under the Contract Documents.

§ 4.2.3 On the basis of the site visits, the Architect will keep the Owner informed about the progress and quality of the portion of the Work completed, and promptly report to the Owner (1) deviations from the Contract Documents, (2) deviations from the most recent construction schedule submitted by the Contractor, and (3) defects and deficiencies observed in the Work. The Architect will not be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect will not have control over or charge of, and will not be responsible for acts or omissions of, the Contractor, Subcontractors, or their agents or employees, or any other persons or entities performing portions of the Work.

### § 4.2.4 Communications

The Owner and Contractor shall include the Architect in all communications that relate to or affect the Architect's services or professional responsibilities. The Owner shall promptly notify the Architect of the substance of any direct communications between the Owner and the Contractor otherwise relating to the Project. Communications by and with the Architect's consultants shall be through the Architect. Communications by and with Subcontractors and suppliers shall be through the Contractor. Communications by and with Separate Contractors shall be through the Owner. The Contract Documents may specify other communication protocols.

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

§ 4.2.6 The Architect has authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect will have authority to require inspection or testing of the Work in accordance with Sections 13.4.2 and 13.4.3, whether or not the Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, suppliers, their agents or employees, or other persons or entities performing portions of the Work.

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

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

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

§ 4.2.10 If the Owner and Architect agree, the Architect will provide one or more Project representatives to assist in carrying out the Architect's responsibilities at the site. The Owner shall notify the Contractor of any change in the duties, responsibilities and limitations of authority of the Project representatives.

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

§ 4.2.12 Interpretations and decisions of the Architect will be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings. When making such interpretations and decisions, the Architect will endeavor to secure faithful performance by both Owner and Contractor, and will not show partiality to either. Except in the case of interpretations resulting in omissions, defects, or errors in the Instruments of Service or perpetuating omissions, defects or errors in the Instruments of Service, the Architect will not be liable for results of interpretations or decisions rendered in good faith. If either party disputes the Architect's interpretation or decision, that party may proceed as provided in Article 15. The Architect's interpretations and decisions may be, but need not be, accorded any deference in any review conducted pursuant to law or the Contract Documents.

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

§ 4.2.14 The Architect will review and respond to requests for information about the Contract Documents so as to avoid delay to the construction of the Project. The Architect's response to such requests will be made in writing with reasonable promptness. If appropriate, the Architect will prepare and issue supplemental Drawings and Specifications in response to the requests for information. Any response to a request for information must be consistent with the intent of, and reasonably inferable from, the Contract Documents and will be in writing or in the form of drawings.

Unless issued pursuant to a Modification, supplemental Drawings or Specifications will not involve an adjustment to the Contract Sum or Contract Time.

## **ARTICLE 5 SUBCONTRACTORS**

### **§ 5.1 Definitions**

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

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

### **§ 5.2 Award of Subcontracts and Other Contracts for Portions of the Work**

**§ 5.2.1** Unless otherwise stated in the Contract Documents, the Contractor, within fourteen (14) days after posting of the Notice of Intent to Award the Contract, shall notify the Owner and Architect of the persons or entities proposed for each principal portion of the Work, including those who are to furnish materials or equipment fabricated to a special design. Within 14 days of receipt of the information, the Owner may notify the Contractor whether the Owner has reasonable objection to any such proposed person or entity. Failure of the Owner to provide notice within the 14-day period shall constitute notice of no reasonable objection.

**§ 5.2.2** The Contractor shall not contract with a proposed person or entity to whom the Owner has made reasonable and timely objection. The Owner shall not direct the Contractor to contract with any specific individual or entity for supplies or services unless such supplies and services are necessary for completion of the Work and the specified individual or entity is the only source of such supply or service.

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

**§ 5.2.4** The Contractor shall not substitute a Subcontractor, person, or entity for one previously selected if the Owner makes reasonable objection to such substitution. The Contractor’s request for substitution must be made to the Owner in writing, accompanied by supporting information.

**§ 5.2.5** A Subcontractor identified in the Contractor’s Bid pursuant to the subcontractor listing requirements of Section 7 of the Bid Form may only be substituted in accordance with and as permitted by the provisions of S.C. Code Ann. § 11-35-3021. A proposed substitute for a listed subcontractor shall also be subject to the Owner’s approval as set forth in Section 5.2.3.

**§ 5.2.6** A Contractor may substitute one prospective subcontractor for another, with the approval of the Owner as follows:

- .1 If the Contractor requests the substitution, the Contractor is responsible for all costs associated with the substitution.
- .2 If the Owner requests the substitution, the Owner is responsible for any resulting increased costs to the Contractor.

### **§ 5.3 Subcontractual Relations**

**§ 5.3.1** By appropriate written agreement, the Contractor shall require each Subcontractor, to the extent of the Work to be performed by the Subcontractor, to be bound to the Contractor by terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities, including the responsibility for safety of the Subcontractor’s Work that the Contractor, by these Contract Documents, assumes toward the Owner and Architect. Each subcontract agreement shall preserve and protect the rights of the Owner and Architect under the Contract Documents with respect to the Work to be performed by the Subcontractor so that subcontracting thereof will not

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prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise herein, or in the subcontract agreement, the benefit of all rights, remedies, and redress against the Contractor that the Contractor, by the Contract Documents, has against the Owner. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the subcontract agreement, copies of the Contract Documents to which the Subcontractor will be bound, and, upon written request of the Subcontractor, identify to the Subcontractor terms and conditions of the proposed subcontract agreement that may be at variance with the Contract Documents. Subcontractors will similarly make copies of applicable portions of such documents available to their respective proposed Sub-subcontractors.

§ 5.3.2 Without limitation on the generality of Section 5.3.1, each Subcontract agreement and each Sub-subcontract agreement shall include, and shall be deemed to include, the following Sections of these General Conditions: 3.2, 3.5, 3.18, 5.3, 5.4, 6.2.2, 7.1.6, 7.3.3, 7.5, 13.1, 13.9, 14.3, 14.4, and 15.1.7.

§ 5.3.3 Each Subcontract Agreement and each Sub-subcontract agreement shall exclude, and shall be deemed to exclude, Sections 13.2 and 13.5 and all of Article 15, except Section 15.1.7, of these General Conditions. In the place of these excluded sections of the General Conditions, each Subcontract Agreement and each Sub-subcontract may include Sections 13.2 and 13.5 and all of Article 15, except Section 15.1.7, of AIA Document A201-2007, Conditions of the Contract, as originally issued by the American Institute of Architects.

§ 5.3.4 The Contractor shall assure the Owner that all agreements between the Contractor and its Subcontractor incorporate the provisions of Section 5.3.1 as necessary to preserve and protect the rights of the Owner and the Architect under the Contract Documents with respect to the work to be performed by Subcontractors so that the subcontracting thereof will not prejudice such rights. The Contractor's assurance shall be in the form of an affidavit or in such other form as the Owner may approve. Upon request, the Contractor shall provide the Owner or Architect with copies of any or all subcontracts or purchase orders.

#### § 5.4 Contingent Assignment of Subcontracts

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

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

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

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

§ 5.4.4 Each subcontract shall specifically provide that the Owner shall only be responsible to the subcontractor for those obligations of the Contractor that accrue subsequent to the Owner's exercise of any rights under this conditional assignment.

§ 5.4.5 Each subcontract shall specifically provide that the Subcontractor agrees to perform portions of the Work assigned to the Owner in accordance with the Contract Documents.

§ 5.4.6 Nothing in this Section 5.4 shall act to reduce or discharge the Contractor's payment bond surety's obligations to claimants for claims arising prior to the Owner's exercise of any rights under this conditional assignment.

### ARTICLE 6 CONSTRUCTION BY OWNER OR BY SEPARATE CONTRACTORS

#### § 6.1 Owner's Right to Perform Construction and to Award Separate Contracts

§ 6.1.1 The term "Separate Contractor(s)" shall mean other contractors retained by the Owner under separate agreements. The Owner reserves the right to perform construction or operations related to the Project with the Owner's own forces, and with Separate Contractors retained under Conditions of the Contract substantially similar to

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those of this Contract, including those provisions of the Conditions of the Contract related to insurance and waiver of subrogation.

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

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

#### § 6.1.4 Reserved

### § 6.2 Mutual Responsibility

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

§ 6.2.2 If part of the Contractor’s Work depends for proper execution or results upon construction or operations by the Owner or a Separate Contractor, the Contractor shall, prior to proceeding with that portion of the Work, promptly notify the Architect of apparent discrepancies or defects in the construction or operations by the Owner or Separate Contractor that would render it unsuitable for proper execution and results of the Contractor’s Work. Failure of the Contractor to notify the Architect of apparent discrepancies or defects prior to proceeding with the Work shall constitute an acknowledgment that the Owner’s or Separate Contractor’s completed or partially completed construction is fit and proper to receive the Contractor’s Work. The Contractor shall not be responsible for discrepancies or defects in the construction or operations by the Owner or Separate Contractor that are not apparent.

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

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

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

### § 6.3 Owner’s Right to Clean Up

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

## ARTICLE 7 CHANGES IN THE WORK

### § 7.1 General

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

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



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

§ 7.1.4 If a change in the Work provides for an adjustment to the Contract Sum, the amount of such adjustment must be computed and documented in writing. In order to facilitate evaluation of proposals or claims for increases and decreases to the Contract Sum, all proposals or claims, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and subcontracts. Labor and materials shall be itemized. Where major cost items are subcontracts, they shall be itemized also. The amount of the adjustment must approximate the actual cost to the Contractor and all costs incurred by the Contractor must be justifiably compared with prevailing industry standards. Except as provided in Section 7.1.5, all adjustments to the Contract Sum shall be limited to job specific costs and shall not include indirect costs, home office overhead or profit.

§ 7.1.5 The combined overhead and profit included in the total cost to the Owner for a change in the Work shall be based on the following schedule:

- .1 For the Contractor, for Work performed by the Contractor's own forces, not to exceed seventeen (17%) percent of the Contractor's actual costs.
- .2 For the Contractor, for Work performed by the Contractor's Subcontractors, not to exceed ten (10%) percent of each Subcontractor's actual costs (not including the Subcontractor's overhead and profit).
- .3 For each Subcontractor involved, for Work performed by that Subcontractor's own forces, not to exceed seventeen (17%) percent of the Subcontractor's actual costs.
- .4 Cost to which overhead and profit is to be applied shall be determined in accordance with Section 7.3.4.

The percentages cited above shall be considered to include all indirect costs including, but not limited to field and office managers, supervisors and assistants, incidental job burdens, small tools, and general overhead allocations.

§ 7.1.6 The procedures described in Sections 7.1.4 and 7.1.5 shall be used to calculate any adjustment in the Contract Sum, including without limitation an adjustment permitted under Articles 7, 9, 14, or 15.

§ 7.1.7 If a change in the Work requires an adjustment to the Contract Sum that exceeds the limits of the Owner's Construction Change Order Certification (reference Section 9.1.9 of the Agreement), then the Owner's agreement is not effective, and Work may not proceed until approved in writing by the OSE.

§ 7.1.8 Additional Work performed after the declaration of Substantial Completion must be approved by OSE, if the Change Order exceeds the Owner's Construction Change Order Certification.

## § 7.2 Change Orders

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

- .1 The change in the Work;
- .2 The amount of the adjustment, if any, in the Contract Sum; and
- .3 The extent of the adjustment, if any, in the Contract Time.

Agreement on any Change Order shall constitute a final settlement of all matters relating to the change in the Work that is the subject of the Change Order, including, but not limited to, any adjustments to the Contract Sum or the Contract Time.

§ 7.2.2 At the Owner's request, the Contractor shall prepare a proposal to perform the work of a proposed Change Order setting forth the amount of the proposed adjustment, if any, in the Contract Sum; and the extent of the proposed adjustment, if any, in the Contract Time. Any proposed adjustment in the Contract Sum shall be prepared in accordance with Section 7.1.4 and 7.1.5. The Owner's request shall include any revisions to the Drawings or Specifications necessary to define any changes in the Work. Within fourteen (14) days of receiving the request, the Contractor shall submit the proposal to the Owner and Architect along with all documentation required by Section 7.5.

§ 7.2.3 If the Contractor requests a Change Order, the request shall set forth the proposed change in the Work and shall be prepared in accordance with Section 7.2.2. If the Contractor requests a change to the Work that involves a revision

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to either the Drawings or Specifications, the Contractor shall reimburse the Owner for any expenditure associated with the Architects' review of the proposed revisions, except to the extent the revisions are accepted by execution of a Change Order.

### § 7.3 Construction Change Directives

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

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

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

- .1 Mutual acceptance of a lump sum if properly itemized and substantiating data is not available to permit evaluation;
- .2 Unit prices specified in the Contract Documents or subsequently agreed upon, subject to adjustment if any, as provided in Section 9.1.2;
- .3 Cost and a percentage fee, calculated as described in Sections 7.1.4 and 7.1.5;
- .4 in another manner as the parties may agree; or
- .5 As provided in Section 7.3.4.

§ 7.3.4 If the Contractor does not respond promptly or disagrees with the method for adjustment in the Contract Sum, the Architect shall make an initial determination, consistent with Section 7.3.3, of the method and the adjustment on the basis of reasonable expenditures and savings of those performing the Work attributable to the change, including, in case of an increase in the Contract Sum, an amount for overhead and profit as set forth in Section 7.1.5. In such case, and also under Section 7.3.3.3, the Contractor shall keep and present, in such form as the Architect may prescribe, an itemized accounting together with appropriate supporting data. Unless otherwise provided in the Contract Documents, costs for the purposes of this Section 7.3.4 shall be limited to the following:

- .1 Costs of labor, including applicable payroll taxes, fringe benefits required by agreement or custom, workers' compensation insurance, and other employee costs approved by the Architect;
- .2 Costs of materials, supplies, and equipment, including cost of transportation, whether incorporated or consumed;
- .3 Rental costs of machinery and equipment, exclusive of hand tools, whether rented from the Contractor or others; and
- .4 Costs of premiums for all bonds and insurance, permit fees, and sales, use, or similar taxes, directly related to the change.

§ 7.3.5 If the Contractor disagrees with the adjustment in the Contract Time, the Contractor may make a Claim in accordance with applicable provisions of Article 15.

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

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

§ 7.3.8 The amount of credit to be allowed by the Contractor to the Owner for a deletion or change that results in a net decrease in the Contract Sum shall be actual cost including overhead and profit as confirmed by the Architect from the Schedule of Values.

§ 7.3.9 Pending final determination of the total cost of a Construction Change Directive to the Owner, the Contractor may request payment for Work completed under the Construction Change Directive in Applications for Payment. The

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Architect will make an interim determination for purposes of monthly certification for payment for those costs and certify for payment the amount that the Architect determines, in the Architect's professional judgment, to be reasonably justified. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the right of either party to disagree and assert a Claim in accordance with Article 15.

§ 7.3.10 When the Owner and Contractor agree with a determination made by the Architect concerning the adjustments in the Contract Sum and Contract Time, or otherwise reach agreement upon the adjustments, such agreement shall be effective immediately and the Architect will prepare a Change Order. Change Orders may be issued for all or any part of a Construction Change Directive.

#### § 7.4 Minor Changes in the Work

The Architect may order minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. The Architect's order for minor changes shall be in writing. If the Contractor believes that the proposed minor change in the Work will affect the Contract Sum or Contract Time, the Contractor shall notify the Architect and shall not proceed to implement the change in the Work. If the Contractor performs the Work set forth in the Architect's order for a minor change without prior notice to the Architect that such change will affect the Contract Sum or Contract Time, the Contractor waives any adjustment to the Contract Sum or extension of the Contract Time.

#### § 7.5 Pricing Data and Audit

##### § 7.5.1 Cost or Pricing Data

Upon request of the Owner or Architect, Contractor shall submit cost or pricing data prior to execution of a Modification which exceeds \$500,000 [Reference S.C. Code Ann. §§ 11-35-1830 and 11-35-2220, and SC Code Ann. Reg 19-445.2120]. Contractor shall certify that, to the best of its knowledge and belief, the cost or pricing data submitted is accurate, complete, and current as of a mutually determined specified date prior to the date of pricing the Modification. Contractor's price, including profit, shall be adjusted to exclude any significant sums by which such price was increased because Contractor furnished cost or pricing data that was inaccurate, incomplete, or not current as of the date specified by the parties. Notwithstanding Subparagraph 9.10.4, such adjustments may be made after final payment to the Contractor.

§ 7.5.2 Cost or pricing data means all facts that, as of the date specified by the parties, prudent buyers and sellers would reasonably expect to affect price negotiations significantly. Cost or pricing data are factual, not judgmental; and are verifiable. While they do not indicate the accuracy of the prospective contractor's judgment about estimated future costs or projections, they do include the data forming the basis for that judgment. Cost or pricing data are more than historical accounting data; they are all the facts that can be reasonably expected to contribute to the soundness of estimates of future costs and to the validity of determinations of costs already incurred.

##### § 7.5.3 Records Retention

As used in Section 7.5, the term "Records" means any books or records that relate to cost or pricing data of a Change Order that Contractor is required to submit pursuant to Section 7.5.1. Contractor shall maintain records for three years from the date of final payment, or longer if requested by the chief procurement officer. The Owner may audit Contractor's records at reasonable times and places.

### ARTICLE 8 TIME

#### § 8.1 Definitions

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

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

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

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

#### § 8.2 Progress and Completion

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

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§ 8.2.2 The Contractor shall not knowingly commence the Work prior to the effective date of surety bonds and insurance required to be furnished by the Contractor and Owner.

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

### § 8.3 Delays and Extensions of Time

§ 8.3.1 If the Contractor is delayed at any time in the commencement or progress of the Work by (1) an act or neglect of the Owner or Architect, of an employee of either, or of a Separate Contractor; (2) by changes ordered in the Work; (3) by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, adverse weather conditions documented in accordance with Section 15.1.6.2, or other causes beyond the Contractor's control; (4) by delay authorized by the Owner pending dispute resolution; or (5) by other causes that the Contractor asserts, and the Architect determines, justify delay, then to the extent such delay will prevent the Contractor from achieving Substantial Completion within the Contract Time, the Contract Time shall be extended for such reasonable time as the Architect may determine, provided the delay:

- .1 is not caused by the fault or negligence of the Contractor or a subcontractor at any tier, and
- .2 is not due to unusual delay in the delivery of supplies, machinery, equipment, or services when such supplies, machinery, equipment, or services were obtainable from other sources in sufficient time for the Contractor to meet the required delivery.

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

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

## ARTICLE 9 PAYMENTS AND COMPLETION

### § 9.1 Contract Sum

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

§ 9.1.2 If unit prices are stated in the Contract Documents or subsequently agreed upon, and if quantities originally contemplated are materially changed so that application of such unit prices to the actual quantities causes substantial inequity to the Owner or Contractor, the applicable unit prices shall be equitably adjusted.

### § 9.2 Schedule of Values

§ 9.2.1 The Contractor shall submit a schedule of values to the Architect within ten (10) days of full execution of the Agreement, allocating the entire Contract Sum to the various portions of the Work. The schedule of values shall be prepared in the form, and supported by the data to substantiate its accuracy, required by the Architect. This schedule, unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's Applications for Payment. Any changes to the schedule of values shall be submitted to the Architect and supported by such data to substantiate its accuracy as the Architect may require, and unless objected to by the Architect, shall be used as a basis for reviewing the Contractor's subsequent Applications for Payment.

§ 9.2.2 As requested by the Architect, the Contractor and each Subcontractor shall prepare a trade payment breakdown for the Work for which each is responsible. The breakdown, being submitted on a uniform standardized format approved by the Architect and Owner, shall be divided in detail, using convenient units, sufficient to accurately determine the value of completed Work during the course of the Project. The Contractor shall update the schedule of values as required by either the Architect or Owner as necessary to reflect:

- .1 the description of Work (listing labor and material separately);
- .2 the total value of the Work;
- .3 the percent and value of the Work completed to date;
- .4 the percent and value of previous amounts billed; and
- .5 the current percent completed, and amount billed.

§ 9.2.3 Any schedule of values or trade breakdown that fails to provide sufficient detail, is unbalanced, or exhibits "front-loading" of the value of the Work shall be rejected. If a schedule of values or trade breakdown is used as the basis for payment and later determined to be inaccurate, sufficient funds shall be withheld from future Applications for Payment to ensure an adequate reserve (exclusive of normal retainage) to complete the Work.

### § 9.3 Applications for Payment

§ 9.3.1 Monthly, the Contractor shall submit to the Architect an itemized Application for Payment prepared in accordance with the schedule of values, if required under Section 9.2, for completed portions of the Work. The application shall be notarized, if required, and supported by all data substantiating the Contractor's right to payment that the Owner or Architect require (such as copies of requisitions, and releases and waivers of liens from Subcontractors and suppliers), and shall reflect retainage as provided for in the Contract Documents.

§ 9.3.1.1 As provided in Section 7.3.9, such applications may include requests for payment on account of changes in the Work that have been properly authorized by Construction Change Directives, or by interim determinations of the Architect, but not yet included in Change Orders.

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

§ 9.3.2 Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and equipment delivered and suitably stored at the site for subsequent incorporation in the Work. If approved in advance by the Owner, payment may similarly be made for materials and equipment suitably stored off the site at a location agreed upon in writing, provided such materials or equipment will be subsequently incorporated in the Work. Payment for materials and equipment stored on or off the site shall be conditioned upon compliance by the Contractor with procedures satisfactory to the Owner to establish the Owner's title to such materials and equipment or otherwise protect the Owner's interest, and shall include the costs of applicable insurance, storage, and transportation to the site, for such materials and equipment stored off the site. The Contractor shall 1) protect such materials from diversion, vandalism, theft, destruction, and damage, 2) mark such materials specifically for use on the Project, and 3) segregate such materials from other materials at the storage facility. The Architect and the Owner shall have the right to make inspections of the storage areas at any time.

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

### § 9.4 Certificates for Payment

§ 9.4.1 The Architect will, within seven days after receipt of the Contractor's Application for Payment, either (1) issue to the Owner a Certificate for Payment in the full amount of the Application for Payment, with a copy to the Contractor; or (2) issue to the Owner a Certificate for Payment for such amount as the Architect determines is properly due, and notify the Contractor and Owner of the Architect's reasons for withholding certification in part as provided in Section 9.5.1; or (3) withhold certification of the entire Application for Payment, and notify the Contractor and Owner of the Architect's reason for withholding certification in whole as provided in Section 9.5.1.

§ 9.4.2 The issuance of a Certificate for Payment will constitute a representation by the Architect to the Owner, based on the Architect's evaluation of the Work and the data in the Application for Payment, that, to the best of the Architect's knowledge, information, and belief, the Work has progressed to the point indicated in both the Application for Payment and, if required to be submitted, the accompanying current construction schedule, the quality of the Work is in accordance with the Contract Documents, and that the Contractor is entitled to payment in the amount certified. The foregoing representations are subject to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, to results of subsequent tests and inspections, to correction of minor deviations from the Contract Documents prior to completion, and to specific qualifications expressed by the Architect. However, the issuance of a Certificate for Payment will not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work; (2) reviewed construction means,

methods, techniques, sequences, or procedures; or (3) made examination to ascertain how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

### § 9.5 Decisions to Withhold Certification

§ 9.5.1 The Architect shall withhold a Certificate for Payment in whole or in part, to the extent reasonably necessary to protect the Owner, if in the Architect's opinion the representations to the Owner required by Section 9.4.2 cannot be made. The Architect shall withhold a Certificate of Payment if the Application for Payment is not accompanied by the current construction schedule required by Section 3.10.1. If the Architect is unable to certify payment in the amount of the Application, the Architect will notify the Contractor and Owner as provided in Section 9.4.1. If the Contractor and Architect cannot agree on a revised amount, the Architect will promptly issue a Certificate for Payment for the amount for which the Architect is able to make such representations to the Owner. The Architect may also withhold a Certificate for Payment or, because of subsequently discovered evidence, may nullify the whole or a part of a Certificate for Payment previously issued, to such extent as may be necessary in the Architect's opinion to protect the Owner from loss for which the Contractor is responsible, including loss resulting from acts and omissions described in Section 3.3.2, because of

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

§ 9.5.2 When either party disputes the Architect's decision regarding a Certificate for Payment under Section 9.5.1, in whole or in part, that party may submit a Claim in accordance with Article 15.

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

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

### § 9.6 Progress Payments

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

§ 9.6.2 Pursuant to S.C. Ann. §§ 29-6-10 through 29-6-60, the Contractor shall pay each Subcontractor, no later than seven days after receipt of payment from the Owner, the amount to which the Subcontractor is entitled, reflecting percentages actually retained from payments to the Contractor on account of the Subcontractor's portion of the Work. The Contractor shall, by appropriate agreement with each Subcontractor, require each Subcontractor to make payments to Sub-subcontractors in a similar manner.

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

§ 9.6.4 The Owner has the right to request written evidence from the Contractor that the Contractor has properly paid Subcontractors and suppliers amounts paid by the Owner to the Contractor for subcontracted Work. If the Contractor fails to furnish such evidence within seven days, the Owner shall have the right to contact Subcontractors and suppliers to ascertain whether they have been properly paid. Neither the Owner nor Architect shall have an obligation to pay, or to see to the payment of money to, a Subcontractor or supplier, except as may otherwise be required by law.

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

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

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

§ 9.6.8 Provided the Owner has fulfilled its payment obligations under the Contract Documents, the Contractor shall defend and indemnify the Owner from all loss, liability, damage or expense, including reasonable attorney's fees and litigation expenses, arising out of any lien claim or other claim for payment by any Subcontractor or supplier of any tier. Upon receipt of notice of a lien claim or other claim for payment, the Owner shall notify the Contractor. If approved by the applicable court, when required, the Contractor may substitute a surety bond for the property against which the lien or other claim for payment has been asserted.

### § 9.7 Failure of Payment

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

### § 9.8 Substantial Completion

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

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

§ 9.8.3 Upon receipt of the Contractor's list, the Architect, the Owner, and any other party the Architect or the Owner choose, will make an inspection on a date and at a time mutually agreeable to determine whether the Work or designated portion thereof is substantially complete. The Contractor shall furnish access for the inspection and testing as provided in this Contract. The inspection shall include a demonstration by the Contractor that all equipment, systems and operable components of the Work function properly and in accordance with the Contract Documents.

- .1 If the Architect's inspection discloses any item, whether or not included on the Contractor's list, which is not sufficiently complete in accordance with the Contract Documents so that the Owner can occupy or utilize the Work or designated portion thereof for its intended use, the Contractor shall, before issuance of the Certificate of Substantial Completion, complete or correct such item upon notification by the Architect. In such case, the Contractor shall then submit a request for another inspection by the Architect to determine Substantial Completion.
- .2 If more than one Substantial Completion inspection is required, the Contractor shall reimburse the Owner for all costs of re-inspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.
- .3 Representatives of the State Fire Marshal's Office and other authorities having jurisdiction may be present at the Substantial Completion inspection or otherwise inspect the completed Work and advise the Owner whether the Work meets their respective requirements for the Project.

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

§ 9.8.5 The Certificate of Substantial Completion shall be submitted to the Owner for its written acceptance of responsibilities assigned in the Certificate and a copy of the signed Certificate shall be delivered to the Contractor. Upon such acceptance, the Owner shall make payment of retainage applying to the Work or designated portion thereof. Such payment shall be adjusted for Work that is incomplete or not in accordance with the requirements of the Contract Documents.

§ 9.8.6 If the Architect and Owner concur in the Contractor's assessment that the Work or a portion of the Work is safe to occupy, the Owner and Contractor may arrange for a Certificate of Occupancy inspection by OSE. The Owner, Architect, and Contractor shall be present at OSE's inspection. Upon verifying that the Work or a portion of the Work is substantially complete and safe to occupy, OSE will issue, as appropriate, a Full or Partial Certificate of Occupancy.

§ 9.8.7 The Owner may not occupy the Work until all required occupancy permits, if any, have been issued and delivered to the Owner.

### § 9.9 Partial Occupancy or Use

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

§ 9.9.2 Immediately prior to such partial occupancy or use, the Owner, Contractor, and Architect shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

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

### § 9.10 Final Completion and Final Payment

§ 9.10.1 Unless the parties agree otherwise in the Certificate of Substantial Completion, the Contractor shall achieve Final Completion within thirty days after Substantial Completion. Upon receipt of the Contractor's notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Architect, the Owner, and any other party the Architect or the Owner choose will make an inspection on a date and at a time mutually agreeable. When the Architect finds the Work acceptable under the Contract Documents and the Contract fully performed, the Architect will promptly issue a final Certificate for Payment stating that to the best of the Architect's knowledge, information and belief, and on the basis of the Architect's on-site visits and inspections, the Work has been completed in accordance with the Contract Documents and that the entire balance found to be due the Contractor and noted in the final Certificate is due and payable. The Architect's final Certificate for Payment will constitute a further representation that conditions listed in Section 9.10.2 as precedent to the Contractor's being entitled to final payment have been fulfilled.

- .1 If more than one Final Completion inspection is required, the Contractor shall reimburse the Owner for all costs of re-inspections or, at the Owner's option, the costs may be deducted from payments due to the Contractor.
- .2 If the Contractor does not achieve Final Completion within thirty days after Substantial Completion or the timeframe agreed to by the parties in the Certificate of Substantial Completion, whichever is



greater, the Contractor shall be responsible for any additional Architectural fees resulting from the delay.

- .3 If OSE has not previously issued a Certificate of Occupancy for the entire Project, the Parties shall arrange for a representative of OSE to participate in the Final Completion inspection.

**§ 9.10.2** Neither final payment nor any remaining retained percentage shall become due until the Contractor submits to the Architect:

- .1 an affidavit that payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or the Owner's property might be responsible or encumbered (less amounts withheld by Owner) have been paid or otherwise satisfied,
- .2 a certificate evidencing that insurance required by the Contract Documents to remain in force after final payment is currently in effect,
- .3 a written statement that the Contractor knows of no reason that the insurance will not be renewable to cover the period required by the Contract Documents,
- .4 consent of surety, if any, to final payment,
- .5 documentation of any special warranties, such as manufacturers' warranties or specific Subcontractor warranties,
- .6 if required by the Owner, other data establishing payment or satisfaction of obligations, such as receipts and releases and waivers of liens, claims, security interests, or encumbrances arising out of the Contract, to the extent and in such form as may be designated by the Owner,
- .7 required Training Manuals,
- .8 equipment Operations and Maintenance Manuals,
- .9 any certificates of testing, inspection or approval required by the Contract Documents and not previously provided, and
10. one copy of the Documents required by Section 3.11.

**§ 9.10.3** If, after Substantial Completion of the Work, final completion thereof is delayed 60 days through no fault of the Contractor or by issuance of Change Orders affecting final completion, and the Architect so confirms, the Owner shall, upon application by the Contractor and certification by the Architect, and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed, corrected, and accepted. If the remaining balance for Work not fully completed or corrected is less than retainage stipulated in the Contract Documents, and if bonds have been furnished, the written consent of the surety to payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Architect prior to certification of such payment. Such payment shall be made under terms and conditions governing final payment, except that it shall not constitute a waiver of Claims.

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

- .1 liens, Claims, security interests, or encumbrances arising out of the Contract and unsettled;
- .2 failure of the Work to comply with the requirements of the Contract Documents;
- .3 terms of special warranties required by the Contract Documents; or
- .4 audits performed by the Owner, if permitted by the Contract Documents, after final payment.

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

## **ARTICLE 10 PROTECTION OF PERSONS AND PROPERTY**

### **§ 10.1 Safety Precautions and Programs**

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

### **§ 10.2 Safety of Persons and Property**

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

- .1 employees on the Work and other persons who may be affected thereby;
- .2 the Work and materials and equipment to be incorporated therein, whether in storage on or off the site, under care, custody, or control of the Contractor, a Subcontractor, or a Sub-subcontractor; and

- 3 other property at the site or adjacent thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.

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

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

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

§ 10.2.5 The Contractor shall promptly remedy damage and loss (other than damage or loss insured under property insurance required by the Contract Documents) to property referred to in Sections 10.2.1.2 and 10.2.1.3 caused in whole or in part by the Contractor, a Subcontractor, a Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts they may be liable and for which the Contractor is responsible under Sections 10.2.1.2 and 10.2.1.3. The Contractor may make a Claim for the cost to remedy the damage or loss to the extent such damage or loss is attributable to acts or omissions of the Owner or Architect or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Section 3.18.

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

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

#### § 10.2.8 Injury or Damage to Person or Property

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

#### § 10.3 Hazardous Materials and Substances

§ 10.3.1 The Contractor is responsible for compliance with any requirements included in the Contract Documents regarding hazardous materials or substances. If the Contractor encounters a hazardous material or substance which was not discoverable as provided in Section 3.2.1 and not addressed in the Contract Documents, and if reasonable precautions will be inadequate to prevent foreseeable bodily injury or death to persons or serious loss to real or personal property resulting from such a material or substance encountered on the site by the Contractor, the Contractor shall, upon recognizing the condition, immediately stop Work in the affected area and notify the Owner and Architect of the condition. Hazardous materials or substances are those hazardous, toxic, or radioactive materials or substances subject to regulations by applicable governmental authorities having jurisdiction, such as, but not limited to, the S.C. Department of Health and Environmental Control, the U.S. Environmental Protection Agency, and the U.S. Nuclear Regulatory Commission.

§ 10.3.2 Upon receipt of the Contractor's notice, the Owner shall obtain the services of a licensed laboratory to verify the presence or absence of the material or substance reported by the Contractor and, in the event such material or substance is found to be present, to cause it to be rendered harmless. Unless otherwise required by the Contract Documents, the Owner shall furnish in writing to the Contractor and Architect the names and qualifications of persons or entities who are to perform tests verifying the presence or absence of the material or substance or who are to perform the task of removal or safe containment of the material or substance. The Contractor and the Architect will

promptly reply to the Owner in writing stating whether or not either has reasonable objection to the persons or entities proposed by the Owner. If either the Contractor or Architect has an objection to a person or entity proposed by the Owner, the Owner shall propose another to whom the Contractor and the Architect have no reasonable objection. When the material or substance has been rendered harmless, Work in the affected area shall resume upon written agreement of the Owner and Contractor. By Change Order, the Contract Time shall be extended appropriately and the Contract Sum shall be increased by the amount of the Contractor's reasonable additional costs of shutdown, delay, and start-up. In the absence of agreement, the Architect will make an interim determination regarding any delay or impact on the Contractor's additional costs. The Architect's interim determination of cost shall adjust the Contract Sum on the same basis as a Change Order, subject to the rights of either party to disagree and assert a Claim in accordance with Article 15.

§ 10.3.3 The Work in the affected area shall be resumed immediately following the occurrence of any one of the following events: (a) the Owner causes remedial work to be performed that results in the absence of hazardous materials or substances; (b) the Owner and the Contractor, by written agreement, decide to resume performance of the Work; or (c) the Work may safely and lawfully proceed, as determined by an appropriate governmental authority or as evidenced by a written report to both the Owner and the Contractor, which is prepared by an environmental engineer reasonably satisfactory to both the Owner and the Contractor.

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

§ 10.3.5 In addition to its obligations under Section 3.18, the Contractor shall reimburse the Owner for the cost and expense the Owner incurs (1) for remediation of hazardous materials or substances the Contractor brings to the site and negligently handles, or (2) where the Contractor fails to perform its obligations under Section 10.3.1, except to the extent that the cost and expense are due to the Owner's fault or negligence.

#### § 10.3.6 Reserved

### § 10.4 Emergencies

In an emergency affecting safety of persons or property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury, or loss. Additional compensation or extension of time claimed by the Contractor on account of an emergency shall be determined as provided in Article 15 and Article 7. The Contractor shall immediately give the Owner and Architect notice of the emergency. This initial notice may be oral followed within five (5) days by a written notice setting forth the nature and scope of the emergency. Within fourteen (14) days of the start of the emergency, the Contractor shall give the Architect a written estimate of the cost and probable effect of delay on the progress of the Work.

## ARTICLE 11 INSURANCE AND BONDS

### § 11.1 Contractor's Insurance and Bonds

§ 11.1.1 The Contractor shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Contractor shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located. The Owner, Architect, and Architect's consultants shall be named as additional insureds under the Contractor's commercial general liability policy or as otherwise described in the Contract Documents.

§ 11.1.2 The Contractor shall provide surety bonds of the types, for such penal sums, and subject to such terms and conditions as required by the Contract Documents. The Contractor shall purchase and maintain the required bonds from a company or companies lawfully authorized to issue surety bonds in the jurisdiction where the Project is located.

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

§ 11.1.4 **Failure to Purchase Required Property Insurance.** If the Contractor fails to purchase and maintain the required property insurance, with all of the coverages and in the amounts described in the Agreement or elsewhere in the

Contract Documents, the Contractor shall inform the Owner in writing prior to commencement of the Work. Upon receipt of notice from the Contractor, the Owner may delay commencement of the Work and may obtain insurance that will protect the interests of the Owner in the Work. When the failure to provide coverage has been cured or resolved, the Contract Sum and Contract Time shall not be equitably adjusted. In the event the Contractor fails to procure coverage, the Contractor waives all rights against the Owner to the extent the loss to the Contractor (including Subcontractors and Sub-subcontractors) would have been covered by the insurance to have been procured by the Contractor. The cost of the insurance shall be charged to the Contractor by a Change Order. If the Contractor does not provide written notice, and the Owner is damaged by the failure or neglect of the Contractor to purchase or maintain the required insurance, the Contractor shall reimburse the Owner for all reasonable costs and damages attributable thereto.

**§ 11.1.5 Notice of Cancellation or Expiration of Contractor's Required Insurance.** Within three (3) business days of the date the Contractor becomes aware of an impending or actual cancellation or expiration of any insurance required by the Contract Documents, the Contractor shall provide notice to the Owner and all additional insureds of such impending or actual cancellation or expiration. Unless the lapse in coverage arises from an act or omission of the Owner: (1) the Owner, upon receipt of notice from the Contractor, shall have the right to stop the Work until the lapse in coverage has been cured by the procurement of replacement coverage by either the Owner or the Contractor; (2) the Contract Time and Contract Sum shall not be equitably adjusted; and (3) the Contractor waives all rights against the Owner to the extent any loss to the Contractor, Subcontractors, and Sub-subcontractors would have been covered by the insurance had it not expired or been cancelled. If the Owner purchases replacement coverage, the cost of the insurance shall be charged to the Contractor by an appropriate Change Order. The furnishing of notice by the Contractor shall not relieve the Contractor of any contractual obligation to provide any required coverage.

## **§ 11.2 Owner's Insurance**

**§ 11.2.1** The Owner shall purchase and maintain insurance of the types and limits of liability, containing the endorsements, and subject to the terms and conditions, as described in the Agreement or elsewhere in the Contract Documents. The Owner shall purchase and maintain the required insurance from an insurance company or insurance companies lawfully authorized to issue insurance in the jurisdiction where the Project is located.

### **§ 11.2.2 Reserved**

### **§ 11.2.3 Reserved**

## **§ 11.3 Waivers of Subrogation**

**§ 11.3.1** The Owner and Contractor waive all rights against (1) each other and any of their subcontractors, sub-subcontractors, agents, and employees, each of the other; (2) the Architect and Architect's consultants; and (3) Separate Contractors, if any, and any of their subcontractors, sub-subcontractors, agents, and employees, for damages caused by fire, or other causes of loss, to the extent those losses are covered by property insurance required by the Agreement or other property insurance applicable to the Project, except such rights as they have to proceeds of such insurance. The Owner or Contractor, as appropriate, shall require similar written waivers in favor of the individuals and entities identified above from the Architect, Architect's consultants, Separate Contractors, subcontractors, and sub-subcontractors. The policies of insurance purchased and maintained by each person or entity agreeing to waive claims pursuant to this section 11.3.1 shall not prohibit this waiver of subrogation. This waiver of subrogation shall be effective as to a person or entity (1) even though that person or entity would otherwise have a duty of indemnification, contractual or otherwise, (2) even though that person or entity did not pay the insurance premium directly or indirectly, or (3) whether or not the person or entity had an insurable interest in the damaged property.

**§ 11.3.2** If during the Project construction period the Owner insures properties, real or personal or both, at or adjacent to the site by property insurance under policies separate from those insuring the Project, or if after final payment property insurance is to be provided on the completed Project through a policy or policies other than those insuring the Project during the construction period, to the extent permissible by such policies, the Owner waives all rights in accordance with the terms of Section 11.3.1 for damages caused by fire or other causes of loss covered by this separate property insurance.

### **§ 11.3.3 Limitation on the Owner's Waiver of Subrogation**

South Carolina law prohibits the State from indemnifying a private party. Accordingly, and notwithstanding anything in the Agreement to the contrary, including but not limited to Sections 11.3.1, 11.3.2, and 11.4, the Owner cannot and

does not waive subrogation to the extent any losses are covered by insurance provided by the South Carolina Insurance Reserve Fund.

#### **§ 11.4 Loss of Use, Business Interruption, and Delay in Completion Insurance**

The Owner, at the Owner's option, may purchase and maintain insurance that will protect the Owner against loss of use of the Owner's property, or the inability to conduct normal operations, due to fire or other causes of loss. The Owner waives all rights of action against the Contractor and Architect for loss of use of the Owner's property, due to fire or other hazards however caused.

#### **§ 11.5 Adjustment and Settlement of Insured Loss**

**§ 11.5.1** A loss insured under the property insurance required by the Agreement shall be adjusted by the Contractors as fiduciary and made payable to the Contractor as fiduciary for the insureds, as their interests may appear, subject to requirements of any applicable mortgagee clause and of Section 11.5.2. The Contractor shall pay the Architect and Owner their just shares of insurance proceeds received by the Contractor, and by appropriate agreements the Architect and Owner shall make payments to their consultants and separate contractors in similar manner.

**§ 11.5.2** Prior to settlement of an insured loss, the Contractor shall notify the Owner of the terms of the proposed settlement as well as the proposed allocation of the insurance proceeds. The Owner shall have 14 days from receipt of notice to object to the proposed settlement or allocation of the proceeds. If the Owner does not object, the Contractor shall settle the loss and the Owner shall be bound by the settlement and allocation. Upon receipt, the Contractor shall deposit the insurance proceeds in a separate account and make the appropriate distributions. Thereafter, if no other agreement is made or the Owner does not terminate the Contract for convenience, the Owner and Contractor shall execute a Change Order for reconstruction of the damaged or destroyed Work in the amount allocated for that purpose. If the Owner timely objects to either the terms of the proposed settlement or the allocation of the proceeds, the Contractor may proceed to settle the insured loss, and any dispute between the Owner and Contractor arising out of the settlement or allocation of the proceeds shall be resolved pursuant to Article 15. Pending resolution of any dispute, the Owner may issue a Construction Change Directive for the reconstruction of the damaged or destroyed Work.

**§ 11.5.3** If required in writing by a party in interest, the Contractor as fiduciary shall, upon occurrence of an insured loss, give bond for proper performance of the Contractor's duties. The cost of required bonds shall be charged against proceeds received as fiduciary. The Contractor shall deposit in a separate account proceeds so received, which the Contractor shall distribute in accordance with such agreement as the parties in interest may reach. If after such loss no other special agreement is made and unless the Owner terminates the Contract for convenience, replacement of damaged property shall be performed by the Contractor.

### **ARTICLE 12 UNCOVERING AND CORRECTION OF WORK**

#### **§ 12.1 Uncovering of Work**

**§ 12.1.1** If a portion of the Work is covered contrary to the requirements specifically expressed in the Contract Documents, including inspections of work-in-progress required by all authorities having jurisdiction over the Project, it must, upon demand of the Architect or authority having jurisdiction, be uncovered for observation/inspection and be replaced at the Contractor's expense without change in the Contract Time.

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

#### **§ 12.2 Correction of Work**

##### **§ 12.2.1 Before Substantial Completion**

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

- .1 If the Contractor, a Subcontractor, or anyone for whom either is responsible, uses or damages any portion of the Work, including, without limitation, mechanical, electrical, plumbing, and other building systems, machinery, equipment, or other mechanical device, the Contractor shall cause such item to be restored to "like new" condition at no expense to the Owner.

### § 12.2.2 After Substantial Completion

§ 12.2.2.1 In addition to the Contractor's obligations under Section 3.5, if, within one year after the date of Substantial Completion of the Work or designated portion thereof or after the date for commencement of warranties established under Section 9.9.1, or by terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the Contractor shall correct it promptly after receipt of notice from the Owner to do so, unless the Owner has previously given the Contractor a written acceptance of such condition. The Owner shall give such notice promptly after discovery of the condition. During the one-year period for correction of Work, if the Owner fails to notify the Contractor and give the Contractor an opportunity to make the correction, the Owner waives the rights to require correction by the Contractor. If the Contractor fails to correct nonconforming Work within a reasonable time during that period after receipt of notice from the Owner or Architect, the Owner may correct it in accordance with Section 2.5.

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

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

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

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

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

### § 12.3 Acceptance of Nonconforming Work

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

## ARTICLE 13 MISCELLANEOUS PROVISIONS

### § 13.1 Governing Law

§ 13.1.1 The Contract, any dispute, claim, or controversy relating to the Contract, and all the rights and obligations of the parties shall, in all respects, be interpreted, construed, enforced and governed by and under the laws of the State of South Carolina, except its choice of law rules.

§ 13.1.2 This Contract is formed pursuant to and governed by the South Carolina Consolidated Procurement Code and is deemed to incorporate all applicable provisions thereof and the ensuing regulations.

### § 13.2 Successors and Assigns

The Owner and Contractor respectively bind themselves, their partners, successors, assigns, and legal representatives to covenants, agreements, and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract as a whole, or in part, without written consent of the other and then only in accordance with and as permitted by Regulation 19-445.2180 of the South Carolina Code of Regulations, as amended. If either party attempts

to make an assignment without such consent, that party shall nevertheless remain legally responsible for all obligations under the Contract.

### § 13.3 Rights and Remedies

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

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

§ 13.3.3 Notwithstanding Section 9.10.4, the rights and obligations which, by their nature, would continue beyond the termination, cancellation, rejection, or expiration of this contract shall survive such termination, cancellation, rejection, or expiration, including, but not limited to, the rights and obligations created by the following clauses:

- 1.5 Ownership and Use of Drawings, Specifications and Other Instruments of Service;
- 3.5 Warranty
- 3.17 Royalties, Patents and Copyrights
- 3.18 Indemnification
- 7.5 Pricing Data and Audit
- A.3.2.2 Contractor's Liability Insurance (A101, Exhibit A)
- A.3.5 Performance and Payment Bond (A101, Exhibit A)
- 15.1.7 Claims for Listed Damages
- 15.1.8 Waiver of Claims Against the Architect
- 15.6 Dispute Resolution
- 15.6.5 Service of Process

### § 13.4 Tests and Inspections

§ 13.4.1 Tests, inspections, and approvals of portions of the Work shall be made as required by the Contract Documents and by applicable laws, statutes, ordinances, codes, rules, and regulations or lawful orders of public authorities. Unless otherwise provided, the Contractor shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the Owner, or with the appropriate public authority, and shall bear all related costs of tests, inspections, and approvals. The Contractor shall give the Owner and Architect timely notice of when and where tests and inspections are to be made so that they may be present for such procedures. The Owner shall bear costs of tests, inspections, or approvals that do not become requirements until after bids are received or negotiations concluded. The Owner shall directly arrange and pay for tests, inspections, or approvals where building codes or applicable laws or regulations so require.

- .1 Inspection, Special Inspections, and testing requirements, if any, as required by the ICC series of Building Codes shall be purchased by the Owner.
- .2 Contractor shall schedule and request inspections in an orderly and efficient manner and shall notify the Owner whenever the Contractor schedules an inspection. Contractor shall be responsible for the cost of inspections scheduled and conducted without the Owner's knowledge and for any increase in the cost of inspections resulting from the inefficient scheduling of inspections.

§ 13.4.2 If the Architect, Owner, or public authorities having jurisdiction determine that portions of the Work require additional testing, inspection, or approval not included under Section 13.4.1, the Architect will, upon written authorization from the Owner, instruct the Contractor to make arrangements for such additional testing, inspection, or approval, by an entity acceptable to the Owner, and the Contractor shall give timely notice to the Owner and Architect of when and where tests and inspections are to be made so that the Architect may be present for such procedures. Such costs, except as provided in Section 13.4.3, shall be at the Owner's expense.

§ 13.4.3 If procedures for testing, inspection, or approval under Sections 13.4.1 and 13.4.2 reveal failure of the portions of the Work to comply with requirements established by the Contract Documents, all costs made necessary by such failure, including those of repeated procedures and compensation for the Architect's services and expenses, shall be at the Contractor's expense and shall be deducted from future Applications of Payment.

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

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

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

### § 13.5 Interest

Payments due to the Contractor and unpaid under the Contract Documents shall bear interest only if and to the extent allowed by S.C. Code Ann. §§ 29-6-10 through 29-6-60. Amounts due to the Owner shall bear interest at the rate of one percent a month or a pro rata fraction thereof on the unpaid balance as may be due.

### § 13.6 Procurement of Materials by Owner

The Contractor accepts assignment of all purchase orders and other agreements for procurement of materials and equipment by the Owner that are identified as part of the Contract Documents. The Contractor shall, upon delivery, be responsible for the storage, protection, proper installation, and preservation of such Owner purchased items, if any, as if the Contractor were the original purchaser. The Contract Sum includes, without limitation, all costs and expenses in connection with delivery, storage, insurance, installation, and testing of items covered in any assigned purchase orders or agreements. Unless the Contract Documents specifically provide otherwise, all Contractor warranty of workmanship and correction of the Work obligations under the Contract Documents shall apply to the Contractor's installation of and modifications to any Owner purchased items.

### § 13.7 Interpretation of Building Codes

As required by S.C. Code Ann. § 10-1-180, OSE shall determine the enforcement and interpretation of all building codes and referenced standards on state buildings. The Contractor shall refer any questions, comments, or directives from local officials to the Owner and OSE for resolution.

### § 13.8 Minority Business Enterprises

Contractor shall notify Owner of each Minority Business Enterprise (MBE) providing labor, materials, equipment, or supplies to the Project under a contract with the Contractor. Contractor's notification shall be via the first monthly status report submitted to the Owner after execution of the contract with the MBE. For each such MBE, the Contractor shall provide the MBE's name, address, and telephone number, the nature of the work to be performed or materials or equipment to be supplied by the MBE, whether the MBE is certified by the South Carolina Office of Small and Minority Business Assistance, and the value of the contract.

### § 13.9 Illegal Immigration

Contractor certifies and agrees that it will comply with the applicable requirements of Title 8, Chapter 14 of the South Carolina Code of Laws and agrees to provide to the State upon request any documentation required to establish either: (a) that Title 8, Chapter 14 is inapplicable both to Contractor and its subcontractors or sub-subcontractors; or (b) that Contractor and its subcontractors or sub-subcontractors are in compliance with Title 8, Chapter 14. Pursuant to Section 8-14-60, "A person who knowingly makes or files any false, fictitious, or fraudulent document, statement, or report pursuant to this chapter is guilty of a felony and, upon conviction, must be fined within the discretion of the court or imprisoned for not more than five years, or both." Contractor agrees to include in any contracts with its subcontractor's language requiring its subcontractors to (a) comply with the applicable requirements of Title 8, Chapter 14, and (b) include in their contracts with the sub-subcontractor's language requiring the sub-subcontractors to comply with the applicable requirements of Title 8, Chapter 14. (An overview is available at [www.procurement.sc.gov](http://www.procurement.sc.gov))

### § 13.10 Drug-Free Workplace

The Contractor must comply with the Drug-Free Workplace Act, S.C. Code Ann. §§ 44-107-10, et seq. The Contractor certifies to the Owner that Contractor will provide a Drug-Free Workplace, as defined by S.C. Code Ann. § 44-107-20(1).

### § 13.11 False Claims

According to S.C. Code Ann. § 16-13-240, "a person who by false pretense or representation obtains the signature of a person to a written instrument or obtains from another person any chattel, money, valuable security, or other property, real or personal, with intent to cheat and defraud a person of that property is guilty" of a crime.

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### § 13.12 Prohibited Acts

It is unlawful for a person charged with disbursements of state funds appropriated by the General Assembly to exceed the amounts and purposes stated in the appropriations. (§ 11-9-20) It is unlawful for an authorized public officer to enter into a contract for a purpose in which the sum is in excess of the amount appropriated for that purpose. It is unlawful for an authorized public officer to divert or appropriate the funds arising from any tax levied and collected for any one fiscal year to the payment of an indebtedness contracted or incurred for a previous year. (§ 11-1-40)

### § 13.13 Open Trade (Jun 2015)

During the contract term, including any renewals or extensions, Contractor will not engage in the boycott of a person or an entity based in or doing business with a jurisdiction with whom South Carolina can enjoy open trade, as defined in S.C. Code Ann. § 11-35-5300.

## ARTICLE 14 TERMINATION OR SUSPENSION OF THE CONTRACT

### § 14.1 Termination by the Contractor

§ 14.1.1 The Contractor may terminate the Contract if the Work is stopped for a period of 45 consecutive days through no act or fault of the Contractor, a Subcontractor, a Sub-subcontractor, their agents or employees, or any other persons or entities performing portions of the Work, for any of the following reasons:

- .1 Issuance of an order of a court or other public authority having jurisdiction that requires substantially all Work to be stopped; or
- .2 An act of government, such as a declaration of national emergency, that requires all Work to be stopped;
- .3 Because the Architect has not issued a Certificate for Payment and has not notified the Contractor of the reason for withholding certification as provided in Section 9.4.1, or because the Owner has not made payment on a Certificate for Payment within the time stated in the Contract Documents and the Contractor has stopped work in accordance with Section 9.7.

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

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

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

### § 14.2 Termination by the Owner for Cause

§ 14.2.1 The Owner may terminate the Contract if the Contractor

- .1 repeatedly refuses or fails to supply enough properly skilled workers or proper materials, or otherwise fails to prosecute the Work, or any separable part of the Work, with the diligence, resources and skill that will ensure its completion within the time specified in the Contract Documents, including any authorized adjustments;
- .2 fails to make payment to Subcontractors or suppliers in accordance with the Contract Documents and the respective agreements between the Contractor and the Subcontractors or suppliers;
- .3 repeatedly disregards applicable laws, statutes, ordinances, codes, rules and regulations, or lawful orders of a public authority; or
- .4 otherwise is guilty of substantial breach of a provision of the Contract Documents.

§ 14.2.2 When any of the reasons described in Section 14.2.1 exist, the Owner may, without prejudice to any other rights or remedies of the Owner and after giving the Contractor and the Contractor's surety, if any, seven days' notice, terminate employment of the Contractor and may, subject to any prior rights of the surety:

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

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

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

§ 14.2.5 If, after termination for cause, it is determined that the Owner lacked justification to terminate under Section 14.2.1, or that the Contractor's default was excusable, or that the termination for cause was affected by any other error, then Owner and Contractor agree that the termination shall be conclusively deemed to be one for the convenience of the Owner, and the rights and obligations of the parties shall be the same as if the termination had been issued for in Section 14.4.

#### § 14.3 Suspension by the Owner for Convenience

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

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

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

#### § 14.4 Termination by the Owner for Convenience

§ 14.4.1 The Owner may, at any time, terminate the Contract in whole or in part for the Owner's convenience and without cause. The Owner shall give notice of the termination to the Contractor specifying the part of the Contract terminated and when termination becomes effective.

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

- .1 cease operations as directed by the Owner in the notice;
- .2 take actions necessary, or that the Owner may direct, for the protection and preservation of the Work;
- .3 except for Work directed to be performed prior to the effective date of termination stated in the notice, terminate all existing subcontracts and purchase orders and enter into no further subcontracts and purchase orders; and
- .4 complete the performance of the Work not terminated, if any.

§ 14.4.3 In case of such termination for the Owner's convenience, the Owner shall pay the Contractor for Work properly executed; costs incurred by reason of the termination, including costs attributable to termination of Subcontracts; and any other adjustments otherwise set forth in the Agreement.

§ 14.4.4 Contractor's failure to include an appropriate termination for convenience clause in any subcontract shall not (i) affect the Owner's right to require the termination of a subcontract, or (ii) increase the obligation of the Owner beyond what it would have been if the subcontract had contained an appropriate clause.

§ 14.4.5 Upon written consent of the Contractor, the Owner may reinstate the terminated portion of this Contract in whole or in part by amending the notice of termination if it has been determined that:

- .1 the termination was due to withdrawal of funding by the General Assembly, Governor, or State Fiscal Accountability Authority or the need to divert project funds to respond to an emergency as defined by Regulation 19-445.2110(B) of the South Carolina Code of Regulations, as amended;

- .2 funding for the reinstated portion of the Work has been restored;
- .3 circumstances clearly indicate a requirement for the terminated Work; and
- .4 reinstatement of the terminated work is advantageous to the Owner.

## ARTICLE 15 CLAIMS AND DISPUTES

### § 15.1 Claims

#### § 15.1.1 Definition

A Claim is a demand or assertion by one of the parties seeking, as a matter of right, payment of money, a change in the Contract Time, or other relief with respect to the terms of the Contract. The term "Claim" also includes other disputes and matters in question between the Owner and Contractor arising out of or relating to the Contract. A voucher, invoice, payment application or other routine request for payment that is not in dispute when submitted is not a Claim under this definition. The responsibility to substantiate Claims shall rest with the party making the Claim. This Section 15.1.1 does not require the Owner to file a Claim in order to impose liquidated damages in accordance with the Contract Documents.

#### § 15.1.2 Reserved

#### § 15.1.3 Notice of Claims

§ 15.1.3.1 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered prior to expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party and to the Architect. Such notice shall include sufficient information to advise the Architect and other party of the circumstances giving rise to the Claim, the specific contractual adjustment or relief requested and the basis of such request. Claims by either party under this Section 15.1.3.1 shall be initiated within 21 days after occurrence of the event giving rise to such Claim or within 21 days after the claimant first recognizes the condition giving rise to the Claim, whichever is later except as stated for adverse weather days in Section 15.1.6.2. By failing to give written notice of a Claim within the time required by this Section, a party expressly waives its Claim.

§ 15.1.3.2 Claims by either the Owner or Contractor, where the condition giving rise to the Claim is first discovered after expiration of the period for correction of the Work set forth in Section 12.2.2, shall be initiated by notice to the other party. In such event, no decision by the Architect is required.

#### § 15.1.4 Continuing Contract Performance

§ 15.1.4.1 Pending final resolution of a Claim, including any administrative review allowed under Section 15.6, except as otherwise agreed in writing or as provided in Section 9.7 and Article 14, the Contractor shall proceed diligently with performance of the Contract and the Owner shall continue to make payments in accordance with the Contract Documents.

§ 15.1.4.2 The Contract Sum and Contract Time shall be adjusted in accordance with the Architect's decision, subject to the right of either party to proceed in accordance with this Article 15. The Architect will issue Certificates for Payment in accordance with the decision of the Initial Decision Maker.

#### § 15.1.5 Claims for Additional Cost

If the Contractor wishes to make a Claim for an increase in the Contract Sum, notice as provided in Section 15.1.3 shall be given before proceeding to execute the portion of the Work that is the subject of the Claim. Prior notice is not required for Claims relating to an emergency endangering life or property arising under Section 10.4.

#### § 15.1.6 Claims for Additional Time

§ 15.1.6.1 If the Contractor wishes to make a Claim for an increase in the Contract Time, notice as provided in Section 15.1.3 shall be given. The Contractor's Claim shall include an estimate of cost and of probable effect of delay on progress of the Work. In the case of a continuing delay, only one Claim is necessary. Claims for an increase in the Contract Time shall be based on one additional calendar day for each full calendar day that the Contractor is prevented from working.

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

- .1 Claims for adverse weather shall be based on actual weather conditions at the job site or other place of performance of the Work, as documented in the Contractor's job site log.

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- 2 For the purpose of this Contract, a total of five (5) days per calendar month (non-cumulative) shall be anticipated as "adverse weather" at the job site, and such time will not be considered justification for an extension of time. If, in any month, adverse weather develops beyond the five (5) days, the Contractor shall be allowed to claim additional days to compensate for the excess weather delays only to the extent of the impact on the approved construction schedule and days the Contractor was already scheduled to work. The remedy for this condition is for an extension of time only and is exclusive of all other rights and remedies available under the Contract Documents or imposed or available by law.
- 3 The Contractor shall submit monthly with their pay application all Claims for adverse weather conditions that occurred during the previous month. The Architect shall review each monthly submittal in accordance with Section 15.5 and inform the Contractor and the Owner promptly of its evaluation. Approved days shall be included in the next Change Order issued by the Architect. Adverse weather conditions not claimed within the time limits of this Subparagraph shall be considered to be waived by the Contractor. Claims will not be allowed for adverse weather days that occur after the scheduled (original or adjusted) date of Substantial Completion.

§ 15.1.6.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the work, and the number of days increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indicating all the activities affected by the circumstances forming the basis of the Claim.

§ 15.1.6.4 The Contractor shall not be entitled to a separate increase in the Contract Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

#### § 15.1.7 Claims for Listed Damages

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor and Owner waive Claims against each other for listed damages arising out of or relating to this Contract.

§ 15.1.7.1 For the Owner, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) costs suffered by a third party unable to commence work, (vi) attorney's fees, (vii) any interest, except to the extent allowed by Section 13.5 (Interest), (viii) lost revenue and profit for lost use of the property, (ix) costs resulting from lost productivity or efficiency.

§ 15.1.7.2 For the Contractor, listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest, except to the extent allowed by Section 13.5 (Interest); (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Owner. Without limitation, this mutual waiver is applicable to all damages due to either party's termination in accordance with Article 14.

§ 15.1.7.3 Nothing contained in this Section shall be deemed to preclude an award of liquidated damages, when applicable, in accordance with the requirements of the Contract Documents. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

#### § 15.1.8 Waiver of Claims Against the Architect

Notwithstanding any other provision of the Contract Documents, including Section 1.2.1, but subject to a duty of good faith and fair dealing, the Contractor waives all claims against the Architect and any other design professionals who provide design and/or project management services to the Owner, either directly or as independent contractors or subcontractors to the Architect, for listed damages arising out of or relating to this Contract. The listed damages are (i) lost revenue and profit, (ii) losses resulting from injury to business or reputation, (iii) additional or escalated overhead and administration expenses, (iv) additional financing costs, (v) attorney's fees, (vi) any interest; (vii) unamortized equipment costs; and, (viii) losses incurred by subcontractors for the types of damages the Contractor has waived as against the Owner. This mutual waiver is not applicable to amounts due or obligations under Section 3.18 (Indemnification).

§ 15.2 Reserved

§ 15.3 Reserved

§ 15.4 Reserved

**§ 15.5 Claim and Disputes - Duty of Cooperation, Notice, and Architects Initial Decision**

§ 15.5.1 Contractor and Owner are fully committed to working with each other throughout the Project to avoid or minimize Claims. To further this goal, Contractor and Owner agree to communicate regularly with each other and the Architect at all times notifying one another as soon as reasonably possible of any issue that if not addressed may cause loss, delay, and/or disruption of the Work. If Claims do arise, Contractor and Owner each commit to resolving such Claims in an amicable, professional, and expeditious manner to avoid unnecessary losses, delays, and disruptions to the Work.

§ 15.5.2 Claims shall first be referred to the Architect for initial decision. An initial decision shall be required as a condition precedent to resolution pursuant to Section 15.6 of any Claim arising prior to the date of final payment, unless 30 days have passed after the Claim has been referred to the Architect with no decision having been rendered, or after all the Architect's requests for additional supporting data have been answered, whichever is later. The Architect will not address Claims between the Contractor and persons or entities other than the Owner.

§ 15.5.3 The Architect will review Claims and within ten days of the receipt of a Claim (1) request additional supporting data from the claimant or a response with supporting data from the other party or (2) render an initial decision in accordance with Section 15.5.5.

§ 15.5.4 If the Architect requests a party to provide a response to a Claim or to furnish additional supporting data, such party shall respond, within ten days after receipt of such request, and shall either (1) provide a response on the requested supporting data, (2) advise the Architect when the response or supporting data will be furnished or (3) advise the Architect that all supporting data has already been provided. Upon receipt of the response or supporting data, the Architect will render an initial decision in accordance with Section 15.5.5.

§ 15.5.5 The Architect will render an initial decision in writing; (1) stating the reasons therefor; and (2) notifying the parties of any change in the Contract Sum or Contract Time or both. The Architect will deliver the initial decision to the parties within two weeks of receipt of any response or supporting data requested pursuant to Section 16.4 or within such longer period as may be mutually agreeable to the parties. If the parties accept the initial decision, the Architect shall prepare a Change Order with appropriate supporting documentation for the review and approval of the parties and the Office of State Engineer. If either the Contractor, Owner, or both, disagree with the initial decision, the Contractor and Owner shall proceed with dispute resolution in accordance with the provisions of Section 15.6.

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

**§ 15.6 Dispute Resolution**

§ 15.6.1 If a Claim is not resolved pursuant to Section 15.5 to the satisfaction of either party, both parties shall attempt to resolve the dispute at the field level through discussions between Contractor's Representative and Owner's Representative. If a dispute cannot be resolved through Contractor's Representative and Owner's Representative, then the Contractor's Senior Representative and the Owner's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than twenty-one (21) days after such a request is made, to attempt to resolve such dispute. Prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving their dispute. The meetings required by this Section are a condition precedent to resolution pursuant to Section 15.6.2.

§ 15.6.2 If after meeting in accordance with the provisions of Section 15.6.1, the Senior Representatives determine that the dispute cannot be resolved on terms satisfactory to both the Contractor and the Owner, then either party may submit the dispute by written request to South Carolina's Chief Procurement Officer for Construction (CPOC). Except as otherwise provided in Article 15, all Claims, or controversies relating to the Contract shall be resolved exclusively by the appropriate Chief Procurement Officer in accordance with Title 11, Chapter 35, Article 17 of the

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South Carolina Code of Laws, or in the absence of jurisdiction, only in the Court of Common Pleas for, or in the absence of jurisdiction a federal court located in, Richland County, State of South Carolina. Contractor agrees that any act by the State regarding the Contract is not a waiver of either the State's sovereign immunity or the State's immunity under the Eleventh Amendment of the United States Constitution.

§ 15.6.3 If any party seeks resolution to a dispute pursuant to Section 15.6.2, the parties shall participate in non-binding mediation to resolve the Claim. If the Claim is governed by Title 11, Chapter 35, Article 17 of the South Carolina Code of Laws as amended and the amount in controversy is \$100,000.00 or less, the CPOC shall appoint a mediator, otherwise, the mediation shall be conducted by an impartial mediator selected by mutual agreement of the parties, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator.

§ 15.6.4 Without relieving any party from the other requirements of Sections 15.5 and 15.6, either party may initiate proceedings in the appropriate forum prior to initiating or completing the procedures required by Sections 15.5 and 15.6 if such action is necessary to preserve a claim by avoiding the application of any applicable statutory period of limitation or repose.

#### § 15.6.5 Service of Process

Contractor consents that any papers, notices, or process necessary or proper for the initiation or continuation of any Claims, or controversies relating to the Contract; for any court action in connection therewith; or for the entry of judgment on any award made, may be served on Contractor by certified mail (return receipt requested) addressed to Contractor at the address provided for the Contractor's Senior Representative or by personal service or by any other manner that is permitted by law, in or outside South Carolina. Notice by certified mail is deemed duly given upon deposit in the United States mail.

### ARTICLE 16 PROJECT-SPECIFIC REQUIREMENTS AND INFORMATION

# SE-355 PERFORMANCE BOND

**KNOW ALL MEN BY THESE PRESENTS**, that *(Insert full name or legal title and address of Contractor)*

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

hereinafter referred to as “Contractor”, and *(Insert full name and address of principal place of business of Surety)*

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

hereinafter called the “surety”, are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: Francis Marion University  
Address: 4822 East Palmetto Street  
Florence, SC 29506

hereinafter referred to as “Agency”, or its successors or assigns, the sum of \_\_\_\_\_ (\$ \_\_\_\_\_), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, Contractor has by written agreement dated \_\_\_\_\_ entered into a contract with Agency to construct

State Project Name: Def. Maint: Roads, Parking Lots, Sidewalks, Walkway - Roads and Lot E

State Project Number: H18-9584-MJ-B2

Brief Description of Awarded Work: Full depth reclamation (20%) and milling (80%) of roadways and parking lot E

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Chao and Associates, Inc.

Address: 7 Clusters Court  
Columbia, SC 29210

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

**IN WITNESS WHEREOF**, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Performance Bond to be duly executed on its behalf by its authorized officer, agent or representative.

**DATED this** \_\_\_\_\_ **day of** \_\_\_\_\_, **2** \_\_\_\_\_  
*(shall be no earlier than Date of Contract)*

**BOND NUMBER** \_\_\_\_\_

**CONTRACTOR**

**SURETY**

**By:** \_\_\_\_\_  
(Seal)

**By:** \_\_\_\_\_  
(Seal)

**Print Name:** \_\_\_\_\_

**Print Name:** \_\_\_\_\_

**Print Title:** \_\_\_\_\_

**Print Title:** \_\_\_\_\_  
*(Attach Power of Attorney)*

**Witness:** \_\_\_\_\_

**Witness:** \_\_\_\_\_

*(Additional Signatures, if any, appear on attached page)*

**SE-355****PERFORMANCE BOND****NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:**

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency for the full and faithful performance of the contract, which is incorporated herein by reference.
2. If the Contractor performs the contract, the Surety and the Contractor have no obligation under this Bond, except to participate in conferences as provided in paragraph 3.1.
3. The Surety's obligation under this Bond shall arise after:
  - 3.1 The Agency has notified the Contractor and the Surety at the address described in paragraph 10 below, that the Agency is considering declaring a Contractor Default and has requested and attempted to arrange a conference with the Contractor and the Surety to be held not later than 15 days after receipt of such notice to discuss methods of performing the Contract. If the Agency, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Contract, but such an agreement shall not waive the Agency's right, if any, subsequently to declare a Contractor Default; or
  - 3.2 The Agency has declared a Contractor Default and formally terminated the Contractor's right to complete the Contract.
4. The Surety shall, within 15 days after receipt of notice of the Agency's declaration of a Contractor Default, and at the Surety's sole expense, take one of the following actions:
  - 4.1 Arrange for the Contractor, with consent of the Agency, to perform and complete the Contract; or
  - 4.2 Undertake to perform and complete the Contract itself, through its agents or through independent contractors; or
  - 4.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Agency for a contract for performance and completion of the Contract, arrange for a contract to be prepared for execution by the Agency and the contractor selected with the Agency'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 the Agency the amount of damages as described in paragraph 7 in excess of the Balance of the Contract Sum incurred by the Agency resulting from the Contractor Default; or
  - 4.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and:
    - 4.4.1 After investigation, determine the amount for which it may be liable to the Agency and, within 60 days of waiving its rights under this paragraph, tender payment thereof to the Agency; or
    - 4.4.2 Deny liability in whole or in part and notify the Agency, citing the reasons therefore.
5. Provided Surety has proceeded under paragraphs 4.1, 4.2, or 4.3, the Agency shall pay the Balance of the Contract Sum to either:
  - 5.1 Surety in accordance with the terms of the Contract; or
  - 5.2 Another contractor selected pursuant to paragraph 4.3 to perform the Contract.
  - 5.3 The balance of the Contract Sum due either the Surety or another contractor shall be reduced by the amount of damages as described in paragraph 7.
6. If the Surety does not proceed as provided in paragraph 4 with reasonable promptness, the Surety shall be deemed to be in default on this Bond 15 days after receipt of written notice from the Agency to the Surety demanding that the Surety perform its obligations under this Bond, and the Agency shall be entitled to enforce any remedy available to the Agency.
  - 6.1 If the Surety proceeds as provided in paragraph 4.4 and the Agency refuses the payment tendered or the Surety has denied liability, in whole or in part, then without further notice the Agency shall be entitled to enforce any remedy available to the Agency.
  - 6.2 Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the Dispute Resolution process defined in the Contract Documents and the laws of the State of South Carolina.
7. After the Agency has terminated the Contractor's right to complete the Contract, and if the Surety elects to act under paragraph 4.1, 4.2, or 4.3 above, then the responsibilities of the Surety to the Agency shall be those of the Contractor under the Contract, and the responsibilities of the Agency to the Surety shall those of the Agency under the Contract. To a limit of the amount of this Bond, but subject to commitment by the Agency of the Balance of the Contract Sum to mitigation of costs and damages on the Contract, the Surety is obligated to the Agency without duplication for:
  - 7.1 The responsibilities of the Contractor for correction of defective Work and completion of the Contract; and
  - 7.2 Additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under paragraph 4; and
  - 7.3 Damages awarded pursuant to the Dispute Resolution Provisions of the Contract. Surety may join in any Dispute Resolution proceeding brought under the Contract and shall be bound by the results thereof; and
  - 7.4 Liquidated Damages, or if no Liquidated Damages are specified in the Contract, actual damages caused by delayed performance or non-performance of the Contractor.
8. The Surety shall not be liable to the Agency or others for obligations of the Contractor that are unrelated to the Contract, and the Balance of the Contract Sum 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 the Agency or its heirs, executors, administrators, or successors.
9. The Surety hereby waives notice of any change, including changes of time, to the contract or to related subcontracts, purchase orders and other obligations.
10. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the address shown on the signature page.
11. Definitions
  - 11.1 Balance of the Contract Sum: The total amount payable by the Agency to the Contractor under the Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts to be received by the Agency in settlement of insurance or other Claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Contract.
  - 11.2 Contractor Default: Failure of the Contractor, which has neither been remedied nor waived, to perform the Contract or otherwise to comply with the terms of the Contract.



# SE-357 LABOR & MATERIAL PAYMENT BOND

**KNOW ALL MEN BY THESE PRESENTS**, that *(Insert full name or legal title and address of Contractor)*

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

hereinafter referred to as “Contractor”, and *(Insert full name and address of principal place of business of Surety)*

Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
\_\_\_\_\_

hereinafter called the “surety”, are jointly and severally held and firmly bound unto *(Insert full name and address of Agency)*

Name: Francis Marion University  
Address: 4822 East Palmetto Street  
Florence, SC 29506

hereinafter referred to as “Agency”, or its successors or assigns, the sum of \_\_\_\_\_ (\$ \_\_\_\_\_), being the sum of the Bond to which payment to be well and truly made, the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

**WHEREAS**, Contractor has by written agreement dated 90 entered into a contract with Agency to construct

State Project Name: Def. Maint: Roads, Parking Lots, Sidewalks, Walkways-Roads and Lot E  
State Project Number: H18-9584-MJ-B2  
Brief Description of Awarded Work: Full depth reclamation (20%) and milling (80%) of roadways and parking lot E

in accordance with Drawings and Specifications prepared by *(Insert full name and address of A/E)*

Name: Chao & Associates, Inc  
Address: 7 Clusters Court  
Columbia, SC 29210

which agreement is by reference made a part hereof, and is hereinafter referred to as the Contract.

**IN WITNESS WHEREOF**, Surety and Contractor, intending to be legally bound hereby, subject to the terms stated herein, do each cause this Labor & Material Payment Bond to be duly executed on its behalf by its authorized officer, agent or representative.

**DATED this** \_\_\_\_\_ **day of** \_\_\_\_\_, **2** \_\_\_\_\_  
*(shall be no earlier than Date of Contract)*

**BOND NUMBER** \_\_\_\_\_

**CONTRACTOR**

**By:** \_\_\_\_\_  
(Seal)

**Print Name:** \_\_\_\_\_

**Print Title:** \_\_\_\_\_

**Witness:** \_\_\_\_\_

**SURETY**

**By:** \_\_\_\_\_  
(Seal)

**Print Name:** \_\_\_\_\_

**Print Title:** \_\_\_\_\_  
*(Attach Power of Attorney)*

**Witness:** \_\_\_\_\_

*(Additional Signatures, if any, appear on attached page)*

**SE-357****LABOR & MATERIAL PAYMENT BOND****NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH THAT:**

1. The Contractor and the Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Agency to pay for all labor, materials and equipment required for use in the performance of the Contract, which is incorporated herein by reference.
  2. With respect to the Agency, this obligation shall be null and void if the Contractor:
    - 2.1 Promptly makes payment, directly or indirectly, for all sums due Claimants; and
    - 2.2 Defends, indemnifies and holds harmless the Agency from all claims, demands, liens or suits by any person or entity who furnished labor, materials or equipment for use in the performance of the Contract.
  3. With respect to Claimants, this obligation shall be null and void if the Contractor promptly makes payment, directly or indirectly, for all sums due.
  4. With respect to Claimants, and subject to the provisions of Title 29, Chapter 5 and the provisions of §11-35-3030(2)(c) of the SC Code of Laws, as amended, the Surety's obligation under this Bond shall arise as follows:
    - 4.1 Every person who has furnished labor, material or rental equipment to the Contractor or its subcontractors for the work specified in the Contract, and who has not been paid in full therefore before the expiration of a period of ninety (90) days after the date on which the last of the labor was done or performed by him or material or rental equipment was furnished or supplied by him for which such claim is made, shall have the right to sue on the payment bond for the amount, or the balance thereof, unpaid at the time of institution of such suit and to prosecute such action for the sum or sums justly due him.
    - 4.2 A remote claimant shall have a right of action on the payment bond upon giving written notice by certified or registered mail to the Contractor within ninety (90) days from the date on which such person did or performed the last of the labor or furnished or supplied the last of the material or rental equipment upon which such claim is made.
    - 4.3 Every suit instituted upon a payment bond shall be brought in a court of competent jurisdiction for the county or circuit in which the construction contract was to be performed, but no such suit shall be commenced after the expiration of one year after the day on which the last of the labor was performed or material or rental equipment was supplied by the person bringing suit.
  5. When the Claimant has satisfied the conditions of paragraph 4, the Surety shall promptly and at the Surety's expense take the following actions:
    - 5.1 Send an answer to the Claimant, with a copy to the Agency, within sixty (60) days after receipt of the claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed.
    - 5.2 Pay or arrange for payment of any undisputed amounts.
    - 5.3 The Surety's failure to discharge its obligations under this paragraph 5 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a claim. However, if the Surety fails to discharge its obligations under this paragraph 5, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs to recover any sums found to be due and owing to the Claimant.
  6. Amounts owed by the Agency to the Contractor under the Contract shall be used for the performance of the Contract and to satisfy claims, if any, under any Performance Bond. By the Contractor furnishing and the Agency accepting this Bond, they agree that all funds earned by the contractor in the performance of the Contract are dedicated to satisfy obligations of the Contractor and the Surety under this Bond, subject to the Agency's prior right to use the funds for the completion of the Work.
  7. The Surety shall not be liable to the Agency, Claimants or others for obligations of the Contractor that are unrelated to the Contract. The Agency 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.
  8. The Surety hereby waives notice of any change, including changes of time, to the Contract or to related Subcontracts, purchase orders and other obligations.
  9. Notice to the Surety, the Agency or the Contractor shall be mailed or delivered to the addresses shown on the signature page. Actual receipt of notice by Surety, the Agency or the contractor, however accomplished, shall be sufficient compliance as of the date received at the address shown on the signature page.
  10. By the Contractor furnishing and the Agency accepting this Bond, they agree that this Bond has been furnished to comply with the statutory requirements of the South Carolina Code of Laws, as amended, and further, that any provision in this Bond conflicting with said statutory requirements shall be deemed deleted herefrom and provisions conforming to such statutory or other legal 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. Upon request of any person or entity appearing to be a potential beneficiary of this bond, the Contractor shall promptly furnish a copy of this Bond or shall permit a copy to be made.
  12. Any dispute, suit, action or proceeding arising out of or relating to this Bond shall be governed by the laws of the State of South Carolina.
- 13. DEFINITIONS**
- 13.1 Claimant: An individual or entity having a direct contract with the Contractor or with a Subcontractor of the 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 the Contractor and the Contractor's Subcontractors, and all other items for which a mechanic's lien might otherwise be asserted.
  - 13.2 Remote Claimant: A person having a direct contractual relationship with a subcontractor of the Contractor or subcontractor, but no contractual relationship expressed or implied with the Contractor.
  - 13.3 Contract: The agreement between the Agency and the Contractor identified on the signature page, including all Contract Documents and changes thereto.

**SE-380**

CHANGE ORDER NO.: \_\_\_\_\_

**CHANGE ORDER TO DESIGN-BID-BUILD CONTRACT**

**AGENCY:** Francis Marion University

**PROJECT NAME:** Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E

**PROJECT NUMBER:** H18-9584-MJ-B2

**CONTRACTOR:** \_\_\_\_\_

**This Contract is changed as follows:** *(Insert description of change in space provided below.)*

**ADJUSTMENTS IN THE CONTRACT SUM:**

1. Original Contract Sum:		\$
2. Change in Contract Sum by previously approved Change Orders:		
3. Contract Sum prior to this Change Order:		\$ 0.00
4. Amount of this Change Order:		
5. New Contract Sum, including this Change Order:		\$ 0.00

**ADJUSTMENTS IN THE CONTRACT TIME:**

1. Initial Date for Substantial Completion:		
2. Sum of previously approved increases and decreases in Days:		Days
3. Change in Days for this Change Order:		Days
4. Total Number of Days added to this Contract including this Change Order:	0 Days	
5. New Date for Substantial Completion:		

**AGENCY ACCEPTANCE AND CERTIFICATION:**

I certify that the Agency has authorized, unencumbered funds available for obligation to this contract.

**BY:** \_\_\_\_\_ **Date:** \_\_\_\_\_  
*(Signature of Representative)*

**Print Name of Representative:** \_\_\_\_\_

Change is within Agency Construction Contract Change Order Certification of: \$ \_\_\_\_\_ Yes  No

**APPROVED BY:** \_\_\_\_\_ **DATE:** \_\_\_\_\_  
*(OSE Project Manager)*

**SUBMIT THE FOLLOWING TO OSE**

1. SE-380, completed and signed by the Agency.
2. SE-380, Page 2, completed and signed by the Contractor, A/E and Agency, with back-up information to support request.

**CHANGE ORDER REQUEST SUMMARY – DESIGN-BID-BUILD**

**AGENCY:** Francis Marion University

**PROJECT NAME:** Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads and Lot E

**PROJECT NUMBER:** H18-9584-MJ-B2

**CONTRACTOR:** \_\_\_\_\_

**This Contract is requested to be changed as follows:** *(Insert description of change in space provided below.)*

**ADJUSTMENTS IN THE CONTRACT TIME:** Requested Change in Days for this Change Order: \_\_\_\_\_ Days

			(1) Contractor	(2) Subcontractor	(3) TOTAL
<b>Direct Costs</b> (Provide back-up, including hourly rates, invoices, manhours, etc.)	1.	Labor			
	2.	Materials (including Sales Tax)			
	3.	Rental Charges			
	4.	Subtotal Direct Costs (sum lines 1 – 3)	\$ 0.00	\$ 0.00	\$ 0.00
<b>Contractor Markup</b> (per AIA A201, Section 7.1.5)	5.	Contractor OH&P (not to exceed 17% of line 4, col 1)			
	6.	Subcontractor's OH&P (not to exceed 17% of line 4, col 2)			
	7.	Contractor markup on Subcontractor (not to exceed 10% of line 4, col 2)			
	8.	Total Contractor Markup (sum lines 5 – 7)	\$ 0.00	\$ 0.00	\$ 0.00
<b>Additional Bonding, Insurance and Permit Costs Associated with Change Order</b>	9.	Bonds			
	10.	Insurance			
	11.	Permits, Licenses or Fees			
	12.	Subtotal (sum lines 9 – 11)	\$ 0.00	\$ 0.00	\$ 0.00
<b>TOTAL</b>	13.	Change Order Cost (sum lines 4, 8, 12, col 3)			\$ 0.00

**ADJUSTMENTS IN THE CONTRACT SUM:** Amount of this Change Order Request: \$ \_\_\_\_\_

**CONTRACTOR ACCEPTANCE:**

BY: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Signature of Representative)*

Print Name of Representative: \_\_\_\_\_

**A/E RECOMMENDATION FOR ACCEPTANCE:**

BY: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Signature of Representative)*

Print Name of Representative: \_\_\_\_\_

**AGENCY ACCEPTANCE:**

BY: \_\_\_\_\_ Date: \_\_\_\_\_  
*(Signature of Representative)*

Print Name of Representative: \_\_\_\_\_

**Instruction to Contractor:** Attach documentation as needed to justify the requested change to the contract and submit to A/E or Agency.

## SECTION 01110

### SUMMARY OF WORK

#### PART 1 - GENERAL

##### 1.01 WORK COVERED BY CONTRACT DOCUMENTS

- A. Clear and grub areas show where tree roots extend into roadways and parking areas.
- B. Full depth reclamation (20%) of the roadways and parking area – Alumni Dr., Wallace Dr. and Heyward Dr. and Parking lot E only where shown on the drawings.
- C. Milling and repaving of asphalt (80%) on roadways and parking areas – Alumni Dr., Wallace Dr. and Heyward Dr. and Parking lot E.
- D. Striping and restriping existing and new crosswalks, roadways, parking, handicapped parking, etc.

##### 1.02 RELATED WORK

- A. Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and sections in Division 1 of these specifications.

##### 1.03 SAFETY COMPLIANCE

- A. In addition to any detailed requirements of these specifications, the contractor shall meet the requirements of federal and state standards referenced in applicable publications, whichever is more restrictive. Matters of interpretation of these standards shall be submitted by the contractor to the respective administrative agency for resolution before starting work.

##### 1.04 PRECAUTION AND SAFETY

###### SPECIAL REQUIREMENTS

- A. Accident Prevention and Safety: Comply with all applicable laws, ordinances, rules, regulations and orders of governing authorities having jurisdiction for the safety of persons and property to protect them from damage, injury or loss. Erect and maintain, as required by conditions and progress of the work, all necessary safeguards for safety and protection, including fences, railings, barricades, lighting, posting of danger signs and other warnings against hazards. Where prevention of construction accidents is not regulated by code or ordinances, comply with AGC' s "Manual of Accident Prevention in Construction." Contractor shall be solely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Project. All scaffolds shall be built in accordance with all requirements of local, state and Federal laws and regulations.

##### 1.05 COORDINATION OF WORK SEQUENCE

- A. Coordinate work for the various sections of the Specifications to ensure efficient and orderly sequence of installation of construction elements, with provisions for accommodating items installed later.
- B. Verify characteristics that elements of interrelated operating equipment are

compatible; coordinate work of various sections having interdependent responsibilities for installing, connection to, and placing in service, such equipment.

- C. Coordinate space requirements and installation of mechanical and electrical work which are indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts and conduits, as closely as practicable; make runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- D. In finished areas conceal pipes, ducts, and wiring in the construction. Coordinate locations of fixtures and outlets with finish elements.

#### 1.06 TIME OF COMPLETION AND LIQUIDATED DAMAGES

- A. The Contract Performance Period shall be as on the SE-330, Lump Sum Bid Form and commence upon written Notice to Proceed.
- B. All work must be completed by August 1<sup>st</sup>

#### 1.07 SUBSTANTIAL COMPLETION INSPECTION AND PUNCH LIST:

- A. The contract has an established contract completion date. In order to avoid the assessment of liquidated damages, the contractor shall require in writing to the architect/engineer a substantial completion inspection on or prior to the established completion date. The contractor shall certify that all construction/installation is complete and has been checked out and is operating as designed. The architect/engineer shall notify the Owner in writing that the job is ready for inspection.
- B. The architect/engineer, Construction Manager, contractor, and all sub-contractors associated with the construction/installation of the building equipment shall be present during the substantial completion inspection to demonstrate the proper operations of the equipment. Removal/replacement of necessary covers for inspection shall be conducted by the contractor.

#### 1.08 FINAL PUNCH LIST ITEMS:

- A. The contractor and sub-contractors shall have thirty (30) calendar days from the date of final inspection to complete the repair of any and all items listed on the final punch list.

**END OF SECTION**

## SECTION 01140

### WORK RESTRICTIONS

#### PART 1 - GENERAL

##### 1.01 DESCRIPTION

- A. Work Included: This section applies to situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees and field engineers, enter upon the Owner's property.
- B. Related Work: Documents affecting work of this section include, but are not necessarily limited to, General Conditions, Supplementary Conditions and Sections in Division 1 of these Specifications.

##### 1.02 QUALITY ASSURANCE

- A. Promptly upon the award of the Contract, notify all pertinent personnel regarding requirements of this Section.
- B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this section.

##### 1.03 TRAFFIC CONTROL

- A. Contractor shall provide and maintain all regulatory construction signing, barricades, flagmen, etc. as needed to comply with the SCDOT standards during construction operations.

##### 1.04 SECURITY

- A. Restrict the access of all persons entering upon the Owner's property in connection with the work to the Contractor's Entrance and to the actual site of the work.

##### 1.05 CONTRACTOR USE OF PREMISES

- A. Confine operations at site to area permitted by Owner and Contract Documents.
- B. Do not unreasonably encumber site with materials or equipment.
- C. Assume full responsibility for protection and safekeeping of products stored on premises.
- D. Move any stored products, which interfere with operations of Owner.

##### 1.07 OWNER OCCUPANCY

- A. N/A

##### 1.08 WORK IN, OR ADJACENT TO, EXISTING OR OCCUPIED AREAS

- A. N/A

1.09 CONTRACTOR CONDUCT

- A. The possession and/or use of drugs and alcohol on district property are prohibited.

**END OF SECTION**



SECTION 01170  
SPECIAL PROVISIONS

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SECTION 01170  
SPECIAL PROVISIONS

1.0 GENERAL

1.1 In case of conflict between the Special Provisions and the Technical Specifications (Divisions 1 & 2), the Technical Specifications will prevail.

2.0 PROJECT SCOPE

2.1 Work covered by these contract documents consists of full-depth reclamation (20%), milling, and repaving (80%) of roadways and parking lot E. All existing roadway pavement will be demolished and removed. All repairs and pavement striping are to match the existing conditions. New pavement crosswalk striping is shown on the drawing. Construction is to start on May 5<sup>th</sup>; however, the contractors are allowed to start mobilization prior to meet the completion deadline. Please note that **all work must be completed by August 1<sup>st</sup>**.

- a. Repair roadway and parking lot E pavements as described in these specifications and on the plans and as itemized in the proposal.

3.0 CONTRACTOR QUALIFICATIONS

3.1 No bid will be considered unless the bidder is legally qualified under the provisions of the South Carolina Contractor's Licensing Law (South Carolina Code of Laws as amended on April 1, 1999, Chapter 11, Section 40-11-10 through 40-11-428).

3.2 Contractors shall have a classification of Roadway Pavement.

4.0 CONTRACTOR'S OBLIGATION

4.1 The Contractor shall, in a good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities, and means necessary or proper to perform and complete all the work required by these Special Provisions within the time herein specified, in accordance with the provision of these specifications, and in accordance with the directions of the Engineer as given from time to time during the progress of the work. He shall furnish, erect, and maintain such temporary work as may be required. The Contractor shall observe, comply with, and be subject to all terms, conditions, requirements, and limitations of the contract and specifications, and shall carry on and complete the entire work to the satisfaction of the Engineer and the University. The Contractor will at all times have one complete set of all contract

documents (special provisions, specifications, drawings, bulletins, etc.) maintained at the project sites and the Contractor's person in charge must be familiar with all phases of the projects. All work, materials, methods, and procedures shall comply with the requirements of Storm Water Management and Sediment Reduction Act of 1991 and the SCDHEC permit to construct.

## 5.0 SUPERVISION

- 5.1 The work shall be conducted under the general direction of the Owner/Engineer and will be inspected by his appointed representatives. The Owner/Engineer through his representatives will maintain a record of work done and see that the location and limit marks are kept in proper order. The presence of the Owner/Engineer's representative(s) shall not relieve the Contractor of responsibility for the proper execution of the work. The contractor will have at least one representative on-site during the installation and after the installation during the curing process on any asphalt or concrete constructed on the campus.
- 5.2 The Contractor shall furnish at his own expense such labor, organization and materials as may be reasonably necessary in inspecting and supervising the work. Should the Contractor refuse, neglect, or delay compliance with this requirement, the specified facilities may be furnished and maintained by the Owner/Engineer and the cost thereof deducted from any amounts due, or to become due, the Contractor.
- 5.3 The work shall be entirely under the control of the Owner/Engineer, and the Owner/Engineer or his authorized representative(s) shall have access to the same at all times.

## 6.0 COVENANT OF GOOD FAITH AND FAIR DEALING

- 6.1 This contract imposes an obligation of good faith and fair dealing in its performance and enforcement.
- 6.2 The Contractor and the Owner, with a positive commitment to honesty and integrity, agree to the following mutual duties:
- A. Each will function within the laws and statutes applicable to their duties and responsibilities.
  - B. Each will assist in the other's performance.
  - C. Each will avoid hindering the other's performance.
  - D. Each will proceed to fulfill its obligations diligently.
  - E. Each will cooperate in the common endeavor of the contract.

## 7.0 INDEMNITY

- 7.1 The Contractor agrees to and fully indemnify, defend, hold harmless and reimburse the Francis Marion University  
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Owner, the Engineer and their respective agents, employees and successors from and against any and all losses, liabilities, judgments, expenses, costs and all claims for damages of any nature whatsoever:

- A. relating to or arising out of any action or failure to act; or,
- B. Resulting from a taking of property, real or personal, or by inverse condemnation; or,
- C. Relating to or arising out of the performance or failure to perform any of the obligations required by the contract; or,
- D. Resulting from failure to comply with or violation of any local, state or federal regulation by the Contractor, its subcontractors, officers, agents and employees or for anyone for whose acts any of them may be liable for. Losses, liabilities, expenses and claims for damages shall include, but not limited to, civil and criminal fines and penalties, judgments, loss of use and/or services, bodily injury, injury to or the taking of real or personal property, defense costs and attorney's fees.

## 8.0 SUBCONTRACTING

8.1 The Contractor shall identify all subcontractors and vendors to be used on this project on the sheet provided as part of the bid proposal. The Contractor shall require all subcontractors and vendors to keep their bids confidential. The Contractor shall, in performance of the Contract, only use those subcontractors and vendors upon which the Contractor's bid was based. Subcontractor and vendor substitutions shall only be made upon the Owner's approval. The Contractor shall enter into contracts with those subcontractors and vendors, in the same dollar amount upon which the Contractor's bid was based, prior to award of the Contract. Such contracts shall be contingent upon award of the Contract by the Owner and the Owner's Notice to Proceed to the Contractor. Each pay request shall identify the dollar amount that will be paid to each subcontractor and vendor for work performed and materials/products furnished under the Contract. The Contractor shall provide the name of each subcontractor and vendor and a description of the work performed and materials/products furnished by each subcontractor and vendor and the dollar amount to be paid to each subcontractor and vendor.

## 9.0 INJURIES TO PERSONS AND PROPERTY

9.1 The Contractor shall be held responsible for all injuries to persons and for all damages to the property of the Owner or others caused by or resulting from the negligence of himself, his employees or his agents, during the progress of or in connection with the prosecution of the work, whether within the limits of the work under the contract proper or as extra work.

9.2 The Contractor must protect and support all water and gas pipes or other conduits and

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buildings, walls, fences, or other properties, which are liable to be damaged during the execution of his work. The Contractor shall take all reasonable and proper precautions to protect persons, animals, and vehicles of the public from injury and wherever necessary shall erect and maintain a fence or railing around any excavation and place a sufficient number of lights about the work and keep them burning from twilight to sunrise. The Contractor must, as far as practical and consistent with good construction, permit access to private and public property and leave fire hydrants, catch basins, streets, etc., free from encumbrances. The Contractor must restore at his own expense all injured property caused by any negligence of omission or commission on his part or on the part of his agent, including sidewalks, curbing, sodding, pipes, conduits, sewers, buildings, fences, retaining walls, tanks, power lines, or any other private or public property to a condition of equal or better comparison to the condition of the property when he entered upon the work.

- 9.3 In case of failure on the part of the Contractor to restore such property or make good such damage, the Owner may upon 48 hours notice proceed to repair, rebuild, or otherwise restore such property as may be deemed necessary, and the cost thereof will be deducted from any money due or which may become due under this contract.
- 9.4 The Contractor shall indemnify and hold harmless the Owner or the Engineer acting in behalf of the Owner from all suits and actions that may be brought against it by reason of any injury, or alleged injury, to the person or property of another resulting from negligence or carelessness in the execution of the work, or on account of any negligent act or omission, or improper methods or means of construction on the part of the Contractor, his representatives, or employees. The Contractor shall have the sole responsibility of determining the best and proper method or means of construction and the Owner or the Engineer acting in behalf of the Owner shall not be held responsible for determining or suggesting a method or means of construction, except as expressly indicated in the contract documents.

## 10.0 MOBILIZATION

- 10.1 Mobilization and demobilization include all work and cost associated necessary for obtaining all bonds, permits, and licenses; location and procurement of a staging area/storage yard; moving onto and off of the site of all equipment; furnishing and erecting construction facilities; cleanup; testing; and all preparatory work as required for the proper performance and completion of the project, including all work items not identified in a separate bid item.
- 10.2 Payment for mobilization shall be as shown in the bid form.

## 11.0 VIDEO TAPING OF PROJECT

- 11.1 Not required

## 12.0 PHOTOGRAPHS

12.1 The Contractor will be responsible for obtaining photographs of all work areas prior to beginning construction. Each digital photograph shall be annotated with the date, location, approximate station number if applicable, and direction of view (i.e., "looking north", etc.). Provide the Owner and Engineer with a minimum of one (1) copy of each digital photograph electronically. Electronic copies of all original photographs are to be provided to the Engineer and Owner on CD's with a release statement. Provide a minimum of one (1) electronic copy of all photographs taken during the duration of the entire construction project.

## 13.0 CONSTRUCTION STAKING

13.1 The Contractor will be responsible for establishing all lines and grades and staking out all work on this project from the controls provided by the Engineer. Horizontal and vertical control points for the project are designated on the Drawings.

## 14.0 SITework

14.1 Comply with Section 311000, Site Clearing.

14.2 Comply with Section 312000, Earth Moving.

## 15.0 SAFETY REGULATIONS

15.1 All methods of construction including, but not limited to, trenching, sheeting and bracing, jacking and auger boring, jacking and hand mining or micro-tunneling and pipeline construction shall be done in accordance with OSHA regulations. In accordance with OSHA's requirements, excavations greater than 20 feet shall be designed and certified by a Professional Engineer, registered in the State of South Carolina. Certified copies of all such excavation bracing design shall be submitted to the Engineer for review and approval. All cost for this work shall be included in other bid items. Design must be submitted to the Engineer before any pay requests will be approved.

15.2 The Contractor shall conform to OSHA's requirements and regulations while operating in a confined space that requires a permit.

## 16.0 PROTECTION OF WORK

16.1 The Contractor shall furnish and install all necessary temporary works for the protection of the work, including, but not limited to, barricades, warning signs, and lights at night.

## 17.0 EMERGENCY WORK

17.1 The Contractor shall at all times (nights, weekends and holidays) have a responsible person available whom the Owner may contact in the event emergency repairs become

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necessary. Upon notification of such emergency work, the Contractor's representative shall immediately take steps to make such repairs as may be required.

## 18.0 EXISTING UTILITIES AND STRUCTURES

- 18.1 The following may exist in the construction areas: water works, storm drainage, sewer mains, gas mains, telephone, fiber optics, power lines & power poles, sprinkler systems, and other utilities. The approximate location of certain known underground lines and structures are shown on the plans for information only. A concerted attempt was made to locate these utilities accurately; however, not all utility lines were field-located by the Engineer. Other underground utilities or structures may exist which are not shown. The Contractor shall familiarize himself with the existing conditions and be prepared to adequately care for and safeguard himself and the Owner from damage.
- 18.2 The Contractor shall proceed with caution in the excavation and preparation of the sidewalks and pavement so that the exact location of underground structures may be determined. Prior to proceeding with grading or trench excavation, the Contractor shall contact the Palmetto Utility Protection Service, telephone 1-800-922-0983 or 811 and such other utility companies in the area as necessary to aid in locating their underground services. The Contractor shall locate these and other possible unknown utility lines by use of an electronic pipe finder, or other means he may prefer, and shall excavate and expose all existing underground lines in advance of any excavation work under this contract.
- 18.3 The Contractor is responsible for exact location of all utilities within and adjacent to the project areas. The Contractor shall be solely responsible and liable for any damage (i.e. such as cutting or disturbing, etc.) to any utilities resulting from or incident to the Contractor's performance of these projects. The Contractor shall be responsible for notifying appropriate companies to protect or move the affected facilities, if any of the specified work is in the area of these affected facilities.
- 18.4 The power and phone companies may require that all poles within 5 feet of construction be held in place during construction by their own forces, and will bill time and expenses. These costs shall be included in the unit cost of pipe and no additional cost will be considered. The Contractor is advised to familiarize himself with the proposed routing and location of utility poles before the submittal of bid.
- 18.5 All costs associated with "Existing Utilities and Structures" shall be included in other bid items and no additional cost will be considered. Contractor is specifically advised to familiarize himself with the proposed routing and location of all utilities before the submittal bid.

## 19.0 RELOCATION OF EXISTING UTILITIES

- 19.1 The Contractor is responsible for contacting and coordinating utility relocations with the appropriate utility company prior to starting construction.



19.2 Utility companies may bill for time and expenses for the above items. All of the above costs, including potential repair should any utility be damaged during construction, shall be the responsibility of the Contractor. The Contractor is specifically advised to familiarize himself with the proposed location of utilities before the submittal of the bid.

19.3 No direct payment will be made for this bid item, the cost of which shall be included in other bid items.

#### 20.0 EROSION AND SEDIMENT CONTROL

20.1 During construction, protective measures shall be taken and maintained to minimize silting, soil erosion and dust in disturbed areas and adjacent to the work being performed during construction. The Contractor shall perform this control in accordance with the South Carolina Department of Health and Environmental Control's "Storm Water Management BMP Handbook," Section 312510 of the Specifications, and the Drawings.

#### 21.0 REMOVAL OF OBSTRUCTIONS

21.1 The Contractor may, with the Owner's consent, remove obstructions to his operations, but they shall be removed and replaced at the Contractor's expense. **Trees that are an obstruction to the construction must be immediately notified to the Engineer and Owner prior to any disturbance.**

21.2 The Contractor shall be responsible for arranging for the temporary removal of the buildings, vehicles, trailers located in the vicinity of the proposed project.

21.3 There shall be no separate payment for this item.

#### 22.0 CONSTRUCTION NEAR OR UNDER DRAINAGE PIPES, SEWERS AND DITCHES

22.1 Special attention shall be given to construction near any drain pipes, sewers or ditches to ensure that any proposed utility lines are installed so as to provide 18-inch minimum clearance between these pipes and the proposed sewer line. There will be no direct payment for any additional work, materials or depth of cut involved, the cost of which shall be included in other bid items. Any pumping/dewatering, if required, shall be provided by the Contractor, at no additional costs. All pumped water shall be properly disposed of.

#### 23.0 UNCLASSIFIED EXCAVATION/GEOTECHNICAL INVESTIGATION

23.1 All excavation is unclassified. The Contractor shall assume all risks of unforeseen ground conditions encountered and shall be responsible for completing the project as specified regardless of these conditions. No direct payment will be made for varying ground conditions that may affect the Contractor's ability to complete the work. Rock

excavation shall not be paid for separately as all excavation is unclassified although we do not anticipate rock being present within the construction limits. No direct payment will be made for any excavation condition, the cost of which shall be included in other bid items.

23.2 A geotechnical report was prepared for this contract.

#### 24.0 BACKFILLING

24.1 References to SCDOT requirements in the following paragraphs are applicable only when working within SCDOT rights-of-way.

24.2 The Contractor shall be solely responsible for determining all existing soil conditions. There will be NO direct payment for any backfill material, except flowable fill. Flowable fill shall be used only under pavement which includes driveways and streets. Select soil backfill can be used in all other areas where no pavement is constructed and there will be no direct payment for this material, the cost of which shall be included in other bid items. Thus, it is extremely critical that the Contractor takes whatever steps he deems necessary to determine all existing soils and conditions so that he can bid accordingly. All material used in backfilling shall be a select soil material or flowable fill, which meets all SCDOT specifications. Backfill within the SCDOT R/W under pavement shall be flowable fill from the bottom of the trench up to the bottom of the pavement section. Trench testing requirements are shown on the plan construction details.

24.3 All backfill material shall be placed in a maximum of 6-inch lifts and shall be tested by an approved Soils Testing Company to determine the compaction. A qualified technician shall acquire samples of soil to perform moisture - density tests according to ASTM D698. During backfill, a minimum of one moisture - density test and maximum of two moisture - density tests shall be performed per lift for every 500 feet of pressure sewer construction. If at any time a representative from the University and SCDOT arrives on site and finds the Contractor backfilling material in greater lifts than 6 inches, the Contractor shall remove all backfill material within the last 300 L.F. of the trench and begin proper backfilling again, all at the Contractor's expense.

#### 25.0 CONSTRUCTION OPERATIONS ALONG HIGHWAYS AND STREETS

25.1 Perform all work along highways, streets, and roadways to minimize interference with traffic.

25.2 Stripping: Where the work is performed along road right-of-way, strip and stockpile all sod, topsoil, and other material suitable for right-of-way restoration.

25.3 Shaping: Reshape damaged slopes, side ditches, and ditch lines immediately after completing backfilling operations. Replace topsoil, sod, and any other materials removed from shoulders.

- 25.4 Excavated Materials: Do not place excavated material along highways, streets, and roadways in a manner that obstructs traffic. Sweep all scattered excavated material off the pavement in a timely manner.
- 25.5 Drainage Structures: Keep all side ditches, culverts, cross drains, and other drainage structures clear of excavated material. Care shall be taken to provide positive drainage to avoid ponding or concentration of runoff.
- 25.6 Landscaping Features: Landscaping features shall include, but are not necessarily limited to: fences; property corners; cultivated trees and shrubbery; manmade improvements; subdivision and other signs within the right-of-way and easement. The Contractor shall take extreme care in moving landscape features and promptly re-establishing these features.
- 26.0 TRAFFIC CONTROL
- 26.1 The Contractor shall: provide, erect and maintain all necessary barricades; suitable and sufficient lights and other traffic control devices; provide qualified flagmen where necessary to direct traffic; take all necessary precautions for the protection of the work and the safety of the public.
- 26.2 Construction traffic control devices and their installation shall be in accordance with the current *Manual on Uniform Traffic Control Devices for Streets and Highways*.
- 26.3 The Contractor shall provide the Owner and Engineer a detailed Traffic Control plan at least one week prior to beginning work.
- 26.4 Placement and removal of construction traffic control devices shall be coordinated with all applicable governing State, County, and/or Municipal agencies.
- 26.5 Placement of construction traffic control devices shall be scheduled ahead of associated construction activities. Construction time in street right-of-way shall be conducted to minimize the length of time traffic is disrupted. Construction traffic control devices shall be removed immediately following their useful purpose.
- 26.6 Existing traffic control devices within the construction work zone shall be protected from damage. Traffic control devices requiring temporary relocation shall be located as near as possible to their original vertical and horizontal locations. Temporary locations shall provide the same visibility to affected traffic as the original location.
- 26.7 Construction traffic control devices shall be maintained in good repair and shall be clean and visible to affected traffic for daytime and nighttime operation. Traffic control devices affected by the construction work zone shall be inspected daily.
- 26.8 Channelization devices shall be positioned preceding an obstruction at a taper length as required by the current *Manual on Uniform Traffic Control Devices for Streets and*

*Highways*, as appropriate for the speed limit at that location. Channelization devices shall be patrolled to insure that they are maintained in the proper position throughout their period of use.

- 26.9 Maintain streets, highways, roadways and driveways in suitable condition for movement of traffic until completion and final acceptance of the work.
- 26.10 During the time period between pavement removal and completing permanent pavement replacement, maintain highways, streets and roadways by the use of steel running plates. The edges of running plates shall have asphalt placed around their periphery to minimize vehicular impact. The backfill above the pipe shall be compacted, as specified elsewhere up to the existing pavement surface to provide support for the steel running plates.
- 26.11 Immediately repair all driveways that are cut or damaged. Maintain them in a suitable condition for use until completion and final acceptance of the work.
- 26.12 No street or roadway may be closed for unloading of pipe without first obtaining permission from the proper authorities. The Contractor shall furnish and maintain proper warning signs and obstruction lights for the protection of traffic along highways, streets and roadways upon which pipe is distributed.

#### 27.0 SUBMITTALS, SHOP DRAWINGS AND SAMPLES

- 27.1 Submit to the Engineer for approval, in accordance with the requirements of Section 01330.

#### 28.0 “OR EQUAL”

- 28.1 Any item which the bidder desires to substitute as an “or-equal” in preparing his bid shall be presented to the Engineer in writing, with all necessary information required to make an evaluation, at least 15 days prior to the bid date. This will allow time for evaluation and the issuing of an addendum. Any modification required due to the proposed “or equal” and not in the plans shall be the responsibility of the Contractor.
- 28.2 For additional information refer to the specifications.
- 28.3 Use of any substitute or equivalent procedures, methods, or materials must be approved by the Owner in writing prior to the bid date.
- 28.4 Should the Contractor wish to use any brand of material other than that specified herein, he shall submit to the Owner for review, complete descriptive literature naming the proposed substitution and manufacturer.

#### 29.0 MATERIALS NOT SPECIFIED

- 29.1 The Contractor shall provide all materials and equipment required to complete the project

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as shown on the plans and in accordance with the Contract Documents. Materials not specified elsewhere shall be of such manufacture as is generally accepted for the portion of the work to which they pertain, and shall be installed in accordance with industry standards and the manufacturer's recommendations.

### 30.0 DELIVERY, STORAGE AND HANDLING

30.1 Refer to Section 01650.

### 31.0 INSPECTION AND TESTING MATERIALS, QUANTITY AND GUARANTEES

31.1 The inspection and testing of materials and finished articles to be incorporated in the work shall be made by persons, laboratories, or agencies approved by the Engineer and Owner (refer to section 01400). The cost of such testing shall be paid by the Contractor.

### 32.0 UTILITY USAGE

32.1 The Contractor shall make his own arrangements for all temporary utilities (e.g. water service connection, temporary electrical service, etc.) required for the work.

32.2 In order to use water from a fire hydrant, the Contractor shall apply for a temporary hydrant meter. The Contractor shall be responsible for all application fees.

### 33.0 UNPAVED ROADS, DRIVEWAYS AND PARKING AREAS

33.1 The Contractor shall restore all dirt and/or gravel roads, driveways and parking areas disturbed during installation of the sidewalks or pavements to their preconstruction condition, or better, as indicated on the Drawings.

### 35.0 SIGNS, LIGHTS, MAILBOXES, FENCES AND GATES

35.1 The Contractor shall be required to remove and replace all signs, lights, mailboxes, brick walls, fences and gates, landscaping structures, storm drains, etc., at no additional cost to the university, the cost of which shall be included in other bid items. New fencing shall be erected as shown on the Civil Plans as the work progresses near the completion of construction. Any fencing damaged shall be replaced at the Contractor's expense.

35.2 At all locations where existing fences must be removed to permit construction of any proposed items, the Contractor shall remove such fences as the work progresses, reset the fences in their original location and condition. The Contractor shall provide temporary fencing, or employ other safeguards, as required to prevent unapproved access into the affected property.

### 36.0 ACCESS ROADS

36.1 Streets, roads, and drives used by the Contractor for access to and from the site of his work shall be protected from damage in excess of that caused by the normal traffic of vehicles used in connection with construction work. Any such damage done shall be repaired immediately, and left in good condition at the end of the construction period at no additional cost to the University.

#### 37.0 RESTORATION AND CLEAN UP

37.1 All areas disturbed by, during or as a result of construction activities shall be restored to their pre-existing or better condition. As the work progresses, disturbed areas shall be completely restored at a rate consistent with the rate of pavement installation. This includes keeping parking lot areas clean and well kept.

37.2 See Specification Section 312510 for seeding requirements.

#### 38.0 ADDITIONAL RESTORATION

38.1 Additional Restoration outside of the scope of work covered in the contract documents may be deemed appropriate by the Engineer. The Contractor shall take all precautions to avoid disturbing areas outside of the scope of work covered in the contract documents. If it is found the Contractor damaged areas outside of the work covered in the contract documents due to negligence, the Contractor shall be solely responsible for the repairs, and will not be reimbursed by the University.

#### 39.0 RELOCATION OF PROPERTY IRONS

39.1 Any property iron disturbed during construction shall be re-established by a registered land surveyor; there shall be no additional cost for this item.

#### 40.0 SEQUENCE OF WORK

40.1 The sequence of work may dictate temporary installation until final and complete installation can be made. Summary of Work, Section 01110, Construction and Schedule Constraints, is an attempt to address major steps in the order of construction but in no way should be considered as a complete and comprehensive guide through the construction phase. The Contractor is encouraged to make suggestions for modifications to this construction sequence to simplify or streamline the construction process. Any suggestions are to be presented to the Engineer for consideration and approval. Items of work not specifically stated herein that are required to accomplish the project construction and keep the system in service (or on bypass) will not be considered as extra work and change orders for such will not be granted.

40.2 The construction sequence shall be as approved by the Engineer; however, this shall in no way affect the responsibility of the Contractor.

40.3 Coordinate all work with the Owner to minimize disruption of ongoing operations. Work

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may be required to be performed on weekends and/or at night to minimize disruption of normal operations.

#### 41.0 PROJECT COMPLETION TIME

41.1 The Contractor shall substantially complete the project as outlined in the contract documents. **All work must begin on May 5<sup>th</sup> and be completed by August 1<sup>st</sup>. The contractor may begin mobilization prior to May 5<sup>th</sup> upon the Owner's discretion.**

41.2 Attention is called section 01320 Progress Schedule concerning unforeseen project delays.

#### 42.0 SUBMITTALS PRIOR TO FINAL PAYMENT REQUEST

42.1 Prior to submission of final payment request, the Contractor shall submit the following to the Engineer:

- A. Record drawings of newly installed concrete slab and building.
- B. Certified copy of the Engineer's Substantial Completion Punch List.
- C. Affidavit that payrolls, bills for materials & equipment and any other indebtedness are satisfied.
- D. A certificate evidencing that insurance required by the Contract Documents remains in force after final payment and will not cancel or expire until at least 30 days prior to written notice has been given to the University.
- E. A written statement that the Contractor knows of no substantial reason that the Contractor's insurance will not be renewable to cover the period required by the Contract Documents.
- F. Two copies of each required warranty.

#### 43.0 RECORD DRAWINGS

43.1 The Contractor shall furnish to the Engineer, two sets of marked-up drawings for record drawings showing all modifications from the contract drawings. These mark-up sets shall include actual dimensions from permanent markers, accurately locating structures, and appurtenances. The Contractor shall place on the drawing sets a certificate stating that all locations, dimensions, and facilities are accurately shown or indicated on these Record Drawings. The statement shall be signed by the Contractor and witnessed. The Contractor shall provide the Engineer with Record Drawing plans prior to submission of final payment request.

43.2 The Contractor shall provide a detailed sketch with at least two dimensions from Francis Marion University

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permanent objects to all utilities that are replaced, relocated or added. These sketches are to be done and submitted to the University as the project proceeds. The University reserves the right to keep all of the retainage if this activity is not performed satisfactory. The Contractor shall note on the sketches a certification that all dimensions are accurately shown. There will be no direct payment for this item, the cost of which shall be included in other bid items.

43.3 As-Built (Record) Drawings shall be furnished by the contractor to the Engineer and certified by a Land Surveyor licensed to practice in South Carolina. The Contractor shall use GPS to locate all structures within the project area (including new construction and existing utilities uncovered during excavation for new work). Locations shall be collected using survey grade GPS. Collected data will be delivered to the Engineer in a digital format using an AutoCAD compatible format on CD or Flash Drive. Contractor to coordinate digital format type and other specifics with the Engineer and the University before collection of data is to begin (section 01720 for all details).

#### 44.0 WEATHER CONDITIONS

44.1 In the event of temporary suspension of work or during inclement weather, or whenever the Construction Administrator shall direct, the Contractor will, and will cause his subcontractors to protect carefully his and their work and materials against damage or injury from the weather. If, in the opinion of the Construction Administrator, any work or materials are damaged or injured by reason of failure of the Contractor or his subcontractors to protect their work, such materials shall be removed and replaced at the expense of the Contractor.

44.2 Adverse Weather is defined as the occurrence of one or more of the following conditions which prevents exterior construction activity or access to the site within twenty-four (24) hours:

- A. Precipitation (rain, snow, or ice) in excess of 0.10 inch liquid measure.
- B. Temperatures which do not rise above 32 degrees Fahrenheit by 10:00 AM.
- C. Temperatures which do not rise above that specified for the day's construction activity by 10:00 AM, if any are specified.
- D. Sustained wind in excess of 25 MPH.
- E. Standing snow in excess of 1 inch.
- F. Any day that the Owner has requested no work to be performed.

44.3 A Weather Delay Day may be counted if adverse weather prevents work on the project for 50 percent or more of the Contractor's scheduled work day, including a weekend day or holiday if Contractor has scheduled construction activity that day.



44.4 All weather data used to determine Adverse Weather for the project site during the course of work shall be data from the NOAA station at the Florence Regional Airport. Therefore, the contractor shall on a monthly basis submit to the Construction Administrator a summary showing the Adverse Weather incurred for the month and the supporting documentation from the NOAA station at the Florence Regional Airport confirming the Adverse Weather experienced.

45.0 SUBSTANTIAL AND FINAL COMPLETION

45.1 Substantial Completion – The time at which the Work has progressed to the point where, in the opinion of the Owner and Engineer, the Work is sufficiently complete, in accordance with the Contract, so that the Work can be utilized by the Owner for the purposes for which it is intended. The Work shall be considered substantially complete after the new canopy and slab is in full operation. Liquidated damages may be assessed for Contractor’s failure to meet the Substantial Completion date.

45.2 Final Completion – The time at which the Work has been fully completed to include clean-up and ability to use the new facility, completion of punchlist items, paving, final sitework and landscaping, and full demobilization. Liquidated damages may be assessed for Contractor’s failure to meet the Final Completion date.

46.0 CONSTRUCTION MANAGER

46.1 Various Specifications make reference to a Construction Manager. This reference shall mean the Owner’s authorized representative who is responsible for project oversight during construction. The Construction Manager may be a university employee, or a professional engineer/construction manager retained by the University. The Construction Manager will be identified prior to the pre-construction meeting.

END OF SECTION

## SECTION 01291

### SCHEDULE OF VALUES

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Schedule of Values is required to be compatible with the continuation sheet and accompanying applications for payment, as described in Section 01290.

##### 1.2 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
- B. When so required by the Construction Manager and/or Architect, provide copies of the subcontractor's Schedule of Values or other data acceptable to the Construction Manager and/or Architect, substantiating the sums described.

##### 1.3 SUBMITTALS

- A. Format and Content: Use the Project Manual Table of Contents as a guide to establish the format for the Schedule of Values.
  - 1. Identification: Include the following Project identification on the Schedule of Values:
    - a. Project name and location.
    - b. Name of the Architect.
    - c. Project number.
    - d. Contractor's name and address.
    - e. Date of submittal.
  - 2. Provide a breakdown of the Contract Sum in sufficient detail to facilitate continued evaluation of Applications for Payment and progress reports. Break principal subcontract amounts down into several line items.
  - 3. Round amounts off to the nearest whole dollar; the total shall equal the Contract Sum.
  - 4. For each part of the Work where an Application for Payment may include materials or equipment, purchased or fabricated and stored, but not yet installed, provide separate line items on the Schedule of Values for initial cost of the materials, for each subsequent stage of completion, and for total installed value of that part of the Work.
  - 5. Schedule Updating: Update the Schedule of Values when Change Orders or Construction Change Directives result in a change in the Contract Sum.

- B. Prior to first application for payment, submit a proposed schedule of values to the Construction Manager.
1. Meet with the Construction Manager and determine additional data, if any required to be submitted.
  2. Secure the Construction Manager's approval of the schedule of values prior to submitting first application for payment. NO APPLICATIONS FOR PAYMENT WILL BE PROCESSED PRIOR TO APPROVAL OF THE SCHEDULE OF VALUES.
  3. AIA Form G703 and "Form A" provided by the Construction Manager shall be submitted with all columns and spaces completed.

**END OF SECTION**

## SECTION 01311

### PROJECT MEETINGS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: To enable orderly review during progress of the Work, and to provide for systematic discussion of problems and to coordinate all phases of the Project toward completion in accordance with the Contract Documents, the Construction Manager will conduct project meetings throughout the construction period.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. The Contractor's relations with his subcontractors and materials suppliers are the Contractor's responsibility and normally are not part of project meeting content.
  - 3. This Section specifies administrative and procedural requirements for project meetings including, but not limited to:
    - a. Pre-construction conferences.
    - b. Progress meetings.
    - c. Coordination meetings.
    - d. Pre-installation conferences.

##### 1.2 QUALITY ASSURANCE

- A. For those people designated by the Contractor to attend and participate in project meetings, provide the required authority to commit the Contractor to solutions agreed upon in the project meetings. Any change in personnel by a Contractor will be forwarded in writing to the Construction Manager before the change.

##### 1.3 SUBMITTALS

- A. Agenda Items: To the maximum extent practical, advise the Construction Manager at least 24 hours in advance of project meetings regarding items to be added to the agenda.
- B. Minutes:
  - 1. The Construction Manager will compile meeting minutes of each monthly project meeting and will furnish one copy to the General Contractor and engineer and the required copies to the Owner. The General Contractor shall compile minutes of each weekly project meeting and will furnish one copy to the Engineer, Owner, and Construction Manager.
  - 2. Recipients of copies may make and distribute such other copies as they wish.

#### PART 2 - PRODUCTS

(No products are required in this Section)

#### PART 3 - EXECUTION

### 3.1 MEETING SCHEDULE

- A. Except as noted for Pre-construction Meeting, formal job site meetings with on site job superintendents will be held weekly.
- B. Except as noted for Pre-construction Meeting, formal project meetings with attendance of each Contractor's office Project Manager will be held monthly.
- C. Coordinate as necessary to establish mutually acceptable schedule for meetings.

### 3.2 MEETING LOCATION

- A. The Construction Manager will establish meeting location. To the maximum extent practicable, meetings will be held at the job site.

### 3.3 PRECONSTRUCTION MEETING

- A. Pre-construction Meeting will be scheduled to be held within 15 working days after the Owner has issued the Notice to Proceed.
  - 1. Provide attendance by authorized representatives of the Contractor.
  - 2. The Construction Manager will advise other interested parties, including the Owner, and request their attendance, as necessary.
- B. Minimum Agenda: Data will be distributed and discussed on at least the following items:
  - 1. Organizational arrangement of Contractor's forces and personnel, subcontractors, material suppliers, the Construction Manager, and the Architect.
  - 2. Channels and procedures for communication.
  - 3. Construction schedule, including sequence of critical work.
  - 4. Contract Documents, including distribution of required copies of original Documents and revisions.
  - 5. Processing of Shop Drawings and other data submitted to the Construction Manager for transmittal to Architect for review.
  - 6. Processing of Bulletins, field decisions, Change Orders, and Payment Applications.
  - 7. Rules and regulations governing performance of the Work.
  - 8. Procedures for safety and first aid, security, quality control, housekeeping and related matters.
  - 9. Preparation of record drawings.
  - 10. Use of the premises.
  - 11. Office, work and storage areas.
  - 12. Equipment deliveries and priorities.
  - 13. Working hours.

14. Request for Information format.
15. Notification of Defective and Non-Conforming Work format.
16. Rejection of Work format.
17. Building and Special Inspections

### 3.4 PROJECT MEETINGS

#### A. Attendance:

1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
2. Conduct progress meetings at the Project site at regularly scheduled intervals. Notify the Owner and Architect of scheduled meeting dates. Coordinate dates of meetings with preparation of the payment request.
3. Attendees: In addition to representatives of the Owner and Architect, each subcontractor, supplier or other entity concerned with current progress or involved in planning, coordination or performance of future activities shall be represented at the meetings by persons familiar with the Project and authorized to conclude matters relating to progress.

#### B. Minimum Agenda:

1. Review, revise as necessary, and approve minutes of previous meetings.
2. Review progress of the Work since last meeting, including status of submittals for approval. Determine where each activity is in relation to the Contractor's Construction Schedule, whether on time or ahead or behind schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so.
3. Identify problems which impede planned progress.
4. Develop corrective measures and procedures to regain planned schedule.
5. Complete other current business.
6. Update as-built documents as required.
7. Schedule Updating: Revise the construction schedule after each progress meeting where revisions to the schedule have been made or recognized. Issue the revised schedule concurrently with the report of each meeting.
8. Review the present and future needs of each entity present, including such items as:
  - a. Interface requirements.
  - b. Time.
  - c. Sequences.
  - d. Deliveries
  - e. Off-site fabrication problems.
  - f. Access.
  - g. Site utilization.
  - h. Temporary facilities and services.

- I. Hours of work.
- j. Hazards and risks.
- k. Cleaning and site conditions.
- l. Quality and work standards.
- m. Change Orders.
- n. Documentation of information for payment requests.

9. Building and Special Inspections

C. Revisions to minutes:

- 1. Unless published minutes are challenged in writing prior to the next regularly scheduled progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.
- 2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
- 3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

D. Reporting: No later than 5 days after each progress meeting date, distribute copies of minutes of the meeting to each party present and to other parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

**END OF SECTION**

## SECTION 01320

### PROGRESS SCHEDULE

#### PART 1 - GENERAL

##### 1.0.1 WORK INCLUDED

- A. To assure adequate planning and execution of the Work so that the Work is completed within the number of calendar days allowed in the Contract, and to assist the Architect in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.
- B. It should be noted by all Contractors and material suppliers the extremely critical nature of this project and time being allowed for its completion.
- C. Work shall be performed in accordance with the Pre-Bid Construction Schedule.

##### 1.0.2 RELATED WORK

- A. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these specifications.
- B. Requirements for progress schedule: General Conditions.
- C. Construction period: Form of Agreement

##### 1.0.3 DEFINITIONS

- A. "Day", as used throughout the Contract unless otherwise stated, means "calendar day".

##### 1.0.4 QUALITY ASSURANCE

- A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule, and in preparing and issuing periodic updates and reports as required.
- B. Perform data preparation, analysis, charting and updating in accordance with standards approved by the Architect.

##### 1.0.5 SUBMITTALS

- A. Comply with pertinent provisions of Section 01300, Submittals.
- B. Construction schedule: After the Contractor has received the Owner's Notice to Proceed, the Contractor shall provide the Construction Manager with sufficient information on his plan for completing all work under this Contract. The Contractor shall provide a detailed bar chart (CPM Method) of this work clearly showing how his schedule integrates with the total construction duration. This bar chart schedule must include subcontract awards, material purchase dates and delivery dates, manpower levels broken down by trades and plant and equipment to be used. All interface activities and tasks which must be completed by other trades prior to proceeding with the work must be shown on the bar chart schedule. Submit one (1) reproducible copy



and four (4) prints of a construction schedule for review.

- C. Periodic revisions and reports: Submit four (4) prints of the construction schedule updated along with the monthly payment request.

## **PART 2 - PRODUCTS**

### **1.0.1 CONSTRUCTION ANALYSIS**

- A. Graphically show by bar-chart the order and interdependence of all activities necessary to complete the work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors.

## **PART 3 - EXECUTION**

### **3.0.1 CONSTRUCTION SCHEDULE**

- A. Immediately after receipt of Notice to Proceed meet with the Construction Manager, review contents of the proposed construction schedule, and make all revisions agreed upon.
- B. The information on the Contractor's plan of action for performing the work under this Contract shall be based on the allotted construction duration for this work. The Construction Schedule shall indicate the key points of interface between the work under this contract and the other work of the project and the major project milestones. Sequencing and coordinating of miscellaneous activities will be discussed and agreed upon in the weekly meetings. It is agreed and understood that the schedule dates shown in the Construction Schedule for the indicated interface points and project milestones may change during the course of the Contract and such changes, in and of themselves, will not entitle the Contractor to any additional compensation or be deemed to constitute an extension of time or to constitute a change under Article 7 of the General Conditions for the Contract for Construction.
- C. Every effort will be made to make progress on the work as expeditiously as possible and if critical path activities can be improved during the course of the work, the Construction Schedule shall be revised to reflect improved dates on all work activities.
- D. The Contractor shall award all subcontracts, purchase materials, arrange for deliveries, furnish sufficient forces, plant and equipment and work such hours as necessary to insure execution of the work in conformity with the project duration.
- E. In the event of material procurement delays, the Contractor shall immediately notify the Construction Manager. However, it will be assumed that the Contractor has checked material deliveries as specified prior the Bid, as submission of a Bid for work will be assumed to be an agreement to the time frame allocated for that work as noted per the total project duration.
- F. If the Contractor falls behind the Construction Schedule, or current approved revision of the Construction Schedule, and is not entitled to any time extension as determined by the Construction Manager, he shall, upon request of the Construction Manager, submit within forty-eight (48) hours his plan for bringing his work back up to schedule. This plan shall include a commitment for immediate implementation, unless otherwise approved by the Construction Manager, and must include a time commitment, acceptable to the Construction Manager, for bringing the work up to schedule. If the Contractor fails to provide an acceptable plan within the requested time, he will be given a mandatory plan by the Construction Manager.

- G. The Contractor's plan shall illustrate his proposed methods for bringing his work back up to schedule, whether by a normal 40 hour work week, or by working 24 hours a day if necessary. If other measures will not be sufficient to make up the lag, the Contractor's plans and implementation thereof shall include increasing the number of shifts, days of work and/or instituting or increasing overtime, all at his own expense.
- H. If a Contractor fails or refuses to implement such measures as will bring his work back up to conformity with the approved Schedule, his right to proceed with any or all portions of the Contract requirements may be terminated pursuant to Article 14 of the General Conditions for the Contract for Construction.

### 3.0.2 PERIODIC REVISIONS AND REPORTS

- A. The approved construction schedule shall be updated monthly and submitted along with each monthly payment application.
  - 1. Indicate "actual" progress in percent completion for each activity.
  - 2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

### 3.0.4 REVISIONS

- A. The Contractor will be given ample notice on any schedule changes that may affect the starting dates of his work. Periodic schedule review and revision meetings will be held with the Contractors who will be expected to provide input to the scheduling activities. The latest approved revision of the Construction Schedule shall be part of the Contract Documents and shall be complied with by the Contractor at no extra cost to the Owner. Activity duration period shown on the Construction Schedule will not be reduced without the approval of the Contractor nor will they be increased without the approval of the Construction Manager.
- B. Make only those revisions to approved construction schedule as are approved in advance by the Construction Manager.

### 3.0.5 REQUEST FOR EXTENSION DUE TO DELAYS

- A. It is understood that the Owner, Construction Manager or Architect/Engineer shall not in any event be liable to the Contractor for delays of any kind whatsoever and the Contractor shall be fully responsible for making up lost time of all delays except to the extent that extensions of time are granted. If completion of the work is delayed by any act of neglect of the Owner, or by the Construction Manager or the acts of the Construction Manager or Architect/Engineer, by strikes or by other exceptional conditions over which the Contractor has no reasonable control, the time of completion shall upon receipt of the Contractor's written request, be extended by such period as the Construction Manager may consider reasonable. No extension shall be allowed unless a claim is presented in writing to the Construction Manager within seven (7) days after the commencement of such delay. In case of continued cause of delay, only one claim is necessary. Nothing in this clause shall be construed to release the Contractor from the obligation to perform at his own expense all overtime necessary to maintain the Contract completion date where delays have occurred which are not excused. If the Contractor, delayed by any acts of the Owner, Construction Manager, Architect/Engineer, and is granted an extension of time by the Construction Manager, the Contractor shall comply with the extended schedule with no additional compensation from the Owner.

**END OF SECTION**

## SECTION 01330

### SUBMITTAL PROCEDURES

#### PART 1 - GENERAL

- A. The Contractor shall submit for review by the Architect/Engineer, Shop Drawings and schedules required by the Specifications, or that may be requested by the Architect/Engineer, and no work shall be fabricated by the Contractor, except at his own risk, until such review has been completed.

#### 1.1 FORM OF SUBMISSION MATERIALS

##### A. SHOP DRAWING SCHEDULE

1. Immediately after date of Notice to Proceed, each Contractor shall submit to the Construction Manager a Shop Drawing Submittal Schedule, which shall include the following minimum information:
  - a. List all items to be submitted for review referenced to the specific specifications section.
  - b. Name of subcontractor if applicable.
  - c. Supplier and date of purchase order.
  - d. Total fabrication and delivery time from time submittals are returned to the Contractor.
  - e. Scheduled delivery date.

(NOTE): No applications for payment will be processed unless the above listed information has been submitted.

##### B. SHOP DRAWINGS

1. Scale and Measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the work.
2. Review comments of the Architect will be shown on submittal when it is returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.

##### C. MANUFACTURER'S LITERATURE

1. Where contents of submitted literature from manufacturers include data not pertinent to the submittal, clearly show which portions of the contents are being submitted for review.

##### D. SAMPLES

1. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of Submittals" below.

2. Number of Samples required:
  - a. Unless otherwise specified, submit samples in the quantity which is required to be returned, plus three which will be retained by the Architect and Construction Manager.
  - b. By prearrangement in specific cases, a single sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon by the Architect.

E. COLORS AND PATTERNS

1. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Architect for selection.
2. No colors will be selected by the Architect until all colors are submitted. If a color selection is needed prior to final approval of the color schedule, Contractor shall notify Architect of which items need early color selection, provide color charts and date that selection must be made to keep project on schedule.

1.2 SUBMISSION PROCEDURE

A. IDENTIFICATION OF SUBMITTALS

1. Multiple submittals on a single transmittal are not acceptable. Accompany each submittal with a letter of transmittal showing all information required for identification and checking.
2. Consecutively number all submittals.
  - a. When material is resubmitted for any reason, transmit under a new letter of transmittal and with a new transmittal number.
  - b. On re-submittals, cite the original submittal number for reference.
3. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
4. Maintain an accurate submittal log for duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Architect and Construction Manager for their review, upon request.
5. Provide number of copies required by Contractor plus two copies for Architect/Engineer and two copies for the Construction Manager files. The Construction Manager will maintain one copy of each submittal to deliver to Owner at project close-out.

B. GROUPING OF SUBMITTALS

1. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
  - a. Partial submittals may be rejected as not complying with the provisions of the Contract.

- b. The Contractor may be held liable for delays so occasioned.
2. Provide a separate transmittal and drawing number for each item to be reviewed.

#### C. CHECKING SUBMITTALS PRIOR TO SUBMISSION

1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
3. The drawings submitted shall be marked with the name of the project, numbered consecutively and bear the signed and dated stamp of the approval of that Contractor as evidence that the drawings have been checked by the Contractor. Any drawings submitted without this stamp of approval will not be considered and will be returned to the Contractor for re-submission. If the shop drawings show variation from the requirements of the Contract because of standard shop practice or with reasons, the Contractor shall make specific mention of such variations in his letter of transmittal in order that, if acceptable, suitable action may be taken for proper adjustment; otherwise, that Contractor will not be relieved of the responsibility for executing the work in accordance with the Contract even though such shop drawings have been approved.

#### D. DELIVERY AND TIMING OF SUBMITTALS

1. All submittals shall be transmitted to the Construction Manager for forwarding to the Architect/Engineer for review based upon their relative position in the Construction Schedule, or as follows:
  - a. Prior to Mobilizing On-Site
    1. Performance Bond
    2. Labor and Material Bonds
    3. Insurance Certificate
  - b. Following Notice to Proceed
    1. Shop Drawing Submittal Schedule (immediately)
    2. Schedule of Values (within 10 days)
    3. Superintendent's Resume (within 10 days)
    4. Detailed Construction Schedule (within 21 days)
    5. Subcontractor Listing (within 30 days)
    6. All Equipment & Furnishings submittals (within 90 days) UNO.
2. Shop drawing submittals shall be made far enough in advance, based on the approved Construction Schedule, to meet all installation dates as scheduled. This will require that sufficient lead time be allowed to address an adequate review period, securing necessary approvals, possible revisions and re-submittals, placing orders and securing delivery dates. A detailed Shop Drawing Submittal Schedule is included as part of the Pre-Bid Construction Schedule.
3. In scheduling, allow at least ten (10) working days for review by the Architect following his receipt of the submittal (plus transit time).

#### E. ARCHITECT'S REVIEW

1. Review by the Architect does not relieve the Contractor from responsibility for

errors which may exist in the submitted data.

2. The review of Shop Drawings will be general and shall not be construed as:
  - a. Permitting any departure from the Contract Requirements.
  - b. Relieving the Contractor of the responsibility for any error in details, dimensions or otherwise that may exist.
  - c. Approving departures from additional details or instruction previously furnished by the Architect/Engineer.
3. Revisions:
  - a. Make revisions required by the Architect.
  - b. If the Contractor considers any required revisions to be a change, he shall notify the Construction Manager and/or Architect as provided for in Paragraph 4.7.7 of the General Conditions.
  - c. Make only those revisions directed or approved by the Architect.
4. If a drawing, as submitted, indicates a departure from the Contract requirements which the Architect/Engineer finds to be in the interest of the Owner and to be minor as not to involve a change in the Contract Price or time for performance, the Architect/Engineer may approve the drawing.

F. FINAL DISTRIBUTION OF SUBMITTALS

1. The Construction Manager will retain one set at the project site. Each Contractor shall be responsible for the distribution of the Shop Drawings and schedules within his own organization and to his subcontractors.
2. The Contractor will advise the Construction Manager of the date that reviewed shop drawings are forwarded to the manufacturers or fabricators. Un-priced copies of purchase orders placed with suppliers or fabricators are to be forwarded to the Construction Manager when orders are placed.

**END OF SECTION**

## SECTION 01400

### QUALITY CONTROL

#### PART 1 - GENERAL

##### 1.01 SCOPE

A. DESCRIPTION OF REQUIREMENTS: Required inspection and testing services are intended to assist in the determination of probable compliance of the work with requirements specified or indicated. These required services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the contract documents. See Chapter 7 of the OSE Manual for additional requirements regarding inspections and testings.

1. Definitions: The requirements of this section relate primarily to customized fabrication and installation procedures, not to the production of standard products. Quality control services include inspections and tests and related actions including reports, performed by independent agencies and governing authorities, as well as directly by the Contractor. These services do not include observation activities performed directly by the Project Manager or Engineer.

Specific quality control requirements for individual units of work are specified in the sections of these specifications that specify the individual element of the work. These requirements, including inspections and tests, cover both production of standard products, and fabrication of customized work. These requirements also cover quality control of the installation procedures.

Inspections, tests and related actions specified in this section and elsewhere in the contract documents are not intended to limit the Contractor's own quality control procedures which facilitate overall compliance with requirements of the contract documents.

Requirements for the Contractor to provide quality control services as required by the Project Manager/Engineer, the Owner, governing authorities or other authorized entities are not limited by the provisions of this section.

##### 1.02 RESPONSIBILITIES

A. Responsibilities:

1. Agency's responsibilities: It shall be the Agency's responsibility to engage and pay for testing and inspections and similar quality control services.
2. Contractor's responsibilities: It shall be the Contractor's responsibility for proper notification when an inspection or test is required, to provide access to facilitate the inspection / test and shall be responsible to make corrections necessary when work is not in compliance with the Contract Documents.

B. Retest Responsibility: Where results of required inspections, tests or similar services prove unsatisfactory and do not indicate compliance of related work with the requirements of the contract documents, then retesting/reinspection is required. Retesting/reinspection fees shall be withheld from the contractor's pay app, regardless of whether the original test was the Contractor's responsibility. In no instance shall the contractor pay for testing or inspections. Same agency that performed original tests shall perform re-tests.

C. Responsibility 3<sup>rd</sup> party for Associated Services: The Contractor is required to cooperate with the independent agencies performing required inspections, tests and similar services. Provide such auxiliary services as are reasonably requested. Notify the testing agency sufficiently in advance of operations to permit assignment of personnel. These auxiliary services include, but are not necessarily limited to, the following:

Francis Marion University

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways-Roads and Lot E

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Providing access to the work.  
Taking samples or assistance with taking samples.  
Delivery of samples to test laboratories.  
Security and protection of samples and test equipment at the project site.

- D. Coordination: The Contractor and each independent 3rd party agency engaged to perform inspections, tests and similar services for the project shall coordinate the sequence of their activities so as to accommodate required services with a minimum of delay in the progress of the work. In addition the Contractor and each independent testing agency shall coordinate their work so as to avoid the necessity of removing and replacing work to accommodate inspections and tests. The Contractor is responsible for scheduling times for inspections, tests, taking of samples and similar activities.
- E. Qualification for Service Agencies: Except as otherwise indicated, engage inspection and test service agencies, including independent testing laboratories, which are prequalified as complying with "Recommended Requirements for Independent Laboratory Qualification" by the American Council of Independent Laboratories, and which are recognized in the industry as specialized in the types of inspections and tests to be performed. Testing agency shall be approved by the Project Manager and the Building Official. Third party inspector shall be hired by the agency and the requirements refer to OSE Manual.

### 1.03 SUBMITTALS

- A. General: Refer to Division - 1 section on "Submittals" for the general requirements on submittals. See Appendix G of OSE Manual for specific reporting requirements for Special Inspections. Submit a certified written report of each inspection, test or similar service, to the Project Manager, Owner, Building Official, and Contractor.
1. Inspection / testing firm shall be responsible to notify the Contractor, Project Manager and Owner immediately of all failed tests in writing. If deficiency is not corrected, the inspection / testing firm shall notify the Owner and Building Official.
  2. Report Data: Written reports of such inspection, test or similar service shall include, but not be limited to the following:
    - Name of Project.
    - Name of testing agency or test laboratory.
    - Dates and locations of samples and tests or inspections.
    - Names of individuals making the inspection or test.
    - Designation of the work and test method.
    - Complete inspection or test data.
    - Test results.
    - Interpretations of test results.
    - Notation of significant ambient conditions at the time of sample-taking and testing.
    - Comments or professional opinion as to whether inspected or tested work complies with requirements of the contract documents.
    - Recommendations on corrections necessary, if applicable.
    - Recommendation on retesting, if applicable.
  3. A copy of each report shall be kept in the job trailer.
- B. Test report submittals are for Project Manager's knowledge as contract administrator for the limited purpose of assessing conformance with information given and the design concept expressed in the contract documents, or for Owner's information.



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

**PART 3 - EXECUTION**

**3.01 TESTING AND INSPECTION**

- A. See individual specification sections and Appendix G of OSE Manual for testing and inspection required.
- B. Testing Agency Duties:
  - 1. Test samples of mixes submitted by Contractor.
  - 2. Provide qualified personnel at site. Cooperate with Project Manager and Contractor in performance of services.
  - 3. Perform specified sampling and testing of products in accordance with specified standards.
  - 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
  - 5. Promptly notify Project Manager and Contractor of observed irregularities or non-conformance of Work or products.
  - 6. Perform additional tests and inspections required by Project Manager.
  - 7. Attend preconstruction meetings and progress meetings.
  - 8. Submit reports of all tests/inspections specified.
- C. Limits on Testing/Inspection Agency Authority:
  - 1. Agency may not release, revoke, alter, or enlarge on requirements of Contract Documents.
  - 2. Agency may not approve or accept any portion of the Work.
  - 3. Agency may not assume any duties of Contractor.
  - 4. Agency has no authority to stop the Work.

**3.02 MANUFACTURERS' FIELD SERVICES:**

- A. When specified in individual specification sections, require material or product suppliers or manufacturers to provide qualified staff personnel to observe site conditions, conditions of surfaces and installation, quality of workmanship, start-up of equipment, and test, adjust and balance equipment, as applicable, and to initiate instructions when necessary.
- B. Submit qualifications of observer to Project Manager 30 days in advance of required observations.
- C. Report observations and site decisions or instructions given to applicators or installers that are supplemental or contrary to manufacturers' written instructions.

**3.03 REPAIR AND PROTECTION:**

- A. General: Upon completion of inspection, testing, sample-taking and similar services performed on the work, Contractor shall repair damaged work and restore substrates and finishes to eliminate deficiencies, including deficiencies in the visual qualities of exposed finishes. Comply with the contract document requirements for "Cutting and Patching". Protect work exposed by or for quality control service activities, and protect repaired work. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

**END OF SECTION**

## SECTION 01420

### REFERENCE STANDARDS

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Throughout the Project Documents, reference is made to specifications and standards issued by nationally recognized professional and/or trade organizations.
1. Unless otherwise specifically stated, all manufacturer's catalogs, specifications, instructions or other information or literature that are referred to in the specifications shall be considered as the latest edition and/or revision of such publication that is in effect on the date of the Invitation or Advertisement for Bids.
  2. When standard specifications such as the American Society for Testing and Materials, Federal specifications, Department of Commerce (Commercial Standards), American Institute of Steel Construction, or other well-known public or trade associations, are cited as a standard to govern materials and/or workmanship, such specifications or portions thereof as referred to shall be equally as binding and have the full force and effect as though it were copied into these specifications. Such standards as are mentioned are generally recognized by and available to the trades concerned. The Construction Manager will, however, upon request of a bidder or Contractor, furnish for inspection a copy of any standard specifications mentioned or direct the bidder or Contractor to an easily available copy. Unless otherwise specifically stated, the standard specifications referred to shall be considered as the latest edition and/or revision of such specifications that is in effect on the date of the Invitation for Bids. In case of any conflicts between standard specifications and the written portion of the Specifications, the specifications as actually written herein will govern.
  3. The referenced standards are generally identified by abbreviating the name of the organization following with the specification/standard number.
  4. Unless specifically indicated otherwise, all references to standards refer to the latest edition available at the time of bidding.

##### 1.2 ABBREVIATIONS

- A. Wherever the following abbreviations are used in these Project Documents, they are to be construed the same as the respective expressions represented:

AASHO	American Association of State Highway Officials
ACI	American Concrete Institute
ACPA	American Concrete Pipe Association
AGA	American Gas Association
AI	Asphalt Institute
AIA	American Institute of Architects
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
ALS	American Lumber Standards
ANSI	American National Standards Institute, Inc.
APA	American Plywood Association
ARI	Air Conditioning and Refrigeration Institute
ARMA	Asphalt Roofing Manufacturers Association
ASHRAE	American Society of Heating, Refrigerating and Air Conditioning Engineers

ASME	American Society of Mechanical Engineers
ASPE	American Society of Plumbing Engineers
ASTM	American Society for Testing Materials
AWI	Architectural Woodwork Institute
AWWA	American Water Works Association
AWPA	American Wood Preservers Association
AWS	American Welding Society
BIA	Brick Institute of America
CE	Corps of Engineers
CISPI	Cast Iron Soil Pipe Institute
CRSI	Concrete Reinforcing Steel Institute
CTI	Ceramic Tile Institute of America
DOT	Department of Transportation
EPA	Environmental Protection Agency
FSS	Federal Specifications and Standards, General Services Administration
GA	Gypsum Association
IEEE	Institute of Electrical and Electronics Engineers
MBMA	Metal Building Manufacturer's Association
MCAA	Mechanical Contractors Association of America
MFMA	Marble Flooring Manufacturers Association
MIA	Marble Institute of America
ML/SFA	Metal Lath/Steel Framing Association
NAAMM	National Association of Architectural Metal Manufacturers
NAPA	National Asphalt Pavement Association
NBHA	National Builders Hardware Association
NCMA	National Concrete Masonry Association
NEC	National Electric Code (Now NFPA)
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NPCA	National Paint and Coating Association
NRCA	National Roofing Contractors Association
NTMA	National Terrazzo and Mosaic Association
OSHA	Occupational Safety and Health Administration
OSF	Office of School Facilities
PCA	Portland Cement Association
PCI	Pre-stressed Concrete Institute
SDI	Steel Deck Institute
S.D.I.	Steel Door Institute
SJI	Steel Joist Institute
SMACNA	Sheet Metal and Air Conditioning Contractors National Association
SPIB	Southern Pine Inspection Bureau
SSPC	Steel Structures Painting Council
TCA	Tile Council of America, Inc.
UL	Underwriters Laboratories, Inc.

**END OF SECTION**

## SECTION 01500

### TEMPORARY FACILITIES

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

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

##### 1.2 SUMMARY

- A. This Section specifies requirements for temporary services and facilities, including utilities, construction and support facilities, security and protection.
- B. Temporary utilities required include but are not limited to:
  - 1. Water service and distribution.
  - 2. Temporary electric power and light.
  - 3. Telephone service and fax machine.
  - 4. Storm and sanitary sewer.
- C. Temporary construction and support facilities required include but are not limited to:
  - 1. Temporary heat.
  - 2. Field offices and storage sheds.
  - 3. Temporary roads and paving.
  - 4. Sanitary facilities, including drinking water.
  - 5. Dewatering facilities and drains.
  - 6. Temporary enclosures.
  - 7. Temporary Project identification signs and bulletin boards as described at the end of this section.
  - 8. Waste disposal services.
  - 9. Rodent and pest control.
  - 10. Construction aids and miscellaneous services and facilities.
- D. Security and protection facilities required include but are not limited to:
  - 1. Temporary fire protection.
  - 2. Barricades, warning signs, lights.
  - 3. Sidewalk bridges or enclosure fence for the site.
  - 4. Environmental protection.

##### 1.3 SUBMITTALS

- A. Temporary Utilities: Submit reports of tests, inspections, meter readings, and similar procedures performed on temporary utilities.
- B. Implementation and Termination Schedule: Submit a schedule indicating implementation and termination of each temporary utility within 15 days of the date established for commencement of the Work.

##### 1.4 QUALITY ASSURANCE

- A. Regulations: Comply with industry standards and applicable laws and regulations if authorities having jurisdiction, including but not limited to:

1. Building Code requirements.
  2. Health and safety regulations.
  3. Utility company regulations.
  4. Police, Fire Department, and Rescue Squad rules.
  5. Environmental protection regulations.
- B. Standards: Comply with NFPA Code 241, "Building Construction and Demolition Operations", ANSI-A10 Series standards for "Safety Requirements for Construction and Demolition", and NECA Electrical Design Library "Temporary Electrical Facilities."
1. Refer to "Guidelines for Bid Conditions for Temporary Job Utilities and Services," prepared jointly by AGC and ASC, for industry recommendations.
  2. Electrical Service: Comply with NEMA, NECA, and UL standards and regulations for temporary electric service. Install service in compliance with National Electric Code (NFPA 70).
- C. Inspections: Arrange for authorities having jurisdiction to inspect and test each temporary utility before use. Obtain required certifications and permits.

## 1.5 PROJECT CONDITIONS

- A. Temporary Utilities: Prepare a schedule indicating dates for implementation and termination of each temporary utility. At the earliest feasible time, when acceptable to the Owner, change over from use of temporary service to use of the permanent service.
- B. Conditions of Use: Keep temporary services and facilities clean and neat in appearance. Operate in a safe and efficient manner. Take necessary fire prevention measures. Do not overload facilities, or permit them to interfere with progress. Do not allow hazardous dangerous or unsanitary conditions, or public nuisances to develop or persist on the site.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. General: Provide new materials. If acceptable to the Architect, undamaged, previously used equipment in serviceable condition may be used. Provide equipment suitable for use intended.
- B. Electrical Outlets; Provide properly configured NEMA polarized to prevent insertion of 110-120 volt plugs into higher voltage outlets. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- C. Electrical Power Cords: Provide grounded extension cords; use "hard-service" cords where exposed to abrasion and traffic. Provide receptacle outlets equipped with ground-fault circuit interrupters, reset button and pilot light, for connection of power tools and equipment.
- D. Lamps and Light Fixtures: Provide general service incandescent lamps of wattage required for adequate illumination. Provide guard cages or tempered glass enclosures, where exposed to breakage. Provide exterior fixtures where exposed to moisture.
- E. Heating Units: Provide temporary heating units that have been tested and labeled by UL, FM, or another recognized trade association related to the type of fuel being consumed.

- F. Temporary Offices: Provide prefabricated or mobile units or similar job-built construction with lockable entrances, operable windows and serviceable finishes. Provide heated and air-conditioned units on foundations adequate for loading required.
- G. Temporary Toilet Units: Provide self-contained single-occupant toilet units of the chemical, aerated re-circulation, or combustion type, properly vented and fully enclosed with a glass fiber reinforced polyester shell or similar nonabsorbent material.
- H. First Aid Suppliers: Comply with governing regulations.
- I. Fire Extinguishers: Provide hand-carried, portable UL-rated, class "A" fire extinguishers for temporary offices and similar spaces. In other locations provide hand-carried, portable, UL-rated, class "ABC" dry chemical extinguishers, or a combination or extinguishers of NFPA recommended classes for the exposures.
  - 1. Comply with NFPA 10 and 214 for classification, extinguishing agent and size required by location and class of fire exposure.
- J. Security Fencing: Provide temporary 6' high chain link security fencing as indicated along construction limit lines.
- K. Temporary Project Sign: Provide construction sign as described by the Contract Documents. Locate as directed by Architect/Owner.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Use qualified personnel for installation of temporary facilities. Locate facilities where they will serve the Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required.
- B. Provide each facility ready for use when needed to avoid delay. Maintain and modify as required. Do not remove until facilities are no longer needed, or are replaced by authorized use of completed permanent facilities.
- C. Temporary Facilities to be by General Construction Contractor unless noted otherwise or needed by the respective prime contractors to commence, install or complete their required work.
- D. Once installed the cost of maintenance and monthly service charge for all utilities shall be borne by the general contractor.

#### **3.2 TEMPORARY UTILITY INSTALLATION**

- A. Unless otherwise noted the general contractor shall be responsible for providing and maintaining all temporary utilities and support facilities.
- B. Engage the appropriate local utility company to install temporary service or connect to existing service. Where the company provides only part of the service, provide the remainder with matching, compatible materials and equipment; comply with the company's recommendations.
  - 1. Arrange with the company and existing users for a time when service can be interrupted, where necessary, to make connections for temporary services.

2. Provide adequate capacity at each stage of construction. Prior to temporary utility availability, provide trucked-in services.
  3. Temporary (construction) power supplied by contractor and water may be obtained from the existing school facilities; however, the Owner must be consulted and approve exact location(s) and details prior to the taps. The Owner reserves the right to revoke this "privilege" if it is being abused and require the contractor(s) to obtain these services from other (off-site) means.
  4. Use Charges: Cost or use charges for temporary facilities are not chargeable to the Owner or Architect, and will not be accepted as a basis of claims for a Change Order.
- C. Water Service (Plumbing Contractor): Install water service and distribution piping of sizes and pressures adequate for construction until permanent water service is in use.
1. Sterilization: Sterilize temporary water piping prior to use.
  2. Permanent Tap: Tap fees and all materials and labor associated with permanent water service shall be provided by the plumbing contractor and coordinated and approved by governing authorities.
- D. Temporary Electric Power Service (Electrical Contractor): Provide weatherproof, grounded electric power service and distribution system of sufficient size, capacity, and power characteristics during construction period. Include meters, transformers, overload protected disconnects, automatic ground-fault interrupters and main distribution switch gear.
1. Except where underground service must be used, install electric power service overhead.
  2. Power Distribution System: Install wiring overhead, and rise vertically where least exposed to damage. Where permitted, wiring circuits not exceeding 125 Volts, AC 20 ampere rating, and lighting circuits may be nonmetallic sheathed cable where overhead and exposed for surveillance.
- E. Temporary Lighting (Electrical Contractor): Whenever overhead floor or roof deck has been installed, provide temporary lighting with local switching.
1. Install and operate temporary lighting that will fulfill security and protection requirements, without operating the entire system, and will provide adequate illumination for construction operations and traffic conditions.
  2. The electrical contractor shall be responsible for all maintenance of temporary lighting.
- F. Temporary Telephones: Provide temporary telephone service for all personnel engaged in construction activities, throughout the construction period. Install telephone on a separate line for each temporary office and first aid station. Where an office has more than two occupants, install a telephone for each additional occupant or pair of occupants. Long distance charges will be paid for by the responsible prime contractor.
1. At each telephone, post a list of important telephone numbers.
- G. Sewers and Drainage: If sewers are available, providing temporary connections to

remove effluent that can be discharged lawfully. If sewers are not available or cannot be used, provide drainage ditches, dry wells, stabilization ponds and similar facilities. If neither sewers nor drainage facilities can be lawfully used for discharge of effluent, provide containers to remove and dispose of effluent off the site in a lawful manner.

1. Filter out excessive amounts of soil, construction debris, chemicals, oils and similar contaminants that might clog sewers or pollute waterways before discharge.
  2. Connect temporary sewers to the municipal system as directed by the sewer department officials.
  3. Maintain temporary sewers and drainage facilities in a clean, sanitary condition. Following heavy use, restore normal conditions promptly.
- H. Provide earthen embankments and similar barriers in and around excavations and sub-grade construction, sufficient to prevent flooding by runoff of storm-water from heavy rains.

### 3.3 TEMPORARY CONSTRUCTION AND SUPPORT FACILITIES INSTALLATION

- A. Locate field offices, storage sheds, sanitary facilities, and other temporary construction and support facilities for easy access.
1. Maintain temporary construction and support facilities until near Substantial Completion. Remove prior to Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to the Owner.
- B. Provide incombustible construction for offices, shops and sheds located within the construction area, or within 30 feet of building lines. Comply with requirements of NFPA 241.
- C. Temporary Heat: Provide temporary heat required by construction activities, for curing or drying of completed installations or protection of installed construction from adverse effects of low/high temperatures or high humidity. Select safe equipment that will not have a harmful effect on completed installations or elements being installed. Coordinate ventilation requirements to produce the ambient conditions required and minimize consumption of energy. The general contractor shall not rely upon the permanent HVAC system being available during the construction period and shall be responsible for the heat required to install and maintain finishes and finish material until such time as permanent heat is available. The general contractor will be responsible for any cost associated with warrantee extension due to this action.
- D. Heating Facilities: Except where use of the permanent system is authorized, provide vented self-contained LP gas or fuel oil heaters with individual space thermostatic control.
1. Use of gasoline-burning space heaters, open flame, or salamander type heating units is prohibited.
- E. Contractor and Construction Manager Field Offices: Provide insulated, weather tight temporary offices of sufficient size to accommodate required office personnel at the Project site. Include in the base bid office space for the Architects, Construction Manager, and Owners use. Space must have indoor plumbing, HVAC, and be equipped with desks, table, and chairs as required. Keep the office clean and orderly for use for



progress meetings. Furnish and equip offices as required but most importantly, plan table shall have most up-to-date set of plans and specs which shall serve as the "control set." Field Office shall have a conference room area for holding weekly and monthly project meetings with the Owner, Architect, Contractor and Construction Manager.

- F. Storage and Fabrication Sheds: Install storage and fabricated sheds, sized, furnished and equipped to accommodate materials and equipment involved, including temporary utility service. Sheds may be open shelters or fully enclosed spaces within the building or elsewhere on the site. Each contractor shall provide for their own storage requirements.
- G. Temporary Paving: Construct and maintain temporary roads and paving to adequately support the indicated loading and to withstand exposure to traffic during the construction period. Locate temporary paving for roads, storage areas and parking where the same permanent facilities will be located. Review proposed modifications to permanent paving with the Architect.
  - 1. Paving: Comply with Division - 2 Section "Asphalt Concrete Paving" for construction and maintenance of temporary paving.
  - 2. Coordinate temporary paving development with sub-grade grading, compaction, installation and stabilization of sub-base, and installation of base and finish courses of permanent paving.
  - 3. Install temporary paving to minimize the need to rework the installations and to result in permanent roads and paved areas that are without damage to deterioration when occupied by the Owner.
  - 4. Delay installation of the final course of permanent asphalt concrete paving until immediately before Substantial Completion. Coordinate with weather conditions to avoid unsatisfactory results.
  - 5. Extend temporary paving in and around the construction area as necessary to accommodate delivery and storage of materials, equipment usage, administration and supervision.
- H. Sanitary facilities include temporary toilets, wash facilities and drinking water fixtures. Comply with regulations and health codes for the type, number, location, operation and maintenance of fixtures and facilities. Install where facilities will best serve the Project's needs.
- I. Dewatering facilities and drains: For temporary drainage and dewatering facilities and operations not directly associated with construction activities included under individual Sections, comply with dewatering requirements of applicable Division - 2 sections. Where feasible, utilize the same facilities. Maintain the site, excavations an construction free of water.
- J. Temporary Enclosures: Provide temporary enclosure for protection of construction in progress and completed, from exposure, foul weather, other construction operations and similar activities.
  - 1. Where heat is needed and the permanent building enclosure is not complete, provide temporary enclosures where there is no other provision for containment of heat. Coordinate enclosure with ventilating and material drying or curing requirements to avoid dangerous conditions and effects.

2. Install tarpaulins securely, with incombustible wood framing and other materials.
  3. Close openings through floor or roof deck and horizontal surfaces with load-bearing wood-framed construction.
- K. Temporary Lifts and Hoists: Provide facilities for hoisting materials and employees. Truck cranes and similar devices used for hoisting materials are considered “tools and equipment” and not temporary facilities.
- L. Project Identification and Temporary Signs: Prepare project identification and other signs of the size indicated; install signs where indicated to inform the public and persons seeking entrance to the Project. Support on posts or framing of preservative treated wood to steel. Do not permit installation of unauthorized signs.
1. Project Identification Signs: Engage an experienced sign painter to apply graphics. Comply with details indicated.
  2. Temporary Signs: Prepare signs to provide directional information to construction personnel and visitors.
- M. Temporary Exterior Lighting: Install exterior yard and sign lights so that signs are visible when work is being performed.
- N. Collection and Disposal of Waste: Collect waste from construction areas and elsewhere daily. Comply with requirements of NFPA 241 for removal of combustible waste material and debris. Enforce requirements strictly. Do not hold materials more than 7 days during normal weather or 3 days when the temperature is expected to rise above 80 deg F (27 deg C). Handle hazardous, dangerous, or unsanitary waste materials separately from other waste by containerizing properly. Dispose of material in a lawful manner. The general contractor shall provide a dumpster for the use of all contractors on the job. Each prime shall reimburse the general for the disposal cost associated with their debris.
- O. Rodent and Pest Control: Before deep foundation work has been completed, retain a local exterminator or pest control company to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests. Employ this service to perform extermination and control procedures at regular intervals so the Project will be relatively free of pests and their residues at Substantial Completion. Perform control operations in a lawful manner using environmentally safe materials.

### 3.4 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Except for use of permanent fire protection as soon as available, do not change over from use of temporary security and protection facilities to permanent facilities until Substantial Completion, or longer as requested by the Architect.
- B. Temporary Fire Protection: Until fire protection needs are supplied by permanent facilities, install and maintain temporary fire protection facilities of the types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 10 “Standard for Portable Fire Extinguishers,” and NFPA 241 “Standard for Safeguarding Construction, Alterations and Demolition Operations.”
1. Locate fire extinguishers where convenient and effective for their intended purpose, but not less than one extinguisher on each floor at or near each usable stairwell.

2. Store combustible materials in containers in fire-safe locations.
  3. Maintain unobstructed access to fire extinguishers, fire hydrants, temporary fire protection facilities, stairways and other access route for fighting fires. Prohibit smoking in hazardous fire exposure areas.
  4. Provide supervision of welding operations, combustion type temporary heating units, and similar sources of fire ignition.
- C. Permanent Fire Protection: At the earliest feasible date in each area of the Project, complete installation of the permanent fire protection facility, including connected services, and place into operation and use. Instruct key personnel on use of facilities.
- D. Barricades, Warning Signs, and Lights: Comply with standards and code requirements of erection of structurally adequate barricades. Paint with appropriate colors, graphics and warning signs to inform personnel and the public of the hazard being protected against. Where appropriate and needed provide lighting, including flashing red or amber lights.
- E. Enclosure Fence: Prior to beginning construction, install an enclosure fence with lockable entrance gates. Locate where indicated, or enclose the portion determined sufficient to accommodate construction operations. Install in a manner that will prevent people, dogs, and other animals from easily entering the site, except by the entrance gates.
1. Provide 6' high open-mesh, chain-link fencing with posts set in a compacted mixture of gravel and earth.
- F. Security Enclosure and Lockup: Install substantial temporary enclosure of partially completed areas of construction. Provide locking entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security.
1. Storage: Where materials and equipment must be stored, and are of value or attractive for theft, provide a secure lockup. Enforce discipline in connection with the installation and release of material to minimize the opportunity for theft and vandalism.
- G. Environmental Protection: Provide protection, operate temporary facilities and conduct construction in ways, and by methods that comply with environmental regulations, and minimize the possibility that air, waterways, and subsoil might be contaminated or polluted, or that other undesirable effects might result. Avoid use of tools and equipment which produce harmful noise. Restrict use of noise making tools and equipment to hours that will minimize complaints from persons or firms near the site.

### 3.5 OPERATION, TERMINATION AND REMOVAL

- A. Supervision: Enforce strict discipline in use of temporary facilities. Limit availability of temporary facilities to essential intended uses to minimize waste and abuse.
- B. Maintenance: Maintain facilities in good operating condition until removal. Protect from damage by freezing temperatures and similar elements.
1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation and similar facilities on a 24-hour day basis where required to achieve results and to avoid possibility of damage.
  2. Protection: Prevent water filled piping from freezing. Maintain markers for

underground lines. Protect from damage during excavation operations.

- C. Termination and Removal: Unless the Architect requests that it be maintained longer, remove each temporary facility when the need has ended, or when replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete, or if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged work, clean exposed surfaces and replace construction that cannot be satisfactorily repaired.
1. Materials and facilities that constitute temporary facilities are property of the Contractor. The Owner reserves the right to take possession of Project identification signs.
  2. Remove temporary paving that is not intended or acceptable for integration into permanent paving. Where the area is intended for landscape development, remove soil and aggregate fill that does not comply with requirements for fill or subsoil in the area. Remove materials contaminated with road oil, asphalt, other petrochemical compounds, and other substances, which might impair growth of plant materials or lawns. Repair or replace street paving, curbs, and sidewalks at the temporary entrances, as required by the governing authority.
  3. At Substantial Completion, clean and renovate permanent facilities that have been used during the construction period, including but not limited to:
    - a. Replace air filters and clean inside of ductwork and housings.
    - b. Replace significantly worn parts and parts that have been subject to unusual operating conditions.
    - c. Replace lamps that are burned out or noticeably dimmed by substantial hours of use.

**END OF SECTION**

## SECTION 01650

### PRODUCT DELIVERY AND HANDLING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Protect products scheduled for use in the work by means including, but not necessarily limited to, those described in this Section.
- B. Related work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, Sections in Division 1 of these specifications.
  - 2. Additional procedures also may be prescribed in other Sections of these specifications.

##### 1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

##### 1.3 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Engineer, determine and comply with manufacturer's recommendations on product handling, storage and protection.

##### 1.4 PRODUCT DELIVERY

- A. Schedule delivery to minimize long-term storage at the site and to prevent overcrowding of construction spaces.
- B. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.

##### 1.5 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
  - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
  - 2. Promptly remove damaged material and unsuitable items from the job site and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Engineer may reject as non-complying such material and products that do not bear identification satisfactory to the Engineer as to manufacturer, grade, quality and other pertinent information.

##### 1.6 PROTECTION OF MATERIAL AND WORK

- A. General

1. Carefully and properly protect all materials of every description, both before and after installation.
  2. Provide any enclosing or special protection from weather as deemed necessary by the Engineer at no additional cost to the Owner.
- B. Partial payments under the Contract will not relieve the Contractor from responsibility.
1. When materials and work at the site which have been partially paid for are not adequately protected by the Contractor, such materials will be protected by the Owner at the expense of the Contractor and no further partial payment thereon will be made.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

#### 1.7 STORAGE

- A. Store all items of equipment, component parts, etc. in accordance with the manufacturers' recommendations or as may otherwise be necessary to prevent damage or deterioration of any sort.

#### 1.8 REPAIRS AND REPLACEMENTS

- A. In the event of damage, promptly make replacements and repairs to the approval of the Engineer and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Engineer to justify an extension in the contract time of completion.

**END OF SECTION**

## SECTION 01720

### PROJECT LAYOUT AND FIELD ENGINEERING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- A. Work included: Provide such field engineering services, including survey and civil engineering, as are required for proper completion of the Work including, but not necessarily limited to:
  - 1. Establish and maintain all horizontal and vertical reference points, grades, lines and planes as required to construct project as indicated, specified, or both.
  - 2. Structural design of shores, forms and similar items provided by the Contractor as part of his means and methods of Construction.
- B. Related Work:
  - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. Additional requirements for field engineering also may be described in other Sections of these Specifications.

##### 1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary craft and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of the Section.
  - 1. Surveyor: Engage a Registered Land Surveyor registered in the State where the project is located, to perform land surveying services required.
  - 2. Engineer: Engage a Professional Engineer of the discipline required, registered in the State in which the project is located, to perform required engineering services.

##### 1.3 SUBMITTALS

- A. Comply with pertinent provisions of Section 01330 - Submittal Procedures.
- B. Upon request of the Construction Manager and/or Architect, submit:
  - 1. Data demonstrating qualifications of persons proposed to be engaged for field engineering services.
  - 2. Documentation verifying accuracy of field engineering work.
  - 3. Certification, signed by a registered land surveyor, certifying that elevations and locations of improvements are in conformance with requirements of the Contract Documents. The cost for registered land surveyors shall be included in the Contractors bid.
- C. Final Property Survey: Prior to Substantial Completion, prepare a final property survey

showing significant features that have resulted from construction of the project. Include a certification signed by the surveyor that lines and levels of the project are accurately positioned as shown on the survey and in accordance with the contract documents.

## PART 2- PRODUCTS

### 2.01 ENGINEERING EQUIPMENT

- A. Transit and measuring devices shall be calibrated to layout site and building work indicated.

### 2.02 OTHER LAYOUT EQUIPMENT

- A. Provide stakes and batter boards of size and quality to execute the work indicated, Use wire and non-stretching cord to establish lines for site, paving and building work.

## PART 3 - EXECUTION

### 3.01 BENCHMARKS

- A. The contractor shall maintain carefully all benchmarks, monuments and other reference points throughout execution of this work. If these are disturbed or destroyed, same shall be replaced and rest as directed by the Architect at Contractor's expense.

### 3.02 LAYOUT

- A. Stake building and site improvements relative to reference lines indicated on plan.
- B. Locate storage sheds, temporary office and topsoil stockpile so as to best advance progress of work and as approved by architect.

### 3.03 SITE CONDITIONS

- A. Before commencing work, verify benchmarks, reference points, and conditions where new work ties into existing work.

### 3.04 ADDITIONAL PROCEDURES

- A. In addition to procedures necessary for proper performance of the Contractor's responsibilities:
  1. Locate and protect control points before starting work on the site.
  2. Preserve a minimum of two permanent reference points during progress of the Work and through completion of the Work. Locate permanent reference points on as-built documents.
  3. Do not change or relocate reference points or items of the Work without specific approval from the Architect.
  4. Promptly advise the Construction Manager when a reference point is lost or destroyed, or required relocation because of other changes in the Work.
    - a. Upon direction of the Construction Manager, require the field engineer to



replace reference stakes or markers.

- b. Locate such replacements according to the original survey control.
5. Existing utilities and equipment: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning any work, investigate and verify the existence and location of underground utilities and other construction.
- a. Prior to construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer and water service piping.

**END OF SECTION**

## SECTION 01730

### CUTTING AND PATCHING

#### PART 1 - GENERAL

##### 1.1 Description

- A. Work included: This Section establishes general requirements pertaining to cutting (including excavating), fitting and patching of the work required to:
  - 1. Make the several parts fit properly;
  - 2. Uncover work to provide for installing, inspection, both, of ill-timed work;
  - 3. Remove and replace work not conforming to requirements of the Contract Documents; and
  - 4. Remove and replace defective work.
- B. Related Work:
  - 1. Documents affecting work of this section include, but are not necessarily limited to, NCLC, Supplementary Conditions, and Sections in Division 1 of these Specifications.
  - 2. In addition to other requirements specified, upon the Construction Managers and/or Architect's request to uncover work to provide for inspection by the Construction Manager and/or Architect of covered work, and remove samples of installed materials for testing.
  - 3. Do not cut or alter work performed under separate contracts without the Construction Manager's and Architect's written permission.

##### 1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this section.

##### 1.3 SUBMITTALS

- A. Request for Construction Manager's and/or Architect's consent:
  - 1. Prior to cutting which effects structural safety, submit written request to the Construction Manager and/or Architect for permission to proceed with cutting.
  - 2. Should conditions of the Work, or schedule indicate a required change of materials or methods for cutting and patching, so notify the Construction Manager and/or Architect and secure his written permission and the required Change Order prior to proceeding.
- B. Notices to the Construction Manager and/or Architect:
  - 1. Prior to cutting and patching performed pursuant to the Construction Manager's and/or Architect's instructions, submit cost estimate to the Construction Manager and Architect. Secure the Construction Manager's and the Architect's approval of cost estimates and type of reimbursement before proceeding with cutting and

patching.

2. Submit written notice to the Construction Manager and/or Architect designating the time the Work will be uncovered, to provide for the Construction Manager's and/or Architect's observation.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. For replacement of items removed, use materials complying with pertinent Sections of these Specifications.

### **2.2 PAYMENT FOR COSTS**

- A. The Owner will reimburse the Contractor for cutting and patching performed pursuant to the written Change Order, after claim for such reimbursement is submitted by the Contractor and approved by the Construction Manager and Architect. Perform other cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

## **PART 3**

### **3.1 SURFACE CONDITIONS**

#### **A. Inspection:**

1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching, and backfilling.
2. After uncovering the work, inspect conditions affecting the installation of new work.

#### **B. Discrepancies:**

1. If uncovered conditions are not as anticipated, immediately notify the Construction Manager and/or Architect and secure needed directions.
2. Do not proceed until unsatisfactory conditions are corrected.

### **3.2 PREPARATION PRIOR TO CUTTING**

- A. Provide required protection including, but not necessarily limited to, shoring, bracing and support to maintain structural integrity of the Work.
- B. Provide required fire protection including, but not necessarily limited to, fire blankets, fire extinguishing equipment, prior to consent from Construction Manager.

### **3.3 PERFORMANCE**

- A. Perform required excavating and backfilling as required under pertinent other Sections of these Specifications.
  1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of repair and new work.

2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.
3. All penetrations made by the Contractor through walls, ceilings, and/or floors shall be sealed by the Contractor to meet the requirements of all building codes, fire codes, applicable to this project.
4. Extent of Cutting and Patching: Cut areas in new or existing work only to the extent required to perform the work. Cutting shall be in a manner that will not disturb adjoining work as much as possible and will facilitate patching in a sound and durable manner with invisible seams between the patched areas and the existing adjoining work. Patching shall restore area to match original finish to the satisfaction of the Architect. All rejected patched areas shall be removed and replaced to provide visually acceptable and durable work as directed by the Architect.
5. General: Employ skilled workmen to perform cutting and patching work. Except as otherwise indicated or as approved by the Architect, proceed with cutting and patching at the earliest feasible time and complete work without delay.
6. Cutting: Cut the work using methods that are least likely to damage work to be retained or adjoining work. Where possible review proposed procedures with the original installer; comply with original installer's recommendations.

In general, where cutting is required use hand or small power tools designed for sawing or grinding, not hammering and chopping. Cut through concrete and masonry using a cutting machine such as a carborundum saw or core drill to insure a neat hole. Cut holes and slots neatly to size required with minimum disturbance of adjacent work. To avoid marring existing finished surfaces, cut or drill from the exposed or finished side into concealed surfaces. Temporarily cover openings when not in use.

Comply with requirements of applicable sections of Division 2 where cutting and patching requires excavating and backfilling.

- a. Generally, unless other specified, work that requires cutting shall be performed by the traded performing the work.

7. Patching: Patch with seams which are durable and as invisible as possible. Comply with specified tolerances for the work.

Where feasible, inspect and test patched areas to demonstrate integrity of work.

Restore exposed finishes of patched areas and where necessary extend finish restoration into retained adjoining work in a manner which will eliminate evidence of patching and refinishing.

- a. Responsibility For Patching: The subcontractor will pay the masons on site to patch masonry walls that have to be cut for ductwork and any other larger opening. Holes in walls for pipe and conduit shall be drilled and grouted as required. Any damage to the fire rated construction will be the responsibility of the subcontractor to have properly repaired to meet the UL rating and meet approval of the Architect. The ultimate responsibility for all

patching shall be on the General Contractor to provide an acceptable patch as determined by the Architect. All patching determined by the Architect to be unacceptable shall be corrected by personnel skilled and qualified in installing the material to be patched.

- b. All patching shall be performed by personnel skilled in patching the substrate that has been disturbed. The subcontractor who performed the cutting shall be responsible to pay the appropriate personnel to install the patching material.
8. Cleaning: Thoroughly clean areas and spaces where work is performed or used as access to work. Remove completely paint, mortar, oils, putty and items of similar nature. Thoroughly clean piping, conduit and similar features before painting or other finishing is applied. Restore damaged pipe covering to its original condition.

**END OF SECTION**

## SECTION 01740

### CLEANING

#### PART 1 - GENERAL

##### 1.1 DESCRIPTION

- 1.1.1 Work included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this section.
- 1.1.2 Related work:
  - A. Documents affecting work of this section include but are not necessarily limited to General Conditions, Supplemental Conditions, and Sections in Division 1 of these Specifications.
  - B. In addition to standards described in this section, comply with requirements for cleaning as described in pertinent other sections of these Specifications.

##### 1.2 QUALITY ASSURANCE

- 1.2.1 Conduct daily inspection and more often if necessary, to verify that requirements for cleanliness are being met.
- 1.2.2 In addition to the standards described in this section, comply with pertinent requirements of governmental agencies having jurisdiction.

#### PART 2 - PRODUCTS

##### 2.1 CLEANING MATERIALS AND EQUIPMENT

- 2.1.1 Provide required personnel, equipment and materials needed to maintain the specified standard of cleanliness.

##### 2.2 COMPATIBILITY

- 2.2.1 Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

#### PART 3 - EXECUTION

##### 3.1 PROGRESS CLEANING

###### 3.1.1 General

- A. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage and providing required protection of materials.
- B. Do not allow accumulation of scrap, debris, waste material and other items not required for construction of this work.
- C. At least twice each month and more often if necessary, completely remove all scrap, debris and waste material from the job site. Provide adequate storage for all items waiting removal from the job site, observing requirements for fire protection and protection of the ecology.

3.1.2 Site

- A. Daily, and more often if necessary, inspect the site and pick up all scrap, debris and waste material. Remove such items to the place designated for their storage.
- B. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site. Restack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1.1A above.
- C. Maintain the site in a neat and orderly condition at all times.

3.2 FINAL CLEANING

- 3.2.1 "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- 3.2.2 Prior to completion of the work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in paragraph 3.1 above.
- 3.2.3 Schedule final cleaning as approved by the Architect/Engineer to enable the Owner to accept a completely clean work.

**END OF SECTION**

## SECTION 01770

### CONTRACT CLOSE-OUT PROCEDURES

#### PART 1.0 GENERAL

##### 1.0.1 Deficiency Lists

- A. During the construction of the work, the Construction Manager and/or Architect/Engineer shall inspect the work for conformance to the Contract Documents.
- B. Should an inspection reveal work that is not in conformance with the Contract Documents, and if the nature of the non-conformance warrants, at the sole discretion of the Construction Manager and/or Architect/Engineer, a written list of deficiencies will be issued.
- C. The "deficiency list" as hereinafter called, shall stipulate the item or items of work that are in non-conformance and shall specify a reasonable time for the deficient work to be brought into conformance with the Contract Documents.
- D. Upon receipt of the deficiency list the Contractor shall by any and all means at his disposal, endeavor to correct the work within the time stipulated. The Contractor shall notify the Construction Manager in writing when the work has been corrected and request an inspection.
- E. If the inspection reveals the deficiency has been corrected, then the deficiency list shall be rescinded.
- F. During the period that the deficiency list is in effect, the Construction Manager may, at his option, not authorize the payment of progress billings until the deficiency list is rescinded or, in the opinion of the Construction Manager, the Contractor is making a good faith effort to correct the deficiency.

##### 1.0.2 Punch Lists/Final Inspection

- A. When the Contractor determines that his work or portions of his work are sufficiently near completion to warrant a preliminary inspection, he shall request in writing to the Construction Manager a preliminary inspection.
- B. At a mutually agreeable time, the Construction Manager and Contractor shall conduct a preliminary inspection of the work for completeness and conformance of work. Any items noted as incomplete shall be listed on a preliminary punch list, a copy of which shall be forwarded to the Contractor for completion and correction.
- C. The Construction Manager shall establish a reasonable time period for the completion or correction of all items on the preliminary inspection punch list. At the end of this time period a pre-final inspection shall be conducted.
- D. The substantial completion inspection shall include the Architect/Engineer, Owner, Construction Manager and Contractor. The Contractor shall present to the Architect/Engineer a written list of all work incomplete, a reason why the item of work is incomplete and give a date when the work will be complete. The



substantial completion inspection shall not be conducted unless the Contractor presents the list of incomplete items.

- E. Should the Architect/Engineer find any item of work to be unacceptable he shall prepare a punch list of those items. The Contractor shall complete all items on the list within fourteen (14) days of the inspection.
- F. At the conclusion of the substantial completion inspection and if the completeness of the work allows, the Architect/Engineer shall issue a Certificate of Substantial Completion. OSE issues the certificate of occupancy. Should the amount of incomplete work be such that a Certificate of Substantial Completion cannot be issued, another substantial completion inspection shall be scheduled.
- G. Upon completion of the substantial completion punch list and provided a Certificate of Substantial Completion has been issued, a final inspection shall be held with the Owner, Architect/Engineer, Construction Manager and Contractor. Provided the inspection reveals work to be complete and all punchlist items are corrected, the Architect/Engineer shall establish the date of substantial completion.

### 1.0.3 Project Close-Out

#### A. Final Close-Out and Payment

1. The Contractor may make Application for Final Payment after the Certificate of Substantial Completion has been issued. The following items must be submitted to the Construction Manager prior to processing of the Final Application for Payment:
  - a. Affidavit of Payment of Debts and Claims, (AIA-G706);
  - b. Consent of Surety, (AIA-G707);
  - c. Release of Liens, (AIA-G706A) from: Contractors, Sub-Contractors, and Material Suppliers;
  - d. Letter on company letterhead stating all temporary facilities, services, debris and surplus materials have been removed;
  - e. Final "Project Record Documents" as specified in Section 01780, Project Record Documents;
  - f. Operations & Maintenance Manuals as specified in Section 01780, Project Record Documents;
  - g. Final "As Built" surveyor's drawings verifying dimensions noted on stake-out plan sheet;
  - h. Guarantees, Warranties, and Bonds as specified in Section 01780, Project Record Documents;
  - i. Spare parts and replacement items as required by the Specifications;
  - j. Letter on company letterhead stating no asbestos containing material has been installed in the project;
  - k. Certificate of Final Occupancy;
  - l. Demonstration and testing of equipment has been scheduled or is completed.
  - m. Property survey as required in Section 01720.
2. **No final payment application will be processed for payment until final inspection and final acceptance.**

3. Close-out time encompasses a large amount of work during a short period of time. Therefore, the Contractor is encouraged to begin to submit close-out items as soon as possible so that the Contract may be completed, thus allowing the Architect/Engineer to recommend approval of the final payment to the Owner.
4. The Construction Manager may continue to withhold 3.5% retainage from the Contractor until all outstanding close-out materials are submitted to the Construction Manager. It shall be at the discretion of the Construction Manager, upon consultation with the Architect, to reduce the amount of retainage on a project by project basis, upon a favorable review of the status of completion of the final punch list, the status of close-out submittals, and above all, the total amount listed on the Release of Liens submitted by the Contractor for all Sub-Contractors and Material Suppliers contracted with by the General Contractor. At no time shall the retainage be reduced to an amount less than the total of the Release of Liens submitted by the Contractor. Final payment may then be made once all remaining outstanding close-out requirements are met.

#### 1.0.4 Responsibility

- A. It shall be the Contractor's responsibility to see that all requirements of this Section of the Specifications are executed and complete in a timely manner.
- B. No provisions of this section of the Specifications shall in any way relieve the Contractor of completing his work on time and in accordance with the Project Schedule.

**END OF SECTION**

## SECTION 015639 - TREE AND PLANT PROTECTION

### PART 1 - GENERAL

#### 1.1 DESCRIPTION

- A. Provide temporary fencing, barricades, and guards as necessary or required to protect trees which are to remain, from damage above and below grade.
- B. Protect root systems from smothering and compaction. Do not store construction materials or permit vehicles to drive or park within the drip line area of any tree to remain.
- C. Protect all plant growth, including root systems of trees from the dumping of refuse or chemically injurious material or liquids, and continual puddling of running water.

#### 1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 311000 Site Clearing
- B. Section 312000 Earth Moving
- C. Section 312300 Excavation and Backfill

### PART 2 - INSTALLATION

#### 2.1 INSTALLATION OF TREE PROTECTION BARRIER

- A. The established protected perimeter around the tree shall be based on one foot in radius per one inch of tree diameter as measured 4.5 feet above grade (e.g. a seven-inch diameter will have a protected area with a seven-foot radius and a 14-foot diameter around the tree) unless shown otherwise on the plans.

### PART 3 - EXECUTION

#### 3.1 INSPECTION

- A. Inspect all trees and document a written memorandum and photograph any unusual existing conditions. Submit copies to the Owner prior to commencement of work.

#### 3.2 GENERAL

- A. Protect root systems of trees to remain from damage due to noxious materials in solution caused by run-off or spillage during mixing and placement of construction materials, or drainage from stored materials.

- B. Protect root systems of trees to remain from flooding, erosion or excessive wetting resulting from dewatering operations and compaction.
- C. Protect all existing trees to remain against unauthorized cutting, breaking, or skinning roots and branches, skinning, and bruising of bark.
- D. Do not allow fires on the project site.
- E. Where tree removal may seem necessary, review conditions with the Owner before proceeding, and comply with their directives.
- F. Prior to construction only deadwood pruning and pruning for clearance of structures shall be conducted. All tree pruning or root cutting is to be performed with sharp pruning instruments; do not break or chop. Do not prune without the explicit approval of the Owner.

### 3.3 EXCAVATION/DEMOLITION AROUND TREES

- A. Excavate within drip line of trees only where indicated on drawings or as approved by the Client.
- B. Pavements within a ten-foot radius of tree trunks shall be broken up with a jackhammer and removed by hand to prevent root and root crown injuries. Attempts to lift large sections of concrete near the tree would likely result in lifting of roots and abrasion injuries and shall be avoided.
- C. Pavements outside the ten-foot radius can be lifted in large sections provide they are not dragged or pushed into the tree trunks or major roots. Care must be taken to prevent demolition equipment such as loaders from striking the tree canopy or trunk.
- D. Once pavement has been demolished and removed, no equipment shall be permitted to park or idle under the canopy of the trees, thereby avoiding mechanical damage to surface roots and heat injury from exhaust to tree canopies.
- E. Where trenching for utilities is required within drip lines, tunnel under or around roots by hand digging or boring. Do not cut main lateral roots or tap roots over 1 inch diameter; cut smaller roots which interfere with installation of new work. Cut roots with sharp pruning instruments; do not break or chop.
- F. Do not allow exposed roots to dry out before permanent backfill is placed; provide temporary earth cover, or pack with peat moss and wrap with burlap. Water and maintain in moist condition and temporarily support and protect from damage until permanently relocated and covered with backfill.

### 3.4 GRADING AND FILLING AROUND TREES

- A. Maintain existing grade within drip line of trees unless otherwise indicated on the drawing and approved by the Owner.

### 3.5 EQUIPMENT FOR EXCAVATION NEAR ROOTS

- A. Air Spade – soil excavation near tree roots and/or to determine the location of tree roots in the areas outlined below shall be conducted with a model 2000 Air Spade, or similar upon approval from the Owner and Engineer, equipped with a 225 scfm (6.2 m<sup>3</sup>/min) nozzle. Further specifications for this spade and ordering information is available.

- B. Compressor – the Air Spade and nozzle combination listed above requires a 250 scfm or greater air compressor. Air compressors with less pressure will overheat during use and cause poor tool performance
- C. Sewer Vacuum – a sewer vacuum can be used to remove the soil dislodged by the Air Spade if it cannot be easily blown clear of the hole or trench

END OF SECTION 015639

## SECTION 311000 – SITE CLEARING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Protecting existing vegetation to remain.
  - 2. Removing existing vegetation.
  - 3. Clearing and grubbing.
  - 4. Stripping and stockpiling topsoil.
  - 5. Removing above- and below-grade site improvements.
  - 6. Disconnecting, capping or sealing site utilities.
  - 7. Temporary erosion- and sedimentation-control measures.

#### 1.2 MATERIAL OWNERSHIP

- A. Except for stripped topsoil and other materials indicated to be stockpiled or otherwise remain Owner's property, cleared materials shall become Contractor's property and shall be removed from Project site.

#### 1.3 PROJECT CONDITIONS

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- C. Utility Locator Service: Notify utility locator service for area where Project is located before site clearing.
- D. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- E. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.

### PART 2 - PRODUCTS

#### 2.1 MATERIALS

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Section 31 20 00 "Earth Moving."
  - 1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.

## 2.2 SILT FENCE

- A.
- B. Silt fence shall consist of woven filter fabric attached to steel posts with wire or nylon ties. Fence shall be a minimum of two (2) ft. high measured from the ground surface, and shall have eight (8) inches of the woven fabric embedded in the ground per the details on the plans. The posts shall be five (5) feet long 1.25 lb per foot steel "T" section fence posts with stabilization plate spaced welded to the post near the bottom. Posts shall be installed at a maximum of six (6) feet apart. Filter fabric shall be selected from one of the products listed on SCDOT's Qualified Products List 34, or an approved equal.
- C. Silt fence shall be supported by steel posts, driven a minimum of 18 inches into the ground. Posts shall be spaced 6 feet. o.c. maximum.
- D. Fencing other than that specified above shall be subject to review and acceptance by the Engineer.

## 2.3 SEEDING

- A.
- B. Grass seed for temporary cover and permanent cover shall be previous year's crop. Not more than 0.5% by weight shall be weed seed and not more than 1.75% by weight crop seed. Seed shall be delivered to site in sealed containers, labeled with name of seed grower and seed formula, in form stated below. Seed shall be dry and free of mold. Seed and application rates shall meet the requirements of SCDOT Standard Specifications for Seeding.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated.
- C. Protect existing site improvements to remain from damage during construction.
  - 1. Restore damaged improvements to their original condition, as acceptable to Owner.

### 3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction, in accordance with Drawings and requirements of authorities having jurisdiction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

### 3.3 SILT FENCE

- A.
- B. Silt fence shall be constructed and installed as shown on the plans, prior to start of clearing and grubbing operations.

### 3.4 TREE AND PLANT PROTECTION (see also section 015639 Tree and Plant Protection)

- A. General: Protect trees and plants remaining on-site according to drawings.
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Architect.

### 3.5 EXISTING UTILITIES

- A. Locate, identify, disconnect, and seal or cap utilities indicated to be removed or abandoned in place.
  - 1. Arrange with utility companies to shut off indicated utilities.
- B. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Architect's written permission.
- C. Removal of underground utilities is included in earthwork sections and with applicable fire suppression, plumbing, HVAC, electrical, communications, electronic safety and security and utilities sections.

### 3.6 CLEARING AND GRUBBING

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction following the procedures indicated in section 015639 Tree and Plant Protection.
  - 1. Grind down stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade.
  - 2. Use only hand methods for grubbing within protection zones.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

### 3.7 TOPSOIL STRIPPING

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 6 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.

### 3.8 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and necessary to facilitate new construction.

### 3.9 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other nonrecyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 311000



## SECTION 312000 – EARTH MOVING

### PART 1 - GENERAL

#### 1.1 SUMMARY

##### A. Section Includes:

1. Preparing subgrades for walks, pavements, turf and grasses.
2. Excavating and backfilling for buildings and structures.
3. Drainage course for concrete slabs-on-grade.
4. Subbase course for concrete walks.
5. Subbase course and base course for asphalt paving.
6. Excavating and backfilling for utility trenches.

#### 1.2 DEFINITIONS

##### A. Backfill: Soil material used to fill an excavation.

1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
2. Final Backfill: Backfill placed over initial backfill to fill a trench.

##### B. Base Course: Aggregate layer placed between the subbase course and hot-mix asphalt paving.

##### C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.

##### D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.

##### E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.

##### F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.

1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
2. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.

##### G. Fill: Soil materials used to raise existing grades.

##### H. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

- I. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- J. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- K. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

### 1.3 PROJECT CONDITIONS

- A. Utility Locator Service: Notify utility locator service for area where Project is located before beginning earth moving operations.
- B. Do not commence earth moving operations until plant-protection measures are in place.

## PART 2 - PRODUCTS

### 2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, Groups A-1, A-2-4, A-2-5, and A-3 according to AASHTO M 145, or a combination of these groups; free of rock or gravel larger than 2 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7 according to AASHTO M 145, or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.
- D. Subbase Material: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.
- E. Base Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 95 percent passing a 1-1/2-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Engineered Fill: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; with at least 90 percent passing a 1-1/2-inch sieve and not more than 12 percent passing a No. 200 sieve.

- G. Bedding Course: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- H. Drainage Course: Narrowly graded mixture of washed crushed stone, or crushed or uncrushed gravel; ASTM D 448; coarse-aggregate grading Size 57; with 100 percent passing a 1-1/2-inch sieve and 0 to 5 percent passing a No. 8 sieve.
- I. Flowable Fill: Self-compacting, low-density, flowable concrete material produced from the followings:
  - 1. Portland Cement: ASTM C 150, Type I, Type II, or Type III.
  - 2. Fly Ash: ASTM C 618, Class C or F.
  - 3. Normal-Weight Aggregate: ASTM C 33, 3/8-inch nominal maximum aggregate size.
  - 4. Water: ASTM C94/C 94M.
  - 5. Air-Entraining Admixture: ASTM C 260.

## 2.2 ACCESSORIES

- A. Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility; colored to comply with local practice or requirements of authorities having jurisdiction.
- B. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored to comply with local practice or requirements of authorities having jurisdiction.

## PART 3 - EXECUTION

### 3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

### 3.2 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavate to subgrade elevations regardless of the character of surface and subsurface conditions encountered. Unclassified excavated materials may include rock, soil materials, and obstructions. No changes in the Contract Sum or the Contract Time will be authorized for rock excavation or removal of obstructions.

1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

### 3.3 EXCAVATION FOR STRUCTURES

- A. Excavate to indicated elevations and dimensions within a tolerance of plus or minus 1 inch. If applicable, extend excavations a sufficient distance from structures for placing and removing concrete formwork, for installing services and other construction, and for inspections.
  1. Excavations for Footings and Foundations: Do not disturb bottom of excavation. Excavate by hand to final grade just before placing concrete reinforcement. Trim bottoms to required lines and grades to leave solid base to receive other work.
- B. Excavations at Edges of Tree- and Plant-Protection Zones:
  1. Excavate by hand to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.

### 3.4 EXCAVATION FOR WALKS AND PAVEMENTS

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

### 3.5 EXCAVATION FOR UTILITY TRENCHES

- A. Excavate trenches to indicated gradients, lines, depths, and elevations.
- B. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit unless otherwise indicated. Excavate trenches to uniform widths to provide the following clearance on each side of pipe or conduit.
  1. Clearance: 12 inches each side of pipe or conduit.
- C. Trench Bottoms: Excavate and shape trench bottoms to provide uniform bearing and support of pipes and conduit. Shape subgrade to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits. Remove projecting stones and sharp objects along trench subgrade.
  1. Excavate trenches 6 inches deeper than elevation required in rock or other unyielding bearing material, 4 inches deeper elsewhere, to allow for bedding course.
- D. Trenches in Tree- and Plant-Protection Zones:
  1. Hand-excavate to indicated lines, cross sections, elevations, and subgrades. Use narrow-tine spading forks to comb soil and expose roots. Do not break, tear, or chop exposed roots. Do not use mechanical equipment that rips, tears, or pulls roots.
  2. Do not cut main lateral roots or taproots; cut only smaller roots that interfere with installation of utilities.

### 3.6 SUBGRADE INSPECTION

- A. Proof-roll subgrade below the building slabs and pavements with a pneumatic-tired dump truck to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- B. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

### 3.7 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 2500 psi, may be used when approved by Engineer.
  - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

### 3.8 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### 3.9 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Construction below finished grade including, where applicable, sub drainage, damp proofing, waterproofing, and perimeter insulation.
  - 2. Testing and inspecting underground utilities.
  - 3. Removing temporary shoring and bracing, and sheeting.
- B. Place backfill on subgrades free of mud, frost, snow, or ice.

### 3.10 UTILITY TRENCH BACKFILL

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: After installing and testing, completely encase piping or conduit in polyethylene wrap and backfill with flowable fill to bottom of footings.

- D. Trenches under Roadways: After installing and testing, completely encase piping or conduit in polyethylene wrap and backfill with flowable fill to within 4-inches of surface of roadways. Remaining 4-inches shall be of specified base course and surface course for roadway system.
- E. Place and compact initial backfill of subbase material or bedding course material, free of particles larger than 1 inch in any dimension, to a height of 12 inches over the pipe or conduit.
  - 1. Carefully compact initial backfill under pipe haunches and compact evenly up on both sides and along the full length of piping or conduit to avoid damage or displacement of piping or conduit. Coordinate backfilling with utilities testing.
- F. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- G. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

### 3.11 SOIL FILL

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.
  - 2. Under walks and pavements, use satisfactory soil material.

### 3.12 SOIL MOISTURE CONTROL

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

### 3.13 COMPACTION OF SOIL BACKFILLS AND FILLS

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 698:
  - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 98 percent.

2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
4. For utility trenches, compact each layer of initial and final backfill soil material at 98 percent.

### 3.14 GRADING

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  1. Provide a smooth transition between adjacent existing grades and new grades.
  2. Fill low spots and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  1. Turf or Unpaved Areas: Plus or minus 1 inch.
  2. Walks: Plus or minus 1/2 inch.
  3. Pavements: Plus or minus 1/2 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch.

### 3.15 SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
  1. Shape subbase course and base course to required crown elevations and cross-slope grades.
  2. Place subbase course and base course (that exceeds 6 inches in compacted thickness) in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  3. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 98 (subbase) and 100 (base course) percent of maximum dry unit weight according to ASTM D 698.

### 3.16 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  1. Place drainage course (that exceeds 6 inches in compacted thickness) in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  2. Compact each layer of drainage course to required cross sections and thicknesses to not less than 98 percent of maximum dry unit weight according to ASTM D 698.

3.17 FIELD QUALITY CONTROL

- A. Testing Agency: Contractor shall provide results of field tests and inspections.
- B. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- C. When testing reports indicate that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

3.18 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

3.19 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Remove surplus satisfactory soil and waste materials, including unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 312000



## SECTION 312300 – EXCAVATION AND BACKFILL

### PART 1 – GENERAL

- 1.1 Description Of Work: The extent of excavation and backfill is limited to the areas of construction, and includes (but is not necessarily limited to) stockpiling of topsoil, site grading, excavation of footings and trenches, filling, backfilling, compaction, finish grading, and spreading of topsoil. Perform all excavation, dewatering, sheeting, bracing, and backfilling in such a manner as to eliminate all possibility of undermining or disturbing the foundations of existing structures.
- 1.2 QUALITY ASSURANCE
- A. Referenced Standards: Unless otherwise indicated, all referenced standards shall be the latest edition available at the time of bidding. Any requirements of these Specifications shall in no way invalidate the minimum requirements of the referenced standards. Comply with the provisions of the following codes and standards, except as otherwise shown in report of geotechnical exploration.
1. ASTM D 698 Test Methods for Moisture-Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5 lb. (2.49Kg) Rammer and 12 inch (305 mm) Drop.
  2. ASTM D 3282 Recommended Practice for Classification of Soils and Soil-Aggregate Mixtures for Highway Construction Purposes.
- 1.3 Soil Testing And Inspection Service: All compaction tests of all fill areas will be made by an independent testing laboratory.
- 1.4 Rework any fill areas which fail to meet the compaction requirements as herein specified and perform this work at no additional cost to the Owner. Testing of fill areas will be provided by owner, except that tests which reveal nonconformance with the Specifications and all succeeding tests for the same area, until conformance with the Specifications is established, shall be at the expense of the Contractor.
- 1.5 JOB CONDITIONS
- A. Existing Utilities: Locate existing underground utilities in the areas of work. Verify all utility locations with authorities providing utilities and a utility location service. Provide adequate means of protection for utilities during earthwork operations.
- B. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, notify the Engineer immediately. Coordinate with Owner and utility provider in keeping respective services and facilities in operation. Repair damaged utilities to the satisfaction of the owner or utility provider at no additional cost to the owner.
- C. Do not interrupt existing utilities serving facilities occupied and used by others, except when permitted in writing by the Owner, and then only after acceptable temporary utility services have been provided.
- D. Demolish, and completely remove from site, existing underground utilities noted for removal. All other existing utilities encountered shall remain in place. If conflicts are found between existing and proposed utilities, relocate the existing utility at no additional cost to the owner.
- E. Temporary Protection: Protect structures, utilities, sidewalks, pavements, and other facilities from damages caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

- F. Sheeting and Bracing: Make all excavations in accordance with the rules and regulations promulgated by the Department of Labor, Occupational Safety and Health Administration, "Safety and Health Regulations for Construction." Furnish, put in place, and maintain such sheeting, bracing, etc., as may be necessary to support the sides of the excavation and to prevent any movement of earth which could in any way diminish the width of the excavation to less than that necessary for proper construction, or could otherwise injure or delay the work, or endanger adjacent structures, roads, utilities, or other improvements.

## PART 2 - PRODUCTS

### 2.1 DEFINITIONS

- A. Satisfactory Subgrade Soil Materials: Soils complying with ASTM D 3282, soil classification Groups A-1, A-2-4, A-2-5, and A-3.
- B. Unsatisfactory Subgrade Soil Materials: Soils described in ASTM D 3282, soil classification Groups A-2-6, A-2-7, A-4, A-5, A-6, and A-7; also peat and other highly organic soils, unless otherwise acceptable to the Engineer.
- C. Cohesionless Soil Materials: Gravels, sand-gravel mixtures, sands, and gravelly-sands.
- D. Cohesive Soil Materials: Clayey and silty gravels, sand-clay mixtures, gravel-silt mixtures, clayey and silty sands, sand-silt mixtures, clays, silts, and very fine sands.

### 2.2 SOIL MATERIALS

- A. Backfill and Fill Materials: Provide satisfactory soil materials for backfill and fill, free of masonry, rock, or gravel larger than 2 inches in any dimension, and free of metal, gypsum, lime, debris, waste, frozen materials, organics, vegetable, and other deleterious matter. Use only excavated material that has been sampled, tested, and certified as satisfactory soil material.
- B. Topsoil: 3" of topsoil shall be provided in all areas to be grassed and/or landscaped. Material shall be obtained from a local provider and shall be weed and debris free screened topsoil.

## PART 3 - EXECUTION

- 3.1 Inspection: Examine the areas and conditions under which excavating and backfilling is to be performed and notify the Engineer in writing of conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in an acceptable manner.
- 3.2 Excavation: Excavation consists of the removal and disposal of all materials encountered for pipework, and other construction as shown on the Drawings. Perform all excavation work in compliance with applicable requirements of governing authorities having jurisdiction. Existing unmapped utilities may be encountered during excavation. Hand excavation will be required around existing utilities and directly adjacent to the existing building. All existing utilities encountered shall be preserved or relocated and reconnected as required at no additional cost to the owner.
- 3.3 Stripping: Remove all topsoil and organic materials over proposed excavations. Stockpile the stripped materials which are suitable for reuse and preserve for respreading on completed surfaces. Protect and maintain topsoil stockpile until needed.

- 3.4 Excavation Classification: All excavation will be performed as unclassified excavation and includes excavation to required subgrade elevations regardless of the character of material encountered with the exception of "Rock" as defined herein.
- 3.5 Rock excavation includes removal and disposal of rock material and obstructions encountered that cannot be removed by a single toothed ripper drawn by a crawler tractor having a minimum draw bar pull rated at 36,000 lbs. and occupying an original volume of at least one cubic yard. For trench excavations, this includes rock materials or obstructions which cannot be excavated with a backhoe having a break-out force of not less than 26,000 lbs. and occupying an original volume of at least one half cubic yard without systematic drilling, blasting, or ripping. Contact Architect or Engineer if rock excavation is required at the site.
- 3.6 Site Grading: Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finish the surface within specified tolerances; compact with uniform levels or slopes between points where elevations are shown, or between such points and existing grades.
- 3.7 Ground Surface Preparation: Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from ground surface prior to placement of fills. Plow, strip, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so that fill material will bond with existing surface. Shape the subgrade as needed by forking, furrowing, or plowing so that the first layer of new material placed thereon will be well bonded to it.
- 3.8 Placement and Compaction: Place backfill and fill materials in layers not more than 6 inches in loose depth. Before compaction, moisten or aerate each layer as necessary to provide the optimum moisture content. Compact each layer to the required percentage of maximum density for each area classification. Do not place backfill or material on surfaces that are muddy, frozen, or contain frost or ice.
- 3.9 In areas not accessible to rollers or compactors, compact the fill with mechanical hand tampers. If the mixture is excessively moistened by rain, aerate the material by means of blade graders, harrows, or other approved equipment, until the moisture content of the mixture is satisfactory. Finish the surface of the layer by blading or rolling with a smooth roller, or a combination thereof, and leave the surface smooth and free from waves and inequalities.
- 3.10 Place backfill and fill materials evenly adjacent to structures, to the required elevations. Take care to prevent wedging action of backfill against structures. Carry the material uniformly around all parts of the structure to approximately the same elevation in each lift.
- 3.11 When existing ground surface has a density less than that specified under the subsection entitled COMPACTION for the particular area classification, break up the ground surface, pulverize, moisture-condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
- 3.12 Grading Outside Building Lines: Grade to drain away from structures to prevent ponding of water. Finish surfaces free from irregular surface changes.
- 3.13 Planting Areas: Finish areas to receive topsoil to within not more than one inch above or below the required subgrade elevations, compacted as specified, and free from irregular surface changes. See construction drawings for additional topsoil, planting, and mulching requirements.
- 3.14 Walks: Shape the surface of areas under walks to line, grade, and cross-section, with the finish surface not more than zero inches above or one inch below the required subgrade elevation, compacted as specified, and graded to prevent ponding of water after rains.

- 3.15 Pavements: Shape the surface of the areas under pavement to line, grade and cross section, with finish surface not more than 1/2-inch above or below the required subgrade elevation, compacted as specified, and graded to prevent ponding of water after rains. Include such operations as plowing, discing, and any moisture or aerating required to provide the optimum moisture content for compaction.
- 3.16 Fill low areas resulting from removal of unsatisfactory soil materials, obstructions, and other deleterious materials, using satisfactory soil material. Shape to line, grade, and cross section as shown on the Drawings.
- 3.17 Protection Of Graded Areas: Protect newly graded areas from traffic and erosion, and keep free of trash and debris. Repair and re-establish grades in settled, eroded, and rutted areas to specified tolerances.
- 3.18 Reconditioning Compacted Areas: Where completed compacted areas are disturbed by subsequent construction operations or adverse weather prior to acceptance of work, scarify surface, reshape, and compact to required density prior to further construction.
- 3.19 Unauthorized Excavation: Unauthorized excavation consists of the removal of materials beyond indicated elevations without the specific direction of the Engineer. Under footings, foundations, bases, etc., fill unauthorized excavation by extending the indicated bottom elevation of the concrete to the bottom of the excavation, without altering the required top elevation. Lean concrete fill may be used to bring elevations to proper position only when acceptable to the Engineer. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations of the same classification, unless otherwise directed by the Engineer.
- 3.20 Dewatering: Prevent surface water and subsurface or ground water from flowing into excavated areas by using berms or drainage ditches. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations. Provide and maintain pumps, sumps, suction and discharge lines, and other dewatering system components necessary to convey water away from excavations. Dispose of all water pumped or drained from the work in a suitable manner without undue interference with other work, damage to pavements, other surfaces or property. Provide suitable temporary pipes, flumes or channels for water which may flow along or across the site of the work.
- 3.21 Material Storage: Stockpile satisfactory excavated materials where directed by engineer, until required for backfill or fill. Place, grade, and shape stockpiles for proper drainage.
- 3.22 Locate and retain soil materials away from edge of excavations.
- 3.23 Excavation Around Structures: Use caution when excavation around existing structure/foundations and utilize hand tools to excavate directly around the existing structure/foundations.
- 3.24 Backfill Around Structures: Unless otherwise specified or indicated on the Drawings, use suitable material for backfill which was removed in the course of making the construction excavations. Do not use frozen material for the backfill and do not place backfill upon frozen material. Remove previously frozen material before new backfill is placed.
- 3.25 Material: Approved selected materials available from the excavations may be used for backfilling around structures. Obtain material needed in addition to that of construction excavations from approved banks or other approved deposits. Furnish all borrow material needed on the work. Place and compact all material, whether from the excavation or borrow, to make a dense, stable fill. Use fill material which contains no vegetation, masses of roots, individual roots over 18 inches long or more than 1/2-inch in diameter, stones over 2 inches in diameter, or porous matter. Organic matter must not exceed minor quantities.

- 3.26 Placing Backfill: Do not place backfill against or on structures until they have attained sufficient strength to support the loads (including construction loads) to which they will be subjected, without distortion, cracking, or other damage. Make special leakage tests, if required, as soon as practicable after the structures are structurally adequate and other necessary work has been done. Use the best of the excavated materials in backfilling within 2 feet of the structure. Avoid unequal soil pressures by depositing the material evenly around the structure.
- 3.27 Place fill and backfill in layers not more than 6 inches thick, except as specified otherwise herein, and compact each layer evenly to the specified density. Do not backfill against concrete without Engineer's approval.
- 3.28 Trench Excavation: Perform all excavation of every description and of whatever substance encountered so that pipe can be laid to the alignment and depth shown on the Drawings.
- 3.29 Brace and shore all trenches, where required, in accordance with the rules and regulations, promulgated by the Department of Labor, Occupational Safety and Health Administration, "Safety and Health Regulations for Construction".
- 3.30 Make all excavations by open cut unless otherwise specified or indicated on the Drawings.
- 3.31 Width Of Trenches: Excavate trenches sufficiently wide to allow proper installation of pipe, fittings and other materials and not more than 12 inches clear of pipe on either side at any point, unless otherwise indicated on the drawings. Do not widen trenches by scraping or loosening materials from the sides. Where supports, and sheeting and bracing are required, trench may be of extra width so as to permit the placing of the trench supporting material.
- 3.32 Trench Excavation In Earth: Earth excavation includes all excavation of whatever substance encountered. In locations where pipe is to be bedded in earth excavated trenches, fine grade the bottoms of such trenches to allow firm bearing for the bottom of the pipe on undisturbed earth. Where any part of the trench has been excavated below the grade of the pipe, fill the part excavated below such grade with pipe bedding material and compact at the Contractor's expense.
- 3.33 Trench Excavation In Fill: If pipe is to be laid in embankments or other recently filled material, first place the fill material to the finish grade or to a height of at least one foot above the top of the pipe, whichever is the lesser. Take particular care to ensure maximum consolidation of material under the pipe location. Excavate the pipe trench as though in undisturbed material.
- 3.34 Trench Bottom In Poor Soil: Excavate and remove unstable or unsuitable soil to a width and depth, as directed by the Engineer, and refill with a thoroughly compacted gravel bedding.
- 3.35 Bell Holes: Provide bell holes at each joint to permit the joint to be made properly and to provide a continuous bearing and support for the pipe.
- 3.36 Trench Backfill: Unless otherwise specified or indicated on the Drawings, use suitable material for backfill which was removed in the course of making the construction excavations. Do not use frozen material for the backfill and do not place backfill on frozen material. Remove previously frozen material before new backfill is placed. Start backfilling as soon as practicable after the pipes have been laid and inspected by the engineer, or the structures have been built and are structurally adequate to support the loads, including construction loads to which they will be subjected, and proceed until its completion.
- 3.37 Should the Contractor wish to minimize the maintenance of lights, and barricades, and the obstruction of traffic, he may, at his own risk, backfill the entire trench as soon as practicable after installation of pipe, and the related structures have acquired a suitable degree of strength. He shall, however, be responsible for

removing and later replacing such backfill, at his own expense, should he be ordered to do so in order to locate and repair or replace leaking or defective joints or pipe.

- 3.38 **Materials:** The nature of the materials will govern both their acceptability for backfill and the methods best suited for their placement and compaction in the backfill. Both are subject to the approval of the Engineer. Do not place stone or rock fragments larger than 2 inches in greatest dimension in the backfill. Do not drop large masses of backfill material into the trench in such a manner as to endanger the pipe line. Use a timber grillage to break the fall of material dropped from a height of more than 5 feet. Exclude pieces of bituminous pavement from the backfill unless their use is expressly permitted.
- 3.40 **Zone Around Pipe:** Place bedding material to the level shown on the Drawings and work material carefully around the pipe to ensure that all voids are filled, particularly in bell holes. For backfill up to a level of 2 feet over the top of the pipe, use only selected materials containing no rock, clods or organic materials. Place the backfill and compact thoroughly under the pipe haunches and up to the mid-line of the pipe in layers not exceeding 6 inches in depth. Place each layer and tamp carefully and uniformly so as to eliminate the possibility of lateral displacement. Place and compact the remainder of the zone around the pipe and to a height of one foot above the pipe in layers not exceeding 6 inches and compact to a maximum density of at least 100 percent as determined by ASTM D 698.
- 3.41 **Tamping:** Deposit and spread backfill materials in uniform, parallel layers not exceeding 12 inches thick before compaction. Tamp each layer before the next layer is placed to obtain a thoroughly compacted mass. Furnish and use, if necessary, an adequate number of power driven tampers, each weighing at least 20 pounds for this purpose. Take care that the material close to the bank, as well as in all other portions of the trench, is thoroughly compacted. When the trench width and the depth to which backfill has been placed are sufficient to make it feasible, and it can be done effectively and without damage to the pipe, backfill may, on approval, be compacted by the use of suitable rollers, tractors, or similar powered equipment instead of by tamping. For compaction by tamping (or rolling), the rate at which backfilling material is deposited in the trench shall not exceed that permitted by the facilities for its spreading, leveling and compacting as furnished by the Contractor.
- 3.42 Wet the material by sprinkling, if necessary, to ensure proper compaction by tamping (or rolling). Perform no compaction by tamping (or rolling) when the material is too wet either from rain or applied water to be compacted properly.
- 3.43 **Trench Compaction:** Compact backfill in pipe trenches to the maximum density as shown on the Drawings, or as listed in the subsection entitled **COMPACTION**, with a moisture content within the range of values of maximum density as indicated by the moisture-density relationship curve.
- 3.44 **Compaction:** Control soil compaction during construction providing at least the minimum percentage of density specified for each area classification.
- 3.45 **Percentage Of Maximum Density Requirements:** After compaction, all fill will be tested in accordance with Method "C" of ASTM D 698, unless specified otherwise. Except as noted otherwise for the zone around pipe, provide not less than the following percentages of maximum density of soil material compacted at optimum moisture content, for the actual density of each layer of soil material-in-place:
- |                                  |                                  |
|----------------------------------|----------------------------------|
| Trench Backfill (Paved Areas):   | Top 18" - 100%; Remainder-95%.   |
| Trench Backfill (Unpaved Areas): | Compact Full Depth To 95%.       |
| All Other Backfill:              | Top 24" - 100%; Remainder - 95%. |
- 3.46 **Moisture Control:** Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade, or layer of soil material, to prevent free water appearing on surface during or subsequent to compaction operations. Remove and replace, or scarify and

air dry, soil material that is too wet to permit compaction to specified density. Soil material that has been removed because it is too wet to permit compaction may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing or pulverizing, until moisture content is reduced to a satisfactory value, as determined by moisture-density relation tests.

3.47 Disposal Of Surplus Material: Upon approval of the Engineer, haul all surplus materials not needed or acceptable for backfill and legally dispose of it offsite.

3.48 Excavation Near Existing Utilities And Structures

- A. Existing Utilities: Attention is directed to the fact that there are pipes, drains, and other utilities in locations adjacent to the proposed work. Where information is available as to the location of existing pipes, drains, and other utilities, the approximate locations have been indicated on the Drawings; however, the completeness or accuracy of the information given is not guaranteed.
- B. As the excavation approaches pipes, conduits, or other underground structures, discontinue digging by machinery and excavate by means of hand tools, as directed. Such manual excavation shall be included in the work to be done under this project.
- C. Where determination of the exact location of a pipe or other underground structure is necessary, the Contractor shall be required to excavate test pits to determine such locations utilizing hand excavation around existing utilities and the building perimeter.
- D. Existing Structures: Support and protect from damage all existing pipes, poles, wires, fences, guard rails, curbing, catch basins, manholes, property line markers, and other structures which do not require temporary or permanent relocation.
- E. Restore or replace damaged items, without compensation, to the condition in which they were found immediately before the work under this project was begun.
- F. Fences: Remove fences which interfere with the Contractor's operation and (unless otherwise specified) later restore them to a condition at least as good as that in which they were found immediately before the work was begun, all without additional compensation. Restore fences as promptly as possible and do not leave until the end of the construction period.
- G. Property Markers: Replace property line markers which are disturbed or removed. Have this work performed by a Registered Land Surveyor.
- H. Care And Restoration Of Property: Enclose the trunks of trees which are to remain adjacent to the work with substantial wooden boxes of such height as may be necessary to protect them from piled material, equipment or equipment operation. Use excavating machinery and cranes of suitable type and operate the equipment with care to prevent injury to remaining tree trunks, roots, branches and limbs.
- I. Do not cut branches, limbs, and roots except by permission of the Engineer. Cut smoothly and neatly without splitting or crushing. In case of cutting or unavoidable injury to branches, limbs, and trunks of trees, neatly trim the cut or injured portions and cover with an application of grafting wax or tree healing paint as directed.
- J. Protect by suitable means all cultivated hedges, shrubs and plants which might be injured by the Contractor's operations. Promptly heel in any such trees or shrubbery necessary to be removed and replanted. Perform heeling in and replanting under the direction of a licensed and experienced nurseryman. Replant in their original position all removed shrubbery and trees after construction operations have been substantially completed and care for until growth is reestablished.

- K. Replace cultivated hedges, shrubs, and plants injured to such a degree as to affect their growth or diminish their beauty or usefulness, by items of kind and quality at least equal to the kind and quality existing at the start of the work.
- L. Do not operate tractors, bulldozers or other power-operated equipment on paved surfaces if the treads or wheels of the equipment are so shaped as to cut or otherwise injure the surfaces.
- M. Restore all surfaces, including lawns, grassed, and planted areas which have been injured by the Contractor's operations, to a condition as good as or better than that in which they were found immediately before the work was begun. Use suitable materials and methods for such restoration. Maintain all restored plantings by cutting, trimming, fertilizing, etc., until acceptance. Restore existing property or structures as promptly as practicable. Restoration and repair activities shall not be deferred until the end of the construction period.
- N. Protection Of Streams: Exercise reasonable precaution to prevent the silting of streams. Provide at Contractor's expense temporary erosion and sediment control measures to prevent the silting of offsite areas and existing drainage facilities.

#### 3.49 EROSION CONTROL

- A. General: Exercise precaution to prevent the erosion of disturbed surfaces. Provide temporary erosion and sediment control measures to prevent the silting of existing drainage facilities.
- B. Air Pollution: Comply with all pollution control rules, regulations, ordinances, and statutes which apply to any work performed under the Contract, including any air pollution control rules, regulations, ordinances and statutes, or any municipal regulations pertaining to air pollution.
- C. During the progress of the work, maintain the area of activity, including sweeping and sprinkling of streets as necessary, so as to minimize the creation and dispersion of dust. If the Engineer decides that it is necessary to use calcium chloride or more effective dust control, furnish and spread the material, as directed, and without additional cost to the owner.
- D. Bridging Trenches: Provide suitable and safe bridges and other crossings where required for the accommodation of travel; provide access to private property during construction, and remove said structures thereafter.
- E. Bridge or backfill trenches in any portion of the travel lanes of public or private roads, or drives, at the end of each day's operation to provide for safe travel. No additional compensation will be made for this work.

END OF SECTION 312300



## SECTION 312510 – EROSION AND SEDIMENT CONTROL

### PART 1 – GENERAL

#### 1.1 SUMMARY: WORK OUTLINED IN THIS SECTION INCLUDES:

Installation of various types of inlet protection.  
Installation of tree protection.  
Installation of concrete washout.  
Removal of erosion control devices.

#### 1.2 REFERENCED STANDARDS:

South Carolina State Department of Transportation (SCDOT): Standard Specification for Highway Construction, 2007 Edition.  
South Carolina Code of Regulations, Chapter 72, Article 2  
(Erosion & Sediment Reduction & Stormwater Management Regulations)  
South Carolina Department of Health and Environmental Control, Storm Water Management BMP Handbook  
Guide to Site Development and Best Management Practices for Storm Water Management and Sediment Control (SCLRCC).

1.3 Submittals: Proposed materials to be employed, for siltation control and preventing erosion damage shall be submitted for approval. Submittals shall include a list of proposed materials including manufacturer's product data.

1.4 Erosion Control Principles: The following erosion control principles shall apply to the land grading and construction phases:

- A. Stripping of vegetation, grading, or other soil disturbance shall be done in a manner which will minimize soil erosion.
- B. Whenever feasible, natural vegetation shall be retained and protected.
- C. Extent of area which is exposed and free of vegetation shall be kept within practical limits.
- D. Temporary seeding, mulching, or other suitable stabilization measures shall be used to protect exposed critical areas during prolonged construction or other land disturbance.
- E. Drainage provisions shall accommodate increased runoff resulting from modifications of soil and surface conditions during and after development or disturbance. Such provisions shall be in addition to existing requirements.
- F. Sediment shall be retained on-site.
- G. Erosion control devices shall be installed as early as possible in the construction sequence prior to start of clearing and grubbing operations and excavation work.
- H. Cut and fill slopes and stockpiled materials shall be protected to prevent erosion. Slopes shall be protected with permanent erosion protection when erosion exposure period is expected to be greater than or equal to two (2) weeks, and temporary erosion protection when erosion exposure period is expected to be less than two (2) weeks

- I. Permanent erosion protection shall be in accordance with landscaping drawings.
- J. Temporary erosion protection shall be accomplished by covering with erosion protection materials, as appropriate for prevailing conditions.
- K. Except where specified slope is indicated on Drawings, fill slopes shall be limited to a grade of 3:1 (horizontal: vertical) cut slopes shall be limited to a grade of 1.5:1.

**PART 2 – PRODUCTS**

- 2.1 **General:** Provide all equipment and materials, and do all work necessary to construct a complete erosion and sediment control program for minimizing erosion and siltation during the construction phase of the project. The Contractor shall provide additional erosion and sediment control materials and methods as required to effect the erosion and siltation control principles specified herein.
- 2.2 **Silt Fence:** Shall be composed of fibers consisting of long chain synthetic polymers composed of at least 85% by weight of polyolefins, polyesters, or polyamides. Shall be formed into a network such that the filaments or yarns retain dimensional stability relative to each other. Free of any treatment or coating which might adversely alter its physical properties after installation. Shall be free of defects or flaws that significantly affect its physical and/or filtering properties. Shall be cut to a minimum width of 36-inches.

Filter fabric shall be one of the following, or approved equal:

<u>Product</u>	<u>Manufacturer</u>
Beltech 940	Belton Industries, Belton, SC 29627
GTF-180SF	Thrace-LINQ, Summerville, SC 29483

Silt fence shall be supported by 1.25-lb/linear foot steel posts, driven a minimum of 18 inches. into the ground. Posts shall be spaced 6 ft. o.c. maximum.

Fencing other than that specified above shall be subject to review and acceptance by the Engineer.

- 2.3 **Sediment Tubes:** Sediment tubes shall meet the following requirements:
  - A. Use sediment tubes as designated on the plans to control erosion along contours, around inlets, and in drainage conveyance swales.
  - B. Use sediment tubes manufactured by an experienced manufacturer producing tubes for erosion control.
  - C. Tube fill is to be composed of 100% weed free materials consisting of a mix of some or all of the following: curled excelsior wood, natural coconut fibers, hardwood mulch and agricultural straw.
  - D. Tubular netting is to be constructed of a flexible outer netting that will contain the fill materials and sediment. Netting is to be constructed from seamless high density polyethylene, polyester, and/or ethyl vinyl acetate, photodegradable materials, treated with ultraviolet stabilizers.
  - E. Tubes are to be minimum 12-inches in diameter.
- 2.4 **Temporary Seed Cover:** Grass seed for temporary seed cover shall be previous year's crop. Not more than 0.5% by weight shall be weed seed and not more than 1.75% by weight crop seed. Seed shall be delivered to site in sealed containers, labeled with name of seed grower and seed formula, in form stated below. Seed

shall be dry and free of mold. Seed shall meet the requirements of SCDOT Standard Specifications Sections 810.03 and 810.04 for temporary vegetation.

Seed for temporary seed cover shall conform to the following requirements:

All seed must meet the requirements of the state seed laws including the labeling requirements for showing pure live seed, (PLS - purity x germination), name and type of seed.

Seed furnished shall be of the previous season's crop and the date of analysis shown on each bag shall be within nine months of the time of use on the project. Each variety of seed shall be furnished and delivered in separate bags or containers.

A sample of each variety of seed shall be furnished for analysis and testing when directed by the Architect/Engineer. The amount and type of seed planted per acre shall be as specified below.

All seed shall be treated with fungicide approved by the Engineer.

Seed application rate shall conform to SCDOT Standard Specifications Section 810.04.

### PART 3 – EXECUTION

- 3.1 Temporary Seed Cover: Grass seed shall be spread by mechanical spreader at the specified rate. Following seeding, area shall be lightly raked to mingle seed with the top 1/8 to 1/4 in. of soil. Areas shall then be smoothed and rolled.

Following rolling, entire area shall be watered until equivalent of a 2 in. depth of water has been applied to entire seeded surface, at a rate which will not dislodge seed. Watering shall be repeated thereafter as frequently as required to prevent drying of surface, until grass attains an average height of 1-1/2 in.

At the Contractor's option, seed may be spread by the hydroseeding method, utilizing power equipment commonly used for that purpose. Seed and mulch shall be mixed and applied to achieve application quantities specified herein for the conventional seeding method, with mulch applied at the rate of 2700 lb. dry weight of mulch per acre. A mulching machine, acceptable to the Engineer, shall be equipped to eject the thoroughly wet mulch material at a uniform rate to provide the mulch coverage specified. Other provisions specified above for conventional seeding shall apply to hydroseeding.

If the results of hydroseeding application are unsatisfactory, the mixture and/or application rate and methods shall be modified to achieve the required results.

After the grass has appeared, all areas and parts of areas which fail to show a uniform stand of grass, for any reason whatsoever, shall be re-seeded and such areas and parts of areas seeded repeatedly until all areas are covered with a satisfactory growth of grass.

- 3.2 Silt Fence: Silt fence shall be constructed and installed as shown on the plans, prior to start of clearing and grubbing operations.
- 3.3 Catch Basin Inlet Protection: Catch basin inlet protection designed to fit each specific inlet shall be placed at all inlets to drainage structures as structures are installed. The type of inlet protection used may be above or below grade, but each shall remain in place at all times during construction operations to prevent sediment intrusion into the drainage system. Inlet protection devices shall be inspected and repaired or replaced in accordance with SCDHEC minimum erosion control notes.

3.4 Sediment Tubes: Sediment tubes shall be staked or stapled in place and shall be installed to form a continuous sediment barrier. This may require overlapping, double rows, or stacking of the sediment tubes to achieve the proper sediment control for the site.

3.5 Maintenance And Removal Of Erosion Control Devices: Wetland areas, water courses, and drainage swales adjacent to construction activities shall be monitored twice each month for evidence of silt intrusion and other adverse environmental impacts, which shall be corrected immediately upon discovery.

3.6 Culverts and drainage ditches shall be kept clean and clear of obstructions during construction period.

3.7 Erosion Control Devices

Sediment behind the erosion control device shall be checked once per week and removed as appropriate.

Condition of erosion control device shall be checked once per week. Damaged and/or deteriorated items shall be replaced. Erosion control devices shall be maintained in place and in effective condition.

Sediment deposits shall be disposed of on-site or hauled off-site to an approved fill location, in a manner which will not cause adverse impacts elsewhere.

3.8 Removal of Erosion Control Devices

Erosion control devices shall be maintained until all disturbed earth has been paved or vegetated, at which time they shall be removed. After removal, areas disturbed by these devices shall be re-graded and seeded.

Erosion protection material shall be kept securely anchored in accordance with these specifications until acceptance of completed soil stabilization.

END OF SECTION 312510

## SECTION 321216 – ASPHALT PAVING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Cold milling of existing asphalt pavement.
  - 2. Hot-mix asphalt patching.
  - 3. Hot-mix asphalt paving.
  - 4. Hot-mix asphalt overlay.
  - 5. Asphalt curbs.
- B. Related Requirements:
  - 1. Section 31 20 00 "Earth Moving" for subgrade preparation, fill material, unbound-aggregate subbase and base courses, and aggregate pavement shoulders.

#### 1.2 PREINSTALLATION MEETINGS

- A. Preinstallation Conference: Conduct conference at project site.

#### 1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.

#### 1.4 INFORMATIONAL SUBMITTALS

- A. Submit the following in accordance with Conditions of Contract and Division 1 Specification Sections.
  - 1. Material Certificates signed by material producer and Contractor, certifying that each material item complies with or exceeds specified requirements.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by authorities having jurisdiction or the DOT of state in which Project is located.
- B. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of SCDOT for asphalt paving work.
  - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.

### PART 2 - PRODUCTS

#### 2.1 AGGREGATES

- A. Coarse Aggregate: ASTM D 692/D 692M, sound; angular crushed stone, crushed gravel, or cured, crushed blast-furnace slag.
- B. Fine Aggregate: ASTM D 1073 or AASHTO M 29, sharp-edged natural sand or sand prepared from stone, gravel, cured blast-furnace slag, or combinations thereof.
- C. Mineral Filler: AASHTO M 17, rock or slag dust, hydraulic cement, or other inert material.

#### 2.2 ASPHALT MATERIALS

- A. Asphalt Binder: AASHTO M 320, PG 64-22.
- B. Tack Coat: AASHTO M 140 emulsified asphalt, or AASHTO M 208 cationic emulsified asphalt, slow setting, diluted in water, of suitable grade and consistency for application.

### 2.3 AUXILIARY MATERIALS

- A. Recycled Materials for Hot-Mix Asphalt Mixes: Reclaimed asphalt pavement; reclaimed, unbound-aggregate base material; and recycled tires, asphalt shingles, or glass from sources and gradations that have performed satisfactorily in previous installations, equal to performance of required hot-mix asphalt paving produced from all new materials.
- B. Herbicide: Commercial chemical for weed control, registered by the EPA, and not classified as "restricted use" for locations and conditions of application. Provide in granular, liquid, or wettable powder form.

### 2.4 MIXES

- A. Hot-Mix Asphalt: Dense-graded, hot-laid, hot-mix asphalt plant mixes approved by SCDOT; designed according to procedures 2007 Standard Specifications for Highway Construction and complying with the following requirements, unless otherwise noted on the drawings:
  - 1. Refer to Construction Details or Geotechnical Report.
  - 2. Base Course: 6" Macadam Base.
  - 3. Surface Course: 1.5" SCDOT Type C.

## PART 3 - EXECUTION

### 3.1 COLD MILLING

- A. Clean existing pavement surface of loose and deleterious material immediately before cold milling. Remove existing asphalt pavement by cold milling to grades and cross sections indicated.
  - 1. Mill to a depth of 2 inches.
  - 2. Patch surface depressions deeper than 1 inch after milling, before wearing course is laid.

### 3.2 PATCHING

- A. Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Recompact existing unbound-aggregate base course to form new subgrade.
- B. Portland Cement Concrete Pavement: Break cracked slabs and roll as required to reseal concrete pieces firmly.
  - 1. Remove disintegrated or badly cracked pavement. Excavate rectangular or trapezoidal patches, extending into perimeter of adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Recompact existing unbound-aggregate base course to form new subgrade.
- C. Tack Coat: Before placing patch material, apply tack coat uniformly to vertical asphalt surfaces abutting the patch. Apply at a rate of 0.05 to 0.15 gal./sq. yd..
  - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
  - 2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- D. Placing Patch Material: Fill excavated pavement areas with hot-mix asphalt base mix for full thickness of patch and, while still hot, compact flush with adjacent surface.

### 3.3 SURFACE PREPARATION

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
- B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
- C. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
- D. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd.

Francis Marion University

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways – Roads and Lot E

ASPHALT PAVING

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1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

### 3.4 PLACING HOT-MIX ASPHALT

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand in areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
  1. Spread mix at a minimum temperature of 250 deg F.
  2. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.
- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

### 3.5 JOINTS

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
  1. Clean contact surfaces and apply tack coat to joints.
  2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
  3. Offset transverse joints, in successive courses, a minimum of 24 inches.
  4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."

### 3.6 COMPACTION

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
  1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
  1. Average Density: 92 percent of reference maximum theoretical density according to ASTM D 2041, but not less than 90 percent or greater than 96 percent.
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.
- G. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

### 3.7 ASPHALT CURBS

- A. Construct hot-mix asphalt curbs over compacted pavement surfaces. Apply a light tack coat unless pavement surface is still tacky and free from dust. Spread mix at a minimum temperature of 250 deg F.
  1. Asphalt Mix: Same as pavement surface-course mix.

- B. Place hot-mix asphalt to curb cross section indicated or, if not indicated, to local standard shapes, by machine or by hand in wood or metal forms. Tamp hand-placed materials and screed to smooth finish. Remove forms after hot-mix asphalt has cooled.

### 3.8 INSTALLATION TOLERANCES

- A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
  - 1. Base Course: Plus or minus 1/2 inch.
  - 2. Surface Course: Plus 1/4 inch, no minus.
- B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
  - 1. Base Course: 1/4 inch.
  - 2. Surface Course: 1/8 inch.
  - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/4 inch.

### 3.9 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.
- B. Replace and compact hot-mix asphalt where core tests were taken.
- C. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

### 3.10 WASTE HANDLING

- A. General: Handle asphalt-paving waste according SCDOT 2007 Construction Specifications.

END OF SECTION 321216



## SECTION 321313 – CONCRETE PAVING

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section Includes:
  - 1. Curbs and gutters.
- B. Stamped concrete patio pavement not included in this section.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. Samples: For each exposed product and for each color and texture specified.
- C. Other Action Submittals:
  - 1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

#### 1.3 QUALITY ASSURANCE

- A. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94/C 94M requirements for production facilities and equipment.
- B. ACI Publications: Comply with ACI 301 unless otherwise indicated.

### PART 2 - PRODUCTS

#### 2.1 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Reinforcement: ASTM A 185/A 185M, fabricated from as-drawn steel wire into flat sheets.
- B. Deformed-Steel Welded Wire Reinforcement: ASTM A 497/A 497M, flat sheet.
- C. Reinforcing Bars: ASTM A 615/A 615M, Grade 60; deformed.
- D. Plain-Steel Wire: ASTM A 82/A 82M, as drawn.
- E. Deformed-Steel Wire: ASTM A 496/A 496M.
- F. Dowel Bars: ASTM A 615/A 615M, Grade 60 plain-steel bars; zinc coated (galvanized) after fabrication according to ASTM A 767/A 767M, Class I coating. Cut bars true to length with ends square and free of burrs.
- G. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars, welded wire reinforcement, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete of greater compressive strength than concrete specified.

#### 2.2 CONCRETE MATERIALS

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
  - 1. Portland Cement: ASTM C 150, gray portland cement Type I, use one brand of cement throughout Project unless otherwise acceptable to Architect/Engineer. Supplement with the following:
    - a. Fly Ash: ASTM C 618, Class C or Class F.
    - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.

2. Blended Hydraulic Cement: ASTM C 595, Type IS, portland blast-furnace slag or Type IP, portland-pozzolan cement.
  - B. Normal-Weight Aggregates: ASTM C 33, Class 4, uniformly graded. Provide aggregates from a single source.
  - C. Water: Potable and complying with ASTM C 94/C 94M.
  - D. Air-Entraining Admixture: ASTM C 260.
  - E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
  - F. Color Pigment: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures; color stable, free of carbon black, nonfading, and resistant to lime and other alkalis.
    1. Color: As selected by Architect from manufacturer's full range.
- 2.3 FIBER REINFORCEMENT
- A. Synthetic Fiber: Monofilament or fibrillated polypropylene fibers engineered and designed for use in concrete paving, complying with ASTM C 1116/C 1116M, Type III, 1/2 to 1-1/2 inches long.
- 2.4 CURING MATERIALS
- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry..
  - B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
  - C. Water: Potable.
  - D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.
  - E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.
  - F. White, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 2, Class B, dissipating.
- 2.5 RELATED MATERIALS
- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber or ASTM D 1752, cork or self-expanding cork in preformed strips.
  - B. Slip-Resistive Aggregate Finish: Factory-graded, packaged, rustproof, nonglazing, abrasive aggregate of fused aluminum-oxide granules or crushed emery aggregate containing not less than 50 percent aluminum oxide and not less than 20 percent ferric oxide; unaffected by freezing, moisture, and cleaning materials.
- 2.6 PAVEMENT MARKINGS
- A. Pavement-Marking Paint: Alkyd-resin type, waterborne emulsion, lead and chromate free, ready mixed, complying with AASHTO M248 and FS TT-P-1952, Type II, with drying time of less than 45 minutes.
    1. Color: White, Yellow, Blue.
- 2.7 CONCRETE MIXTURES
- A. Prepare design mixtures, proportioned according to ACI 301, with the following properties:
    1. Compressive Strength (28 Days): 3,000 psi.
    2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.45.
    3. Slump Limit: 3 inches, plus or minus 1 inch.
    4. Air Content: 5-1/2 percent plus or minus 1.5 percent.
  - B. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
  - C. Synthetic Fiber: Uniformly disperse in concrete mixture at manufacturer's recommended rate, but not less than 1.0 lb/cu. yd.
  - D. Color Pigment: Add color pigment to concrete mixture according to manufacturer's written instructions.
- 2.8 CONCRETE MIXING
- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94/C 94M and ASTM C 1116/C 1116M. Furnish batch certificates for each batch discharged and used in the Work.

Francis Marion University

Def. Maint: Roads, Parking Lots, Sidewalks, Walkways - Roads & Lot E

CONCRETE PAVING

State Project No. H18-9584-MJ-B2

321313-2

## PART 3 - EXECUTION

### 3.1 EXAMINATION AND PREPARATION

- A. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
- B. Remove loose material from compacted subbase surface immediately before placing concrete.

### 3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

### 3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

### 3.4 JOINTS

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, or to match jointing of existing adjacent concrete paving
- E. Edging: After initial floating, tool edges of paving, gutters, curbs, and joints in concrete with an edging tool to a 3/8-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

### 3.5 CONCRETE PLACEMENT

- A. Moisten subbase to provide a uniform dampened condition at time concrete is placed.
- B. Comply with ACI 301 requirements for measuring, mixing, transporting, placing, and consolidating concrete.
- C. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- D. Screed paving surface with a straightedge and strike off.
- E. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.

### 3.6 FLOAT FINISHING

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
  - 1. Burlap Finish: Drag a seamless strip of damp burlap across float-finished concrete, perpendicular to line of traffic, to provide a uniform, gritty texture.

2. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture.
  3. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch deep with a stiff-bristled broom, perpendicular to line of traffic.
- C. Slip-Resistive Aggregate Finish: Before final floating, spread slip-resistive aggregate finish on paving surface according to manufacturer's written instructions.
1. Cure concrete with curing compound recommended by slip-resistive aggregate manufacturer. Apply curing compound immediately after final finishing.
  2. After curing, lightly work surface with a steel wire brush or abrasive stone and water to expose nonslip aggregate.

### 3.7 CONCRETE PROTECTION AND CURING

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these.

### 3.8 PAVING TOLERANCES

- A. Comply with tolerances in ACI 117 and as follows:
  1. Elevation: 3/4 inch.
  2. Thickness: Plus 3/8 inch, minus 1/4 inch.
  3. Surface: Gap below 10-foot- long, unlevelled straightedge not to exceed 1/2 inch.
  4. Joint Spacing: 3 inches.
  5. Contraction Joint Depth: Plus 1/4 inch, no minus.
  6. Joint Width: Plus 1/8 inch, no minus.

### 3.9 PAVEMENT MARKING

- A. Allow concrete paving to cure for a minimum of 28 days and be dry before starting pavement marking.
- B. Sweep and clean surface to eliminate loose material and dust.
- C. Apply paint with mechanical equipment to produce markings of dimensions indicated with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

### 3.10 REPAIRS AND PROTECTION

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Architect.
- B. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- C. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

## END OF SECTION 321313

## SECTION 321723 – PAVEMENT MARKINGS

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Section includes painted markings applied to asphalt pavement.

#### 1.2 ACTION SUBMITTALS

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.

### PART 2 - PRODUCTS

#### 2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 1. Aexcel Inc.
  - 2. Benjamin Moore & Co.

#### 2.2 PAVEMENT-MARKING PAINT

- A. Pavement-Marking Paint: Alkyd-resin type, waterborne emulsion, lead and chromate free, ready mixed, complying with AASHTO M248 and FS TT-P-1952.
  - 1. Color: White, Yellow, Blue.
- B. Glass Beads: AASHTO M 247, Type 1.
- C. VOC Content: Pavement markings used on building interior shall have a VOC content of 150 g/L or less.

### PART 3 - EXECUTION

#### 3.1 PAVEMENT MARKING

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Architect.
- B. Allow paving to age for a minimum of 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.
  - 1. Apply graphic symbols and lettering with paint-resistant, die-cut stencils. Apply paint so that it cannot run beneath the stencil.
  - 2. Broadcast glass beads uniformly into wet markings at a rate of 6 lb/gal.

END OF SECTION 321723

# APPENDIX

**APPENDIX A**  
**BLE Geotechnical Report**

# REPORT OF PAVEMENT & SUBGRADE CONDITION ASSESSMENT

FRANCIS MARION UNIVERSITY  
FLORENCE, SOUTH CAROLINA

## Prepared For:

Chao and Associates  
7 Clusters Ct.  
Columbia, South Carolina 29210

BLE Project Number J23-19493-01R1

December 6, 2023



720 Gracern Road, Suite 132, Columbia, SC 29210  
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BLECORP.COM





**BUNNELL  
LAMMONS  
ENGINEERING**

December 6, 2023

Chao and Associates, Inc.  
7 Clusters Ct.  
Columbia, South Carolina 29210

Attention: Mr. Jim Futter PE, PLS  
Senior Civil Engineer  
[JimF@chaoinc.com](mailto:JimF@chaoinc.com)

Subject: **Report of Pavement & Subgrade Condition Assessment  
Francis Marion University  
Florence, South Carolina  
BLE Project No. J23-19493-01R1**

Mr. Futter:

Bunnell-Lammons Engineering, Incorporated (BLE) is pleased to present this report of pavement and subgrade condition assessment for the parking lots at Francis Marion University in Florence, South Carolina. This exploration was performed generally as described in Bunnell-Lammons Engineering (BLE) Proposal No. P23-0256, dated February 8, 2023. The exploration was authorized on February 9, 2023, via the signature of Mr. Jim Futter, PE, PLS, on our Proposal Acceptance Sheet. This report is a revision of BLE Project J23-19493-01 dated April 5, 2023 based on comments from Ms. Ellie Chao of Chao of Associates, Inc. on December 6, 2023.

Sincerely,

**BUNNELL-LAMMONS ENGINEERING, INC.**

Benjamin R. Bazemore  
Engineering Associate



Genevieve F. Sollenberger, P.E.  
Senior Engineer  
Registered, SC #34936





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### Appendix

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## **1.0 AUTHORIZATION**

A pavement and subgrade condition assessment of multiple locations on the campus of Francis Marion University, located in Florence, South Carolina was performed generally as described in Bunnell-Lammons Engineering (BLE) Proposal No. P23-0256 dated February 8, 2023. The exploration was authorized on February 8, 2023 by the signature of Mr. Jim Futter on our Proposal Acceptance Sheet. This report is a revision of BLE Project J23-19493-01 dated April 5, 2023 based on comments from Ms. Ellie Chao of Chao of Associates, Inc. on December 6, 2023.

## **2.0 SCOPE OF EXPLORATION**

The following report details the work performed and the findings for the evaluation of the existing asphaltic pavement and subgrade conditions within multiple parking lot and drive areas on the campus of Francis Marion University located in Florence, South Carolina (reference Figure 1 in Appendix A). The intent of this exploration was to evaluate the existing pavement section and the subsurface soil conditions and provide recommendations for pavement rehabilitation or replacement.

## **3.0 PROJECT INFORMATION**

The following report details the complete geotechnical exploration performed at Francis Marion University, performed and completely generally as described in BLE Proposal project information was provided via email by Mr. Futter to our Mr. Zack Smith. We understand there are plans to renovate or reconstruct the existing vehicle parking lots, associated drive aisles, and connecting roads located within the campus of Francis Marion University. The following report details the findings of the exploration performed by BLE at six coring locations designated by the University and representatives of Chao and Associates. BLE was provided with an aerial image of the campus, which designated the areas to be explored.

## **4.0 FIELD EXPLORATION**

The existing pavement conditions were explored by coring the asphalt at six (6) designated locations and performing hand auger borings with dynamic cone penetrometer (DCP) testing at each location. The asphalt was cored using a water-cooled core drilling machine in order to access the underlying subgrade materials. Soil cuttings were visually classified in accordance with Unified Soil Classification System (USCS) by a BLE staff professional.

Once the asphalt and stone base layers (if present) were removed, the exposed subgrade soils were tested using a dynamic cone penetrometer (DCP). Dynamic Cone Penetrometer (DCP) tests were performed in the hand auger borings at approximate 1-ft vertical intervals to a maximum depth of five feet in general accordance with ASTM Special Technical Publication STP 399. The DCP test procedure is as follows: The cone point of the penetrometer is first seated 2 inches into the bearing materials to assure that the point is completely embedded. Then the cone point is driven an additional 1-¾ inches using a 15-pound weight falling 20 inches. The number of blows required to drive the cone point 1-¾ inches is recorded. The cone point is driven a second and third increment of 1-¾ inches each and the penetrometer readings are recorded. The penetrometer reading is the average value of the last two increments (second and third reading). The penetrometer reading can be compared with or correlated with the Standard Penetration Resistance “N-value” as defined by ASTM D1586. When properly evaluated, the penetrometer test results provide an index for estimating soil strength and relative density.

Approximate testing locations are shown on the attached Boring Location Plan (reference Figure 2 in Appendix A). The coring locations were established in the field by our Mr. Ben Bazemore by referencing the property and identifiable site landmarks.

### 5.0 ASSESSMENT OF EXISTING PAVEMENT AND SUBGRADE

Six (6) cores were taken of the existing asphalt pavement sections. The asphalt pavement cores ranged in thickness from 1 ½ to 3 ⅝ inches. Graded aggregate base was encountered beneath the asphalt layer in Borings B-1 and B-6. Subgrade soils consisting of fill and coastal plain soils were encountered below the graded aggregate base in the borings B-1 and B-6 and below the asphalt in the remaining borings.

The table below shows the measured thickness of the collected asphalt core, stone base course, and depth to auger refusal. The structural number was calculated based on the measured thickness of the existing pavement section multiplied by SCDOT layer coefficients for asphalt pavement (0.44) and stone (0.18). The asphalt structural number is determined from the following equation.

$$SN = a_1d_1 + a_2d_2 + \dots a_nd_n$$

Where:  $a_1$  = layer coefficient for layer 1,  $a_2$  = layer coefficient for layer 2, etc.  
 $d_1$  = thickness of layer 1,  $d_2$  = thickness of layer 2, etc.

The heavy-duty pavement section presented in the table below used the above formula to calculate the existing section structural number. Please note the appropriate layer coefficients are indicated in the following formula.

$$SN = 3.625(0.44) + 4(0.18) = 2.32$$

Boring No.	Location	Asphalt (in)	Stone (in)	Refusal Depth (in)	Structural No.
B-1	Parking Lot B	3 5/8	4	13 1/8	2.32
B-2	Parking Lot E	1 1/2	0	NE	0.66
B-3	Parking Lot F	1 3/8	0	NE	0.61
B-4	Parking Lot G	1 3/8	0	NE	0.61
B-5	Heyward Dr.	3	2	13	1.68
B-6	Alumni Dr.	2 3/4	0	NE	1.21

Note: NE = Not Encountered

The subsurface soil encountered beneath the asphalt and stone base was visually classified. The fill soils generally consisted of very firm poorly graded gravel (GP) and firm to very firm clayey sand (SC). The coastal plain soils generally consisted of firm silty sand (SM) and loose to firm clayey sand (SC). It should be noted that the soil conditions may vary between testing locations.

Based upon the DCP test results, the subgrade soils appear suitable for support of the asphalt pavement.

## 6.0 PAVEMENT RECOMMENDATIONS

Based on the data collected during the exploration and the calculation of the structural number for pavement design thickness, only boring B-1 meets the recommended SCDOT structural number of 2.0. Boring locations B-2 – B-6, in their current state, do not meet the recommended 2.0 structural number for a light duty car parking lot. It is recommended these locations be stripped of the existing asphalt, subgrade soils undercut, and a ratio of stone base and pavement thickness be applied to achieve the recommended structural number of 2.0. General thickness recommendations for stone and pavement sections for light-duty applications are shown in the table below.

Pavement Type	Layers	Material	Thickness
			Light-Duty
Flexible	a.	Asphaltic concrete surface course ( a = 0.44)	2.5
	b.	Asphalt intermediate course ( a = 0.44)	---
	c.	Aggregate base course (a = 0.18)	6

We recommend that the project area be carefully inspected for soft surficial soils and proofrolled with a 25 to 35 ton, four wheeled, rubber tired roller or similar approved equipment. The proofroller should make at least four passes over each location, with the last two passes perpendicular to the first two where practical.

If portions of the subgrade rut or are unstable under the proofroll, remediation activities will be necessary. The remediation activities may include partial undercutting and replacement, or stabilization with geosynthetics and crushed stone, or a combination of these methods. Appropriate recommendations may be provided at the time of construction by BLE, if unsatisfactory proofrolling conditions are encountered. Stabilization measures will vary with location and will also be dependent on the weather conditions during construction.

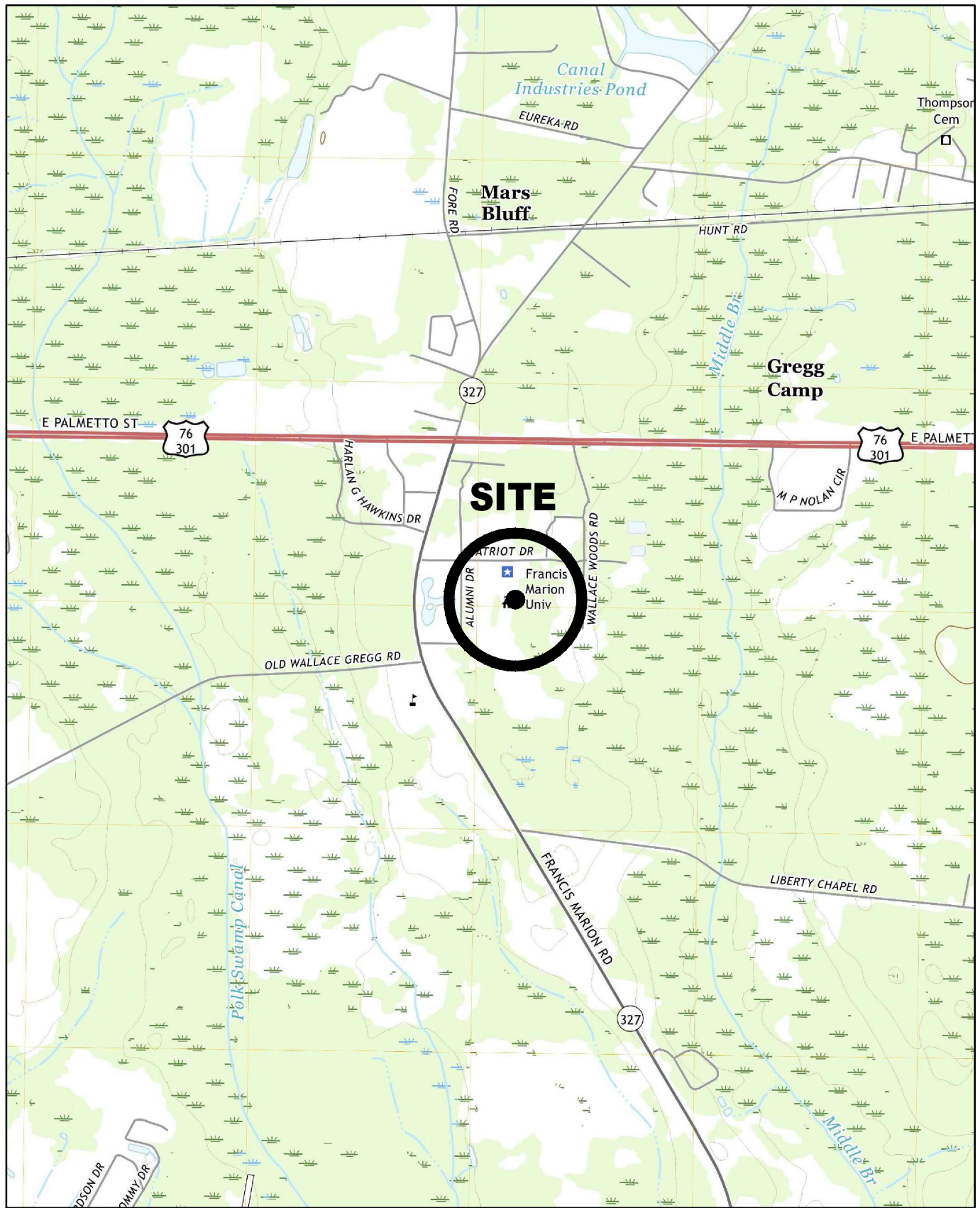
The asphaltic concrete should conform to the South Carolina Department of Transportation Supplemental Technical Specification for Hot-Mix Asphalt Material Properties (SCDOT Designation: SC-M-402) Type C HMA Surface Course. The stone base course should meet the requirements of Section 305 of SCDOT Standard Specifications for Macadam base. The base course should be compacted to 100 percent of the modified Proctor (ASTM D1557) maximum dry density.

Related civil design factors such as subgrade drainage, shoulder support, cross-sectional configurations, surface elevations, and environmental factors which will significantly affect the service life must be included in the preparation of the construction drawings and specifications. Normal periodic maintenance will be required.

## 7.0 BASIS OF RECOMMENDATIONS

Our evaluation of pavement support conditions has been based on our understanding of the project information and data obtained in our exploration as well as our experience on similar projects. The general subsurface conditions discovered in our exploration and the provided recommendations have been based on interpolation of the subsurface data between the widely spaced hand auger borings. Subsurface conditions between the hand auger borings may differ. If the project information is incorrect or the parking lot location (horizontal or vertical) and/or dimensions are changed, please contact us so that our recommendations can be reviewed. The discovery of any site or subsurface conditions during construction which deviate from the data obtained in this exploration should be reported to us for our evaluation.

APPENDIX A  
Figures



REFERENCE:  
 USGS TOPOGRAPHIC MAP, 7.5 MINUTE SERIES,  
 FLORENCE EAST, S.C. QUADRANGLE, 2020.

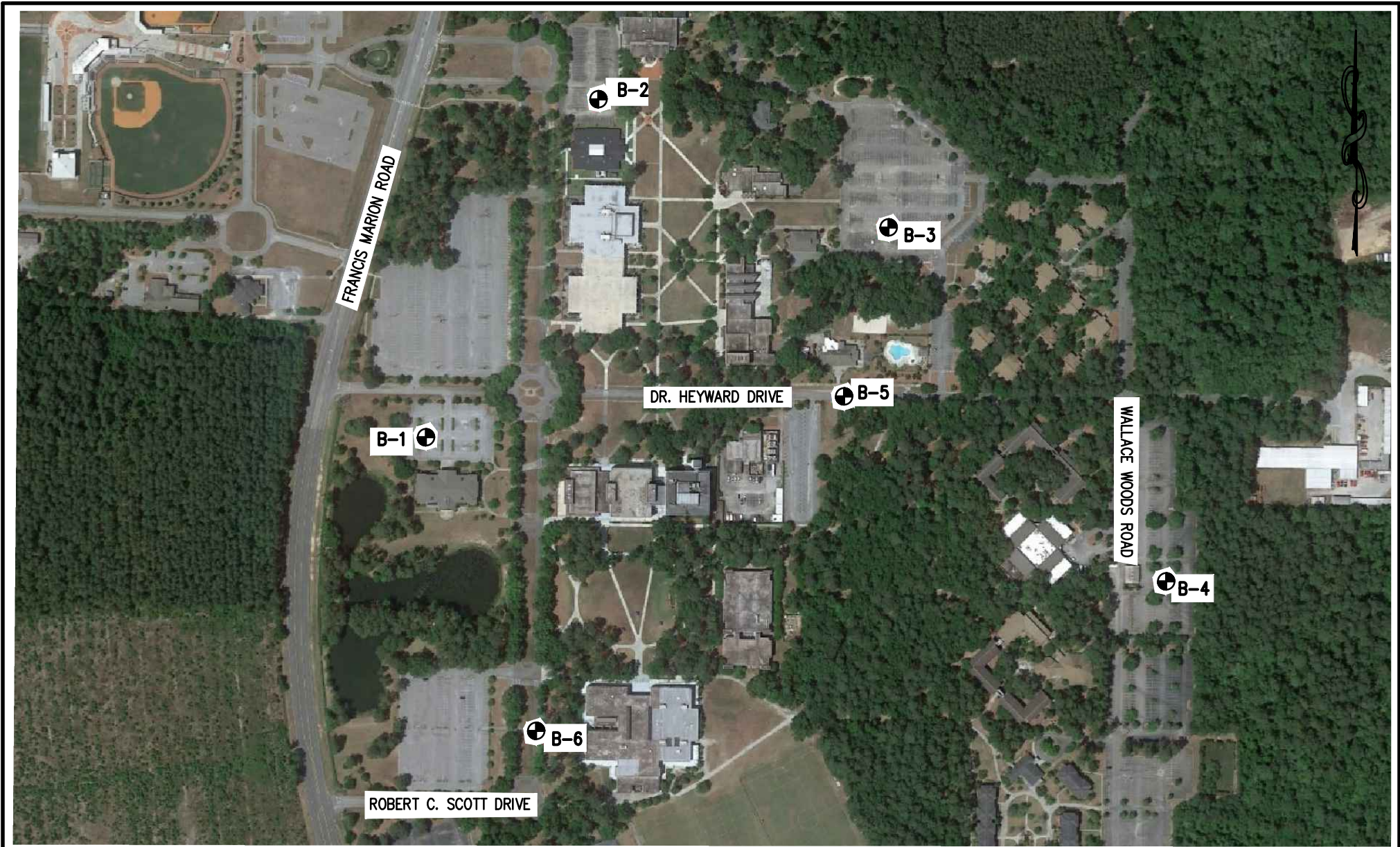
DRAWN: ACE	DATE: 02-28-23
CHECKED: BRB	CAD: FRANCMARION-SLM
APPROVED: WBH	JOB NO: J23-19493-01

**BLE** | **BUNNELL LAMMONS ENGINEERING**  
 130 Hunter Village Dr, Ste E, Irmo, SC 29063  
 Phone: (803) 832-1380 Fax: (803) 832-1379

SITE LOCATION MAP  
 FRANCIS MARION UNIVERSITY PARKING LOT EVALUATION  
 FRANCIS MARION ROAD  
 FLORENCE, SOUTH CAROLINA

FIGURE

1



**LEGEND**

● APPROXIMATE LOCATION OF SOIL TEST BORING

REFERENCE: GOOGLE EARTH IMAGE.

DRAWN:	ACE	DATE:	03-01-23
CHECKED:	BRB	CAD:	FRABCNARUIB-BLP
APPROVED:	WBH	JOB NO:	J23-19493-01

**BLE** | **BUNNELL LAMMONS ENGINEERING**  
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 Phone: (803) 832-1380 Fax: (803) 832-1379

BORING LOCATION PLAN  
 FRANCIS MARION UNIVERSITY PARKING LOT EVALUATION  
 FRANCIS MARION ROAD  
 FLORENCE, SOUTH CAROLINA



**APPENDIX B**  
**Field Exploration Procedures**

## **Field Exploration Procedures**

### ***Core Drilling***

The boring locations, B-1 – B-6, as outlined in this report, were located in paved asphalt areas. These locations and subgrade beneath were explored by coring through the asphalt according to ASTM D 2113 using a diamond-studded bit fastened to the end of a hollow double-tube core barrel. This device was rotated at high speeds, and the cuttings brought to the surface by circulating water. Core samples of the material penetrated were protected and retained in the swivel-mounted inner tube. Upon completion of each drill run, the core barrel was brought to the surface, the core recovered was measured, the samples were removed, and the core was placed in boxes for storage.

### ***Hand Auger Borings***

The hand auger borings were advanced by manually twisting a sharpened steel auger into the ground. The soils encountered were identified, in the field, from cuttings brought to the surface by the augers. At regular intervals, the auger was removed and the soil consistency measured with a dynamic cone penetrometer. The conical point was first seated to penetrate any loose cuttings, then driven additional increments of 1¾ inches with blows from a 15-pound hammer falling 20 inches. The number of hammer blows required to achieve this penetration was recorded, and is an index to the soil strength and bearing capacity.

APPENDIX C  
Hand Auger Borings and DCP Logs



**BUNNELL  
LAMMONS  
ENGINEERING**

**REPORT DATE**

12/6/2023

## HAND AUGER BORINGS AND DCP LOGS

PROJECT: Francis Marion University Pavement Evaluation						
CLIENT: Chao and Associates						
BLE PROJECT NO.: J23-19493-01						
TEST LOCATION	DEPTH (feet)	BLOW COUNTS/ 1-3/4" Increment			AVG BLOWS	SOIL CLASSIFICATION
B-1 : Lot B	0	25+	-	-	25+	3 5/8" Asphalt; 4" Stone Base
	-1	25+	-	-	25+	Very firm, grey and black, poorly graded GRAVEL (GP)
	-2	-	-	-	-	Auger Refusal at depth = -13.175" from asphalt
	-3	-	-	-	-	
	-4	-	-	-	-	
	-5	-	-	-	-	
B-2 : Lot E	0	15	13	13	13	1 1/2" Asphalt; 0" Stone Base
	-1	12	14	12	13	Firm, tan and dark brown, slightly moist, clayey fine to medium SAND (SC / FILL)
	-2	5	7	8	8	
	-3	5	8	10	9	Loose to firm, tan and grey, slightly moist, clayey fine to medium SAND (SC)
	-4	6	7	10	9	Coastal Plain
	-5	12	14	15	15	Boring Terminated at depth = -5' from asphalt
B-3 : Lot F	0	19	25+	25+	25+	1 3/8" Asphalt; 0" Stone Base
	-1	12	10	13	12	Loose to firm, brown, tan and red, slightly moist, clayey fine to medium SAND (SC)
	-2	10	13	13	13	Coastal Plain
	-3	10	9	11	10	
	-4	12	25+	25+	25+	
	-5	10	12	13	13	Boring Terminated at depth = -5' from asphalt
B-4 : Lot G	0	9	11	13	12	1 3/8" Asphalt; 0" Stone Base
	-1	10	16	12	15	Firm, tan and dark brown, silty fine to medium SAND (SM) Coastal Plain
	-2	6	9	8	9	Loose, tan and brown, clayey fine to medium SAND (SC)
	-3	5	5	5	5	
	-4	6	7	7	7	
	-5	4	3	6	5	Boring Terminated at depth = -5' from asphalt
B-5 : Heyward Dr.	0	25+	-	-	25+	3" Asphalt; 2" Stone Base
	-1	25+	-	-	25+	Very firm, brown and grey, clayey fine to medium SAND (SC) Coastal Plain
	-2	-	-	-	-	Auger Refusal at -13" from asphalt
	-3	-	-	-	-	
	-4	-	-	-	-	
	-5	-	-	-	-	
B-6 : Alumni Dr.	0	15	10	17	14	2 3/4" Asphalt; 0" Stone Base
	-1	14	16	13	15	Firm, tan and dark brown, slightly moist, clayey fine to medium SAND (SC / FILL)
	-2	14	25+	-	25+	
	-3	7	15	19	17	Very Firm, black and grey, slightly moist, clayey fine to medium SAND (SC) Coastal Plain
	-4	10	11	11	11	
	-5	13	12	15	14	Boring Terminated at depth = -5' from asphalt

# REPORT OF PAVEMENT AND SUBGRADE EVALUATION

WALLACE DRIVE  
AND PARKING LOT A

FRANCIS MARION UNIVERSITY  
FLORENCE, SOUTH CAROLINA

## Prepared For:

Chao and Associates  
7 Clusters Ct.  
Columbia, South Carolina 29210

BLE Project Number J24-22566-01

**April 3, 2024**



720 Gracern Road, Suite 132, Columbia, SC 29210  
803.832.1380 803.832.1379 info@blecorp.com  
**BLECORP.COM**



April 3, 2024

Chao and Associates, Inc.  
7 Clusters Ct.  
Columbia, South Carolina 29210

Attention: Ms. Ellie Chao, MS, EIT  
Senior Civil Designer and GIS Specialist

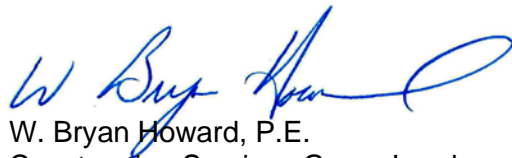
Subject: **Report of Pavement and Subgrade Evaluation  
Wallace Drive and Parking Lot A  
Francis Marion University  
Florence, South Carolina  
BLE Project No. J24-22566-01**

Ms. Chao:

Bunnell-Lammons Engineering, Incorporated (BLE) is pleased to present this report of pavement and subgrade evaluation for Wallace Drive and Parking Lot A located within the campus of Francis Marion University in Florence, South Carolina. This exploration was performed generally as described in Bunnell-Lammons Engineering (BLE) Proposal No. 22566-01 dated March 20, 2024.

Sincerely,

**BUNNELL-LAMMONS ENGINEERING, INC.**



W. Bryan Howard, P.E.  
Construction Services Group Lead  
Registered, SC #23523



## **1.0 AUTHORIZATION**

A field exploration was performed to evaluate the existing pavement profile and subgrade conditions at multiple locations on the campus of Francis Marion University, located in Florence, South Carolina. The exploration was performed generally as described in Bunnell-Lammons Engineering (BLE) Proposal No. 22566-01 dated March 20, 2024. The exploration was authorized on March 21, 2024 via the signature of Mr. Gerald Lee on our Proposal Acceptance Sheet.

## **2.0 SCOPE OF EXPLORATION**

The following report details the work performed and the findings for the evaluation of the existing asphaltic pavement and subgrade conditions for the locations tested along Wallace Road and in Parking Lot A on the campus of Francis Marion University located in Florence, South Carolina. The intent of this exploration was to evaluate the existing pavement section and the subsurface soil conditions and provide recommendations for pavement rehabilitation or replacement.

## **3.0 PROJECT INFORMATION**

The following project information was provided via email by Ms. Chao of Chao & Associates. We understand there are plans to renovate or reconstruct additional areas of the existing passenger car parking lots and associated drive areas in multiple locations at Francis Marion University. BLE was provided with an aerial image of the campus which designated the two pavement areas to be explored which included Wallace Drive and Parking Lot A.

## **4.0 FIELD EXPLORATION AND RESULTS**

The existing pavement conditions were explored along Wallace Drive and Parking Lot A by coring the asphalt at two (2) designated locations and performing hand auger borings with dynamic cone penetrometer (DCP) testing at each location. The asphalt was cored using a water-cooled core drilling machine in order to access the underlying subgrade materials. Soil cuttings were visually classified in accordance with Unified Soil Classification System (USCS) by a BLE staff professional.

Once the asphalt layer was removed, the exposed subgrade soils were tested using a dynamic cone penetrometer (DCP). Dynamic Cone Penetrometer (DCP) tests were performed in the hand auger borings at approximate 1-ft vertical intervals to a depth of five feet in general accordance with ASTM Special Technical Publication STP 399.

The DCP test procedure is as follows: The cone point of the penetrometer is first seated 2 inches into the bearing materials to assure that the point is completely embedded. Then the cone point is driven an additional 1-¾ inches using a 15-pound weight falling 20 inches. The number of blows required to drive the cone point 1-¾ inches is recorded. The cone point is driven a second and third increment of 1-¾ inches each and the penetrometer readings are recorded. The penetrometer reading is the average value of the last two increments (second and third reading). The

penetrometer reading can be compared with or correlated with the Standard Penetration Resistance “N-value” as defined by ASTM D1586. When properly evaluated, the penetrometer test results provide an index for estimating soil strength and relative density.

Approximate testing locations are shown on the attached Test Location Plan. The coring locations were established in the field by our Mr. Jeff Thrift by referencing the provided aerial photographs of the property and identifiable site landmarks.

### 5.0 ASSESSMENT OF EXISTING PAVEMENT AND SUBGRADE

Two (2) cores were taken of the existing asphalt pavement sections. The asphalt pavement cores ranged in thickness from 3 to 5 inches. Graded aggregate base was not encountered beneath the asphalt layer in either test location. Subgrade soils consisting of fill and coastal plain soils were encountered below the asphalt layer.

The table below shows the measured thicknesses of the collected asphalt cores. The structural number was calculated based on the measured thickness of the existing pavement section multiplied by SCDOT layer coefficients for asphalt pavement (0.44) and stone (0.18). The asphalt structural number is determined from the following equation.

$$SN = a_1d_1 + a_2d_2 + \dots a_nd_n$$

Where:  $a_1$  = layer coefficient for layer 1,  $a_2$  = layer coefficient for layer 2, etc.  
 $d_1$  = thickness of layer 1,  $d_2$  = thickness of layer 2, etc.

The pavement section presented in the table below used the above formula to calculate the existing section structural number. Please note the appropriate layer coefficients are indicated in the following formula.

$$SN = 5(0.44) + 0(0.18) = 2.2$$

Boring No.	Location	Asphalt (in)	Stone (in)	Structural No.
B-1	Wallace Drive	5	0 – NE	2.2
B-2	Parking Lot A	3	0 – NE	1.32

Note: NE = Not Encountered



The subsurface soil encountered beneath the asphalt were visually classified as generally loose to firm clayey sand (SC). It should be noted that the soil conditions may vary between testing locations. Based upon the DCP test results, the subgrade soils appear suitable for support of the asphalt pavement.

## 6.0 PAVEMENT RECOMMENDATIONS

Based on the data collected during the exploration and the calculation of the structural number for pavement design thickness, the 5-inch pavement section along Wallace Drive at boring B-1 meets the recommended SCDOT structural number of 2.0 for a light duty pavement section. Surface milling and replacement in this area may be a viable option for pavement rehabilitation.

The pavement section encountered at boring location B-2 in Parking Lot A in its current state, does not meet the recommended 2.0 structural number for a light duty car parking lot. It is recommended this location be stripped of the existing asphalt, subgrade soils undercut, and a ratio of stone base and pavement thickness be applied to achieve the recommended structural number of 2.0. General thickness recommendations for stone and pavement sections for light-duty applications are shown in the table below.

Pavement Type	Layers	Material	Thickness
			Light-Duty
Flexible	a.	Asphaltic concrete surface course ( a = 0.44)	2.5
	b.	Asphalt intermediate course ( a = 0.44)	---
	c.	Aggregate base course (a = 0.18)	6

We recommend that the project area be carefully inspected for soft surficial soils and proofrolled with a 25 to 35 ton, four wheeled, rubber-tired roller or similar approved equipment. The proofroller should make at least four passes over each location, with the last two passes perpendicular to the first two where practical.

If portions of the subgrade rut or are unstable under the proofroll, remediation activities will be necessary. The remediation activities may include partial undercutting and replacement, or stabilization with geo-synthetics and crushed stone, or a combination of these methods. Appropriate recommendations may be provided at the time of construction by BLE, if unsatisfactory proofrolling conditions are encountered. Stabilization measures will vary with location and will also be dependent on the weather conditions during construction.

The asphaltic concrete should conform to the South Carolina Department of Transportation Supplemental Technical Specification for Hot-Mix Asphalt Material Properties (SCDOT Designation:SC-M-402) Type C HMA Surface Course. The stone base course should meet the requirements of Section 305 of SCDOT Standard Specifications for Macadam base. The base



course should be compacted to 100 percent of the modified Proctor (ASTM D1557) maximum dry density.



Related civil design factors such as subgrade drainage, shoulder support, cross-sectional configurations, surface elevations, and environmental factors which will significantly affect the service life must be included in the preparation of the construction drawings and specifications. Normal periodic maintenance will be required.

## **7.0 BASIS OF RECOMMENDATIONS**

Our evaluation of pavement support conditions has been based on our understanding of the project information and data obtained in our exploration as well as our experience on similar projects. The general subsurface conditions discovered in our exploration and the provided recommendations have been based on interpolation of the subsurface data between the widely spaced hand auger borings. Subsurface conditions between the hand auger borings may differ. If the project information is incorrect or the parking lot location (horizontal or vertical) and/or dimensions are changed, please contact us so that our recommendations can be reviewed. The discovery of any site or subsurface conditions during construction which deviate from the data obtained in this exploration should be reported to us for our evaluation.

# TEST LOCATION PLAN



 	Francis Marion University		4/3/2024	TEST LOCATION PLAN
	Florence, South Carolina	22566-01		

# Field Exploration Procedures

## **Field Exploration Procedures**

### ***Core Drilling***

The boring locations, B-1 – B-6, as outlined in this report, were located in paved asphalt areas. These locations and subgrade beneath were explored by coring through the asphalt according to ASTM D 2113 using a diamond-studded bit fastened to the end of a hollow double-tube core barrel. This device was rotated at high speeds, and the cuttings brought to the surface by circulating water. Core samples of the material penetrated were protected and retained in the swivel-mounted inner tube. Upon completion of each drill run, the core barrel was brought to the surface, the core recovered was measured, the samples were removed, and the core was placed in boxes for storage.

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# Hand Auger Boring and DCP Logs



**BUNNELL  
LAMMONS  
ENGINEERING**

**REPORT DATE**

4/3/2024

## HAND AUGER BORINGS AND DCP LOGS

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CLIENT:	Chao and Associates					
BLE PROJECT NO.:	J24-22566-01					
TEST LOCATION	DEPTH (feet)	BLOW COUNTS/ 1-3/4" Increment			AVG BLOWS	SOIL CLASSIFICATION
B-1 : Wallace Drive	0	7	10	8	9	5 Asphalt; 0" Stone Base
	-1	6	7	8	7	Loose to firm, tan and gray, clayey SAND (SC)
	-2	7	9	10	9	
	-3	10	10	12	11	
	-4	7	9	10	9	
	-5	5	5	18	12	Boring Terminated at depth of -5' from asphalt
B-2 : Lot A	0	25+				3" Asphalt; 0" Stone Base
	-1	13	20	15	17	Loose to firm, tan and gray, clayey SAND (SC)
	-2	8	9	9	9	
	-3	8	8	9	8	
	-4	8	10	14	12	
	-5	11	14	12	13	Boring Terminated at depth of -5' from asphalt