



BID FORMS, SPECIFICATIONS, AND CONTRACT DOCUMENTS

for

WILSON COUNTY

Creekwood Subdivision Phase 1

WILSON COUNTY, TEXAS

Wilson County Judge - Henry L. Whitman, Jr.

Wilson County Commissioners

Gary Martin, Precinct 1

Russell A. King, Precinct 2

Jeffery Pierdolla, Precinct 3

John "Scott" Akin, Precinct 4



TBPE REGISTRATION NO. F-2214

May 12, 2026

TABLE OF CONTENTS

DIVISION A – INSTRUCTIONS TO BIDDERS & CONTRACT DOCUMENTS

SECTION A-1	ADVERTISEMENT FOR BIDS
SECTION A-2	INSTRUCTIONS TO BIDDERS
SECTION A-3	PREBID MEETING
SECTION A-4	BID FORM
SECTION A-5	BID SCHEDULE
SECTION A-6	BID BOND (EJCDC C-435-2018)
SECTION A-7	AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE) (EJCDC C-520-2018)
SECTION A-8	PERFORMANCE BOND (EJCDC C-610-2018)
SECTION A-9	COMPLIANCE STATEMENT – NOT APPLICABLE
SECTION A-10	CERTIFICATE REGARDING DEBARMENT SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION – NOT APPLICABLE
SECTION A-11	PAYMENT BOND (EJCDC C-615-2018)
SECTION A-12	NOTICE TO PROCEED (EJCDC C-550-2018)
SECTION A-13	STANDARD GENERAL CONDITIONS (EJCDC C-700-2018)
SECTION A-14	SUPPLEMENTARY CONDITIONS (EJCDC C-800-2018)
SECTION A-15	NOTICE OF AWARD (EJCDC C-510-2018)
SECTION A-16	ENGINEER CERTIFICATE AND SEAL

DIVISION B – SPECIAL PROVISION

SECTION B-1	CONTRACT TIME AND LIQUIDATED DAMAGES
SECTION B-2	EQUAL OPPORTUNITY CLAUSE
SECTION B-3	PROJECT SIGN – NOT APPLICABLE
SECTION B-4	ILLEGAL DUMPING

DIVISION C – GENERAL PROVISIONS

SECTION C-1	CONTRACTOR'S APPLICATION FOR PAYMENT FORM (EJCDC C-620-2018)
SECTION C-2	AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS AND RELEASE OF LIENS
SECTION C-3	CONTRACT CHANGE ORDER (EJCDC C-941-2018r1)
SECTION C-4	CERTIFICATE OF SUBSTANTIAL COMPLETION (EJCDC C-625-2018)

DIVISION D – GENERAL NOTES, SPECIFICATIONS

SECTION D-1	GENERAL NOTES
SECTION D2	SPECIFICATIONS

WILSON COUNTY FORMS

SECTION A-1

Advertisement for Bids

Wilson County is soliciting sealed bids for Creekwood Subdivision Phase 1 County Road Construction of approximately 7847 feet (1.486 miles) in length of roadway improvements located in the Wilson County. Scope of work consists of, but not limited to drainage structure, base repair & base treatment & seal coat. Note the terms and conditions of this invitation for bids and the accompanying schedule, such other contract provisions, specifications, drawings, or other data as are attached or incorporated by reference in the schedule.

The project will follow the means, methods and current specifications set forth by Texas Department of Transportation (TxDOT).

Bid documents may be viewed electronically at the Wilson County website - https://www.co.wilson.tx.us/page/wilson.Bids_RFPs or through email request to Frank Jaster, PE at frank.jaster@kci.com

A pre-bid meeting will not be held,

Written questions and comments shall be submitted via email no later than **5:00 P.M. CST on May 29, 2026** and addressed to:

Frank Jaster, P.E.
KCI Technologies, Inc.
2806 West Bitters Road, Suite 218
San Antonio, Texas 78248
(Cell Phone) 210-324-9964
frank.jaster@kci.com

A bid bond in the amount of five percent (5%) of the bid issued by an acceptable surety shall be submitted with each bid. The successful bidder will be required to furnish a Performance Bond and Payment Bond, each in the amount of the contract written by a responsible Surety Company, authorized to do business in the State of Texas. For any additional information please contact **KCI Technologies' Frank Jaster at (210) 324-9964.**

Label sealed bids with "Creekwood CR Construction, Attn: County Auditor" which will be accepted until 9:00 AM on June 8, 2026, at Wilson County Auditor's Office at 1420 3rd Street, Suite 109, Floresville Texas, 78114.

The bids will be publicly opened and read aloud in Commissioners' Court on **June 8, 2026, at 10:00 AM**. Any envelopes received after **9:00 am CST** will not be opened.

Wilson County reserves the right to reject any or all bids or to select the proposal that is the best interest of Wilson County. Bids may be held by the County for a period not to exceed 60 days from the date of bid opening for the purpose of reviewing the bids and researching bidder's qualifications prior to contract award.

Instructions to Bidders

TABLE OF ARTICLES

	Page
Article 1 - Defined Terms	1
Article 2 - Copies of Bidding Documents	1
Article 3 - Qualifications of Bidders	2
Article 4 - Examination of Bidding Documents, Other Related Data, and Site	2
Article 5 - Pre-Bid Meeting	6
Article 6 - Site and Other Areas	6
Article 7 - Interpretations and Addenda	6
Article 8 - Bid Security	6
Article 9 - Contract Times	7
Article 10 - Liquidated Damages	7
Article 11 - Substitute and "Or-Equal" Items	7
Article 12 - Subcontractors, Suppliers, and Others	7
Article 13 - Preparation of Bid	8
Article 14 - Basis of Bid; Comparison of Bids	9
Article 15 - Submittal of Bid	10
Article 16 - Modification and Withdrawal of Bid	10
Article 17 - Opening of Bids	10
Article 18 - Bids to Remain Subject to Acceptance	10
Article 19 - Evaluation of Bids and Award of Contract	11
Article 20 - Contract Security and Insurance	11
Article 21 - Signing of Agreement	12
Article 24 - Prevailing Wage Rate and Labor Standard Provisions	12

ARTICLE 1 - DEFINED TERMS

1.01 Terms used in these Instructions to Bidders will have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:

1. *County* – *Wilson, Texas*
2. *Owner* – *Wilson County*

ARTICLE 2 - COPIES OF BIDDING DOCUMENTS

- 2.01 Bidding Documents may be viewed or downloaded without charge at the Wilson County website, https://www.co.wilson.tx.us/page/wilson.Bids_RFPs or electronic documents can be obtained through email request to Frank Jaster, PE at frank.jaster@kci.com
- 2.02 Complete sets of Bidding Documents must be used in preparing Bids; neither Owner nor Engineer assumes any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

Instructions to Bidders

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

ARTICLE 3 - QUALIFICATIONS OF BIDDERS

- 3.01 To demonstrate Bidder's qualifications to perform the Work, within five (5) days of Owner's request, Bidder shall submit written evidence such as financial data; previous experience, present commitments, and such other data as may be called for below. Each bidder shall submit on the form furnished for that purpose a statement of the bidder's qualifications. The County shall have the right to take such steps as it deems necessary to determine the ability of the bidder to perform his obligations under the contract, and the bidder shall furnish the County all such information and data for this purpose as it may request. The right is reserved to reject any bid where an investigation of the available data does not satisfy the County that the bidder is qualified to carry out properly the terms of the contract.

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

4.01 Subsurface and Physical Conditions

A. The Supplementary Conditions identify:

1. Those reports of explorations and tests of subsurface conditions at or contiguous to the Site that Engineer has used in preparing the Bidding Documents.
2. Those drawings of physical conditions in or relating to existing surface and subsurface structures at or contiguous to the Site (except Underground Facilities) that Engineer has used in preparing the Bidding Documents.

- B. Copies of reports and drawings referenced in paragraph 4.01.A will be made available by Owner to any Bidder on request. Those reports and drawings are not part of the Contract Documents, but the "technical data" contained therein upon which Bidder is entitled to rely as provided in paragraph 5.03 of the General Conditions has been identified and established in paragraph 5.03 of the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any "technical data" or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.

4.02 Underground Facilities

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

Instructions to Bidders

4.03 Hazardous Environmental Condition

- A. The Supplementary Conditions identify those reports and drawings relating to a Hazardous Environmental Condition identified at the Site, if any, that ENGINEER has used in preparing the Bidding Documents.

4.04 Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to subsurface conditions, other physical conditions and Underground Facilities, and possible changes in the Bidding Documents due to differing or unanticipated conditions appear in paragraphs 5.03, 5.04, and 5.05 of the General Conditions. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders with respect to a Hazardous Environmental Condition at the Site, if any, and possible changes in the Contract Documents due to any Hazardous Environmental Condition uncovered or revealed at the Site which was not shown or indicated in the Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work appear in paragraph 5.06 of the General Conditions.

4.05 On request, Owner will provide Bidder access to the Site to conduct such examinations, investigations, explorations, tests, and studies as Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies. Bidder shall comply with all applicable Laws and Regulations relative to locating of excavation and utility.

4.06 Additional Owner Provided Information:

1. Reference is made to Article 8 of the General Conditions for the identification of the general nature of other work that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) that relates to the Work contemplated by these Bidding Documents. On request, Owner will provide to each Bidder for examination access to or copies of Contract Documents (other than portions thereof related to price) for such other work.
2. Paragraph 7.13.G. of the General Conditions states that if an Owner safety program exists it will be noted in the Supplementary Conditions.

A.07 It is the responsibility of each Bidder before submitting a Bid to:

- A. Examine and carefully study the Bidding Documents, the other related data identified in the Bidding Documents, and any Addenda;
- B. Visit the Site and become familiar with and satisfy Bidder as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work;

Instructions to Bidders

- C. Become familiar with and satisfy Bidder as to all Federal, State, and local Laws and Regulations that may affect cost, progress, or performance of the Work;
 - D. Carefully study all: (1) reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in the Supplementary Conditions as provided in paragraph 5.03 of the General Conditions, and (2) reports and drawings of Hazardous Environmental Conditions at the Site which have been identified in the Supplementary Conditions as provided in paragraph 5.06 of the General Conditions;
 - E. Obtain and carefully study (or accept consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at or contiguous to the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying any specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents, and safety precautions and programs incident thereto;
 - F. Agree at the time of submitting its Bid that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of its Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents;
 - G. Become aware of the general nature of the work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents;
 - H. Correlate the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents;
 - I. Promptly give Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder discovers in the Bidding Documents and confirm that the written resolution thereof by Engineer is acceptable to Bidder; and
 - J. Determine that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work.
- 4.08 The submission of a Bid will constitute an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article 4, that without exception the Bid is premised upon performing and furnishing the Work required by the Bidding Documents and applying any specific means, methods, techniques, sequences, and procedures of construction that may be shown or indicated or expressly required by the

Instructions to Bidders

Bidding Documents, that Bidder has given Engineer written notice of all conflicts, errors, ambiguities, and discrepancies that Bidder has discovered in Bidding Documents and the written resolutions thereof by Engineer are acceptable to Bidder, and that the Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performing and furnishing the Work.

ARTICLE 5 - PRE-BID Meeting

5.01 A Pre-Bid Meeting will not be held .

Written questions and comments shall be submitted via email no later than **5:00 PM CST May 29, 2026**, and addressed to:

Frank Jaster, P.E.
KCI Technologies, Inc.
2806 West Bitters Rd Suite 218
San Antonio, Texas 78248
(Office General) 210-641-9999
(Cell Phone) 210-324-9964
frank.jaster@kci.com

5.02 Oral statements may not be relied upon and will not be binding or legally effective. All questions from prospective Bidders shall be submitted in writing to the KCI San Antonio office by **5:00 P.M. CST June 3, 2026**. Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary in response to questions received by **5:00 P.M. CST May 29, 2026**.

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

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

ARTICLE 7 - INTERPRETATIONS AND ADDENDA

7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to Engineer in writing. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda mailed or delivered to all parties recorded by Engineer as having received the Bidding Documents. Questions received after **5:00 P.M. CST May 29, 2026** may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.

Instructions to Bidders

7.02 Addenda may be issued to clarify, correct, or change the Bidding Documents as deemed advisable by Owner or Engineer.

ARTICLE 8 - BID SECURITY

8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of five (5) percent of Bidder's maximum Bid price and in the form of a certified check or a Bid bond (EJCDC No. C-435-2018, 2018 Edition) issued by a surety meeting the requirements of paragraphs 6.01 and 6.02 of the General Conditions.

8.02 The Bid security of the Successful Bidder will be retained until such Bidder has executed the Contract Documents, furnished the required contract security and met the other conditions of the Notice of Award, whereupon the Bid security will be returned. If the Successful Bidder fails to execute and deliver the Contract Documents and furnish the required contract security within fifteen (15) days after the Notice of Award, Owner may annul the Notice of Award and the Bid security of that Bidder will be forfeited. The Bid security of other Bidders whom Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of seven days after the Effective Date of the Agreement or sixty (60) days after the Bid opening, whereupon Bid security furnished by such Bidders will be returned.

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

ARTICLE 9 - CONTRACT TIMES

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

ARTICLE 10 -LIQUIDATED DAMAGES

10.01 Provisions for liquidated damages are set forth in the Agreement. Section B-1

ARTICLE 11 - SUBSTITUTE AND "OR-EQUAL" ITEMS

11.01 The Contract, if awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents, or "or-equal" materials and equipment as defined in paragraph 7.04 of the General Conditions, or those substitute materials and equipment approved by the Engineer and identified by Addendum. The materials and equipment described in the Bidding Documents establish a standard of required type, function and quality to be met by any proposed substitute or "or-equal" item. Request for Engineer's clarification of materials and equipment considered "or-equal" prior to the Effective Date of the Agreement must be received by the Engineer at least five (5) days prior to the date for receipt of Bids. No item of material or equipment will be considered by Engineer as

Instructions to Bidders

a substitute unless written request for approval has been submitted by Bidder and has been received by Engineer at least fifteen (15) days prior to the date for receipt of Bids. Each request shall conform to the requirements of paragraph 7.04 of the General Conditions. The burden of proof of the merit of the proposed item is upon the Bidder. Engineer's decision of approval or disapproval of a proposed item will be final. If Engineer approves any proposed substitute item, such approval will be set forth in an Addendum issued to all prospective Bidders. Bidders shall not rely upon approvals made in any other manner.

ARTICLE 12 - SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 12.01 If the Supplementary Conditions require the identity of certain Subcontractors, Suppliers, individuals, or entities to be submitted to Owner in advance of a specified date prior to the Effective Date of the Agreement, the apparent Successful Bidder, and any other Bidder so requested, shall within five days after Bid opening, submit to Owner a list of all such Subcontractors, Suppliers, individuals, or entities proposed for those portions of the Work for which such identification is required. Such list shall be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor, Supplier, individual, or entity if requested by Owner. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor, Supplier, individual, or entity, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit a substitute, without an increase in the Bid.
- 12.02 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest responsible Bidder that proposes to use acceptable Subcontractors, Suppliers, individuals, or entities. Declining to make requested substitutions will not constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor, Supplier, individual, or entity so listed and against which Owner and Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to revocation of such acceptance after the Effective Date of the Agreement as provided in paragraph 7.06 of the General Conditions.
- 12.03 Contractor shall not be required to employ any Subcontractor, Supplier, individual, or entity against whom Contractor has reasonable objection.

ARTICLE 13 - PREPARATION OF BID

- 13.01 The Bid form is included with the Bidding Documents. Additional copies may be obtained from Engineer.
- 13.02 All blanks on the Bid form shall be completed in ink and the Bid signed in ink. Erasures or alterations shall be initialed in ink by the person signing the Bid Form. A Bid price shall be indicated for each *Bid item price item and unit price item* listed therein, or the words "No Bid," "No Change," or "Not Applicable" entered.

SECTION A-2

Instructions to Bidders

- 13.03 A Bid by a corporation shall be executed in the corporate name by the president or a vice-president or other corporate officer accompanied by evidence of authority to sign. The corporate seal shall be affixed and attested by the secretary or an assistant secretary. The corporate address and state of incorporation shall be provided on the Bid Form.
- 13.04 A Bid by a partnership shall be executed in the partnership name and signed by a partner (whose title must appear under the signature), accompanied by evidence of authority to sign. The official address of the partnership shall be provided on the Bid Form.
- 13.05 A Bid by a limited liability company shall be executed in the name of the firm by a member and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm shall be shown.
- 13.06 A Bid by an individual shall show the Bidder's name and business address.
- 13.07 A Bid by a joint venture shall be executed by each joint ventures in the manner indicated on the Bid form. The official address of the joint venture must be provided on the Bid Form.
- 13.08 All names shall be printed in ink below the signatures.
- 13.09 The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers and dates of which shall be filled in on the Bid form.
- 13.10 The postal and email addresses and telephone number for communication regarding the Bid shall be shown.
- 13.11 The Bid shall contain evidence of Bidder's authority and qualification to do business in the state or locality where the Project is located or Bidder shall covenant in writing to obtain such qualification prior to award of the Contract and attach such covenant to the Bid. Bidder's state contractor license number, if any, shall also be shown on the Bid Form.

ARTICLE 14 - BASIS OF BID; COMPARISON OF BIDS

14.01 Unit Price

- A. Bidders shall submit a Bid on a unit price basis for each item of Work listed in the Bid schedule.
- B. The total of all bid prices will be the sum of the products of the estimated quantity of each item and the corresponding unit price. The final quantities and Contract Price will be determined in accordance with paragraph 13.03 of the General Conditions.
- C. Discrepancies between the multiplication of units of Work and unit prices will be resolved in favor of the unit prices. Discrepancies between the indicated sum of any

SECTION A-2

Instructions to Bidders

column of figures and the correct sum thereof will be resolved in favor of the correct sum.

ARTICLE 15 - SUBMITTAL OF BID

- 15.01 With each copy of the Bidding Documents, a Bidder is furnished one copy of the Bid Form, and the Bid bond form. The copy of the Bid Form is to be completed and submitted with all the attachments outlined in Article 7 of the Bid Form.
- 15.02 A Bid shall be submitted no later than the date and time prescribed and at the place indicated in the Advertisement for Bids and shall be enclosed in an opaque sealed envelope plainly marked with the Project title (and, if applicable, the designated portion of the Project for which the Bid is submitted), the name and address of Bidder, and shall be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid shall be enclosed in a separate envelope plainly marked on the outside with the notation "BID ENCLOSED." When using the mail or other delivery system, the Bidder is totally responsible for the mail or other delivery system delivering the Bid at the place and prior to the time indicated in the Advertisement for Bid. A mailed Bid shall be addressed to Owner at address in Article 1.01 of Bid Form.

ARTICLE 16 - MODIFICATION AND WITHDRAWAL OF BID

- 16.01 A Bid may be modified or withdrawn by an appropriate document duly executed in the manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids.
- 16.02 If within twenty-four (24) hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, that Bidder may withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid or negotiated, that Bidder will be disqualified from further bidding on the Work. This provision to withdraw a Bid without forfeiting the Bid security does not apply to Bidder's errors in judgment in preparing the Bid.

ARTICLE 17 - OPENING OF BIDS

- 17.01 Bids will be opened at the time and place indicated in the Advertisement for Bids and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 18 - BIDS TO REMAIN SUBJECT TO ACCEPTANCE

SECTION A-2

Instructions to Bidders

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

ARTICLE 19 - EVALUATION OF BIDS AND AWARD OF CONTRACT

- 19.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner further reserves the right to reject the Bid of any Bidder whom it finds, after reasonable inquiry and evaluation, to be non-responsible. Owner also reserves the right to waive all informalities not involving price, time, or changes in the Work and to negotiate contract terms with the Successful Bidder.
- 19.02 More than one Bid for the same Work from an individual or entity under the same or different names will not be considered. Reasonable grounds for believing that any Bidder has an interest in more than one Bid for the Work may be cause for disqualification of that Bidder and the rejection of all Bids in which that Bidder has an interest.
- 19.03 In evaluating Bids, Owner will consider whether or not the Bids comply with the prescribed requirements, and such alternates, unit prices and other data, as may be requested in the Bid Form or prior to the Notice of Award.
- 19.04 In evaluating Bidders, Owner will consider the qualifications of Bidders and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Supplementary Conditions.
- 19.05 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, individuals, or entities to perform the Work in accordance with the contract Documents.
- 19.06 If the Contract is to be awarded, Owner will award the Contract to the responsible Bidder whose Bid, conforming with all the material terms and conditions of the Instructions to Bidders, is lowest, price and other factors considered. If detailed in the bid form, factors such as discounts, transportation costs, and life cycle costs may be used to determine which bidder, if any, is to offer the award.

ARTICLE 20 - CONTRACT SECURITY AND INSURANCE

- 20.01 Article 6 of the General Conditions, as may be modified by the Supplementary Conditions, sets forth Owner's requirements as to performance and payment bonds and

SECTION A-2

Instructions to Bidders

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

ARTICLE 21 - SIGNING OF AGREEMENT

21.01 When Owner gives a Notice of Award to the Successful Bidder, it shall be accompanied by the required number of unsigned counterparts of the Agreement with the other Contract Documents which are identified in the Agreement as attached thereto. Within fifteen (15) days thereafter, Successful Bidder shall sign and deliver the required number of counterparts of the Agreement and attached documents to Owner. Within ten (10) days thereafter, Owner shall deliver one fully signed counterpart to Successful Bidder with a complete set of the Drawings with appropriate identification.

ARTICLE 22 - PUBLIC AWARENESS MEETING

22.01 The Successful Bidder may be required to attend a Public Awareness Meeting at Wilson County's office. The time of the meeting, if any, will be conveyed at the Pre-Construction Meeting.

ARTICLE 24 - PREVAILING WAGE RATE AND LABOR STANDARD PROVISIONS.

24.01 The Provisions of Chapter 2258 of the Texas Government Code expressly is made a part of this Contract. In accordance therewith, a schedule of the general prevailing rate of per diem wages in this locality for each craft or type of worker needed to perform this Contract shall be obtained by Contractor from the City Engineer and included in Contractor's Project bid package, prior to Contractor bidding of the Project and such schedule shall become a part hereof. Contractor shall forfeit, as a penalty, sixty dollars (\$60.00) for each laborer, worker or mechanic employed for each calendar day, or portion thereof, in which such laborer, worker or mechanic is paid less than the stipulated prevailing wage rates for any work done under this Contract by the Contractor or any Subcontractor employed on the project. The establishment of prevailing wage rates, pursuant to Chapter 2258 of the Texas Government Code, shall not be construed to relieve Contractor from its obligation under any federal or state law, regarding the wages to be paid to or hours worked by laborers, workers or mechanics, insofar as applicable to the work to be performed hereunder. Contractor, in the execution of this Project, agrees it shall not discriminate in its employment practices against any person because of race, color, creed, sex, or origin. Contractor agrees it shall not engage in employment practices which have the effect of discriminating against employees or prospective employees because of race, color, creed, national origin, sex, age, handicap or political belief or affiliation. This Contract provision shall be included in its entirety in all Subcontractor agreements entered into by the Contractor or any Subcontractor employed on the project.

SECTION A-3

PRE-BID MEETING

A Pre-Bid meeting will not be held. Written questions and comments shall be submitted via email no later than **5:00 P.M. CST on May 29, 2026**, and addressed to:

Frank Jaster, P.E.
KCI Technologies
2806 West Bitters Rd Suite 218
San Antonio, Texas 78248
(Office General) 210-641-9999
frank.jaster@kci.com

Oral statements may not be relied upon and will not be binding or legally effective. All questions from prospective bidders shall be submitted in writing to the KCI San Antonio office no later than **5:00 P.M. CST on May 29, 2026**.

Engineer will transmit to all prospective Bidders of record such Addenda as Engineer considers necessary and responses to submitted questions will be provided to all registered bidders of record on or before **5:00 PM CST June 1, 2026**.

Bid Form

Project Identification: Creekwood Subdivision in Wilson County

TABLE OF ARTICLES

	Page
Article 1 - Bid Recipient	1
Article 2 - Bidder's Acknowledgments	1
Article 3 - Bidder's Representations	2
Article 4 – Bidder's Certification	3
Article 5 - Basis of Bid	4
Article 6 - Time of Completion	4
Article 7 - Attachments to this Bid	4
Article 8 - Defined Terms	5
Article 9 - Bid Submittal	5
A-Corporation	6

ARTICLE 1 - BID RECIPIENT

1.01 This Bid Is Submitted To:

Wilson County

1420 3rd Street Suite 109 Floresville, Texas 78114

ATTN: Auditor's Office

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

ARTICLE 2 - BIDDER'S ACKNOWLEDGMENTS

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

Bid Form

ARTICLE 3 - BIDDER'S REPRESENTATIONS

3.01 In submitting this Bid, Bidder represents that:

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

Addendum No.	Addendum Date

_____	_____
_____	_____
_____	_____
_____	_____

- B. Bidder has visited the Site and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all Federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all reports of explorations and tests of subsurface conditions at or contiguous to the Site and all drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site (except Underground Facilities) which have been identified in SC-5.03.
- E. Bidder has considered the information known to Bidder; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and the Site-related reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents; and (3) Bidder's safety precautions and programs.
- F. Based on the information and observations referred to in Paragraph 3.01.E above, Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of the Work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.

Bid Form

- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.
- J. Bidder will submit written evidence of its authority to do business in the State or other jurisdiction where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 - BIDDER'S CERTIFICATION

4.01 Bidder further represents that:

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

Bid Form

ARTICLE 5 - BASIS OF BID

5.01 Bidder will complete the Work in accordance with the Contract Documents for the following price(s):

Unit Prices have been computed in accordance with paragraph 13.03 of the General Conditions.

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

ARTICLE 6 - TIME OF COMPLETION

6.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with paragraph 14.07 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.

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

ARTICLE 7 - ATTACHMENTS TO THIS BID

7.01 The following documents are attached to and made a condition of the Bid:

- A. Bid Form
- B. Bid Bond
- C. List of Material Suppliers
- D. Certificate of Insurance
- E. Statement of Bidder Qualifications
- F. Addenda Acknowledgement Form

ARTICLE 8 - DEFINED TERMS

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

Bid Form

ARTICLE 9 - BID SUBMITTAL

9.01 This Bid is submitted by:

If Bidder is:

An Individual

Name (typed or printed): _____

SEAL, if required by State

By: _____

(Individual's signature)

Doing business as:

A Partnership

Partnership Name: _____

SEAL, if required by State

By: _____

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

Name (typed or printed):

Bid Form

A Corporation

Corporation Name:

State or Jurisdiction of Incorporation: _____

Type (General Business, Profession, Service, Limited Liability

By: _____

(Signature -- attach evidence of authority to sign)

Name (typed or printed

Title: _____

CORPORATE
SEAL,
if required by State

Attest _____

(Signature of Corporate Secretary)

Date of Qualification to do business in _____ [State or other jurisdiction where
Project is located] is ___ / ___ / _____

A Joint Venture

Name of Joint Venture:

First Joint Venture Name: _____

SEAL,
if required
by State

By: _____

(Signature of joint venture partner -- attach evidence of authority to sign)

Name (typed or printed):

Title: _____

Second Joint Venture Name: _____

SEAL,
if required
by State

By: _____

(Signature of joint venture partner -- attach evidence of authority to sign)

Bid Form

Name (typed or printed):

Title: _____

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

Bidder's Business address: _____

Business Phone No. (_____) _____

Business FAX No. (_____) _____

Business E-Mail Address

State Contractor License No. _____ . (If applicable)

Employer's Tax ID No. _____

Phone and FAX Numbers, and Address for receipt of official communications, if different from Business contact information:

Bid submitted on _____, 2025

SECTION A-4

Bid Form

1. BASE BID & ADDITIVE ALTERNATES

Total Amount of Street/Roadway Construction (**Base Bid**)(Insert Amount in Words and Numbers):

_____ \$ _____

Total Amount of Street/Roadway Construction (**Base Bid plus Additive Alternate No. 1**) (Insert Amount in Words and Numbers):

_____ \$ _____

2. UNIT PRICES

Bidders shall submit unit pricing on the Unit Pricing form, and it shall be attached immediately following this sheet.

3. ALLOWANCES (if applicable)

None

Official Name of Company (legal)

Telephone No.

Address

Fax No.

SECTION A-4

Bid Form

City, State and Zip Code

E-mail Address

Name of the proposed **Project Manager:** _____

Name of the proposed **Site Superintendent:** _____

Wilson County Creekwood Subdivision Phase 1

Base Bid

Line No.	Bid Item	Unit	Quantity	Unit Price	Amount (Quantity X Unit Price)
1	0110 700 EXCAV (ROADWAY)1	CY	1095.0		
2	132 6003 EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	10.0		
3	164 6001 BROADCAST SEED (PERM) (RURAL) (SANDY)	SY	1655		
4	168 7001 VEGATATIVE WATERING	TGL	13		
5	0247 FL BS (CMP IN PLACE)(TY A GR1,2 OR5)(IN VEH)	CY	1023		
6	0290 7002 EMULSION (STANDARD YIELD)	GAL	76963		
7	0290 7014 EMUL TRT(EXIST MATRL & NEW BASE)(8")	SY	18418		
8	0316 7070 ASPH(AC-15P, HFRS-2P OR CRS-2P)	GAL	11972		
9	0316 7211 AGGR (TY-PB, GR-4)(SAC-B)	CY	169		
10	0316 7214 AGGR (TY-PB, GR-5)(SAC-B)	CY	169		
11	0401 7001 FLOWABLE BACKFILL	CY	16.8		
12	0432 7005 RIPRAP (CONC)(CL B)	CY	2.0		
13	0460 7016 CMP AR (GAL STL DES 2)	LF	62.25		
14	0496 7007 REMOV STR (PIPE)	EA	1.0		
15	0644 7065 RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1.0		
16	0658 6038 INSTL DEL ASSM (D-DW)SZ 1(F LX)SRF	RA	2.0		
17	0500 6001 MOBILIZATION	LS	1.0		
18	0502 6001 BARRICADES, SIGNS AND TRAFFIC HANDLING	LS	1.0		
19	0530 7006 DRIVEWAYS (CONC)	SY	34.0		

20	0530 7016 DRIVEWAYS (SURF TREAT)	SY	23.0		
				(Sum of all line items)	

TOTAL Bid _____

Office Legal Name of Company

Telephone No.

Address _____

Fax No. _____

City, State and Zip Code _____

Email Address _____

Name of Person Authorized to Sign
Bid/Contract:

Signature:

Alternate Bid

Line No.	Bid Item	Unit	Quantity	Unit Price	Amount (Quantity X Unit Price)
1	0110 700 EXCAV (ROADWAY)1	CY	1095.0		
2	132 6003 EMBANKMENT (FINAL)(ORD COMP)(TY B)	CY	10.0		
3	164 6001 BROADCAST SEED (PERM) (RURAL) (SANDY)	SY	1655		
4	168 7001 VEGATATIVE WATERING	TGL	13		
5	0247 FL BS (CMP IN PLACE)(TY A GR1,2 OR5)(IN VEH)	CY	1023		
6	0275 7001 CEMENT	TON	359		
7	0275 7007 CEMENT TRT (EXIST MATRL & NEW BASE)(8")	SY	18418		
8	0316 7070 ASPH(AC-15P, HFRS-2P OR CRS-2P)	GAL	11972		
9	0316 7211 AGGR (TY-PB, GR-4)(SAC-B)	CY	169		
10	0316 7214 AGGR (TY-PB, GR-5)(SAC-B)	CY	169		
11	0401 7001 FLOWABLE BACKFILL	CY	16.8		
12	0432 7005 RIPRAP (CONC)(CL B)	CY	2.0		
13	0460 7016 CMP AR (GAL STL DES 2)	LF	62.25		
14	0496 7007 REMOV STR (PIPE)	EA	1.0		
15	0644 7065 RELOCATE SM RD SN SUP&AM TY 10BWG	EA	1.0		
16	0658 6038 INSTL DEL ASSM (D-DW)SZ 1(F LX)SRF	RA	2.0		
17	0500 6001 MOBILIZATION	LS	1.0		
18	0502 6001 BARRICADES, SIGNS AND TRAFFIC HANDLING	LS	1.0		
19	0530 7006 DRIVEWAYS (CONC)	SY	34.0		
20	0530 7016 DRIVEWAYS (SURF TREAT)	SY	23.0		

				(Sum of all line items)	

TOTAL Bid _____

Office Legal Name of Company _____

Telephone No. _____

Address _____

Fax No. _____

City, State and Zip Code _____

Email Address _____

Name of Person Authorized to Sign
Bid/Contract: _____

Signature: _____

BID BOND (DAMAGES FORM)

Bidder Name: [Full formal name of Bidder] Address <i>(principal place of business)</i> : [Address of Bidder's principal place of business]	Surety Name: [Full formal name of Surety] Address <i>(principal place of business)</i> : [Address of Surety's principal place of business]
Owner Name: Wilson County Address <i>(principal place of business)</i> : 1420 3rd Street, Floresville Texas, 78114	Bid Project <i>(name and location)</i> : Wilson County, CREEKWOOD SUBDIVISION Phase 1 Bid Due Date: April 20,2026
Bond Bond [Amount] Date of [Date]	
Surety and Bidder, intending to be legally bound hereby, subject to the terms set forth in this Bid Bond, do each cause this Bid Bond to be duly executed by an authorized officer, agent, or representative.	
Bidder _____ <i>(Full formal name of Bidder)</i> By: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____	Surety _____ <i>(Full formal name of Surety) (corporate seal)</i> By: _____ <i>(Signature) (Attach Power of Attorney)</i> Name: _____ <i>(Printed or typed)</i> Title: _____ Attest: _____ <i>(Signature)</i> Name: _____ <i>(Printed or typed)</i> Title: _____
Notes: (1) Note: Addresses are to be used for giving any required notice. (2) Provide execution by any additional parties, such as joint venturers, if necessary.	

SECTION A-6

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

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

This Agreement is by and between **Wilson County** (“Owner”) and _____ (“Contractor”).

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

Owner and Contractor hereby agree as follows:

ARTICLE 1—WORK

1.01 CONTRACTOR SHALL COMPLETE ALL WORK AS SPECIFIED OR INDICATED IN THE CONTRACT DOCUMENTS. THE WORK IS GENERALLY DESCRIBED AS FOLLOWS: 2026 ROAD REPAIR AND PRESERVATION WILSON COUNTY CREEKWOOD SUBDIVISION PHASE 1.

ENGINEER

2.01 The Owner has retained KCI Technologies (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities of Engineer, and have the rights and authority assigned to Engineer in the Contract.

2.02 The part of the Project that pertains to the Work has been designed by Engineer.

ARTICLE 2—CONTRACT TIMES

3.01 *Time is of the essence*

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

3.02 *Contract Times: Days*

A. The Work will be substantially complete within **54 working** days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within **101** calendar days after the date when the Contract Times commence to run.

3.05 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

SECTION A-7

1. *Substantial Completion*: Contractor shall pay Owner **\$500.00** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$500.00** for each day that expires after such time until the Work is completed and ready for final payment.
 3. Liquidated damages for failing to timely attain Milestones, Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- B. CONTRACTOR agree that such amount is a reasonable forecast of the damages OWNER will sustain per day that the work remains uncompleted. OWNER shall have the option of deducting the amount of any liquidated damages from any monies that may be owed to CONTRACTOR or to recover such amount from the CONTRACTOR or its Sureties, at CONTRACTOR'S expense.

3.06 *Special Damages*

- A. Inspector Fine Schedule. The Inspector's time is valuable. Contractor shall work with inspector to ensure all appointments and meetings are communicated and attended. In the event that the Contractor fails to attend a scheduled appointment without proper prior notification, Contractor will be subject to fines (see below). This amount shall be deducted from Contractor's final pay request for payment by the Owner. Fines as follows:
1. Missed appointment with inspector \$100 each
 2. Missed appointment with inspection and testing lab \$200 each
 3. Missed and/or canceled appointment with City Staff (less than 48 hrs. prior) \$200 each
 4. Failure to notify inspector that job site is shut down for weather by 6am \$300 each
 5. Request for additional inspector hours outside of normal schedule \$95/hr
 6. Failed submittal with incomplete or missing information that requires 2nd review (above and beyond normal review comments/clarification) \$500 each

ARTICLE 3—CONTRACT PRICE

4.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents, the amounts that follow, subject to adjustment under the Contract:

- A. For all Work other than Unit Price Work, a lump sum of \$0.00.

All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.

SECTION A-7

ARTICLE 4—B. PAYMENT PROCEDURES

5.01 *Submittal and Processing of Payments*

- A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.
- B. The Work Progress Schedule and the Submittal Schedule shall be updated monthly and submitted with each application for payment. Applications submitted without an updated schedule will not be processed.

5.02 *Progress Payments; Retainage*

- A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the **5th** day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
 - a. **90** percent of the value of the Work completed (with the balance being retainage).
 - 1) If 50 percent or more of the Work has been completed, as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. **100** percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to **100** percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **200** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

5.03 *Final Payment*

- A. Upon final completion and acceptance of the Work, Owner shall pay the remainder of the Contract Price in accordance with Paragraph 15.06 of the General Conditions.

SECTION A-7

5.04 *Consent of Surety*

- A. Owner will not make final payment or return or release retainage at Substantial Completion or any other time, unless Contractor submits written consent of the surety to such payment, return, or release.

5.05 *Interest*

- A. All amounts not paid when due will bear interest at the rate of **10** percent per annum.

ARTICLE 5—CONTRACT DOCUMENTS

6.01 *Contents*

- A. The Contract Documents consist of all of the following:
 - 1. This Agreement.
 - 2. Bonds:
 - a. Performance bond (together with power of attorney).
 - b. Payment bond (together with power of attorney).
 - c. Maintenance and Warranty Bond (together with power of attorney).
 - 3. General Conditions.
 - 4. Supplementary Conditions.
 - 5. Specifications as listed in the table of contents of the project manual (copy of list attached).
 - 6. Drawings listed on the attached sheet index.
 - 7. Addenda (numbers 0 to 0, inclusive).
 - 8. Exhibits to this Agreement (enumerated as follows):
 - a. **General Observation Report**
 - 9. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
 - d. Field Orders.
 - e. Warranty Bond, if any.
- B. The Contract Documents listed in Paragraph 7.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 7.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the Contract.

ARTICLE 6—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

7.01 *Contractor's Representations*

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar the Site conditions that may affect cost, progress, and performance of the Work.
 3. Contractor is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
 4. Contractor has carefully studied the reports of explorations and tests of subsurface conditions at or adjacent to the Site and the drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, with respect to the Technical Data in such reports and drawings.
 5. Contractor has carefully studied the reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, with respect to Technical Data in such reports and drawings.
 6. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Technical Data identified in the Supplementary Conditions or by definition, with respect to the effect of such information, observations, and Technical Data on (a) the cost, progress, and performance of the Work; (b) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (c) Contractor's safety precautions and programs.
 7. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
 8. Contractor is aware of the nature of work to be performed by Owner and others at the Site that relates to the Work as specified in the Contract Documents.
 9. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
 10. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.

SECTION A-7

11. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

7.02 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 8.02:
 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
 2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

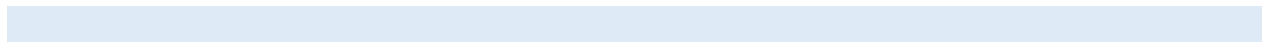
7.03 *Standard General Conditions*

- A. Owner stipulates that if the General Conditions that are made a part of this Contract are EJCDC® C-700, Standard General Conditions for the Construction Contract (2018), published by the Engineers Joint Contract Documents Committee, and if Owner is the party that has furnished said General Conditions, then Owner has plainly shown all modifications to the standard wording of such published document to the Contractor, through a process such as highlighting or "track changes" (redline/strikeout), or in the Supplementary Conditions.

SECTION A-7

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

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



Owner:

Contractor:

(typed or printed name of organization)

(typed or printed name of organization)

By: _____
(individual's signature)

By: _____
(individual's signature)

Date: _____
(date signed)

Date: _____
(date signed)

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

(If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)

Attest: _____
(individual's signature)

Attest: _____
(individual's signature)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address for giving notices:

Address for giving notices:

Designated Representative:

Designated Representative:

Name: _____
(typed or printed)

Name: _____
(typed or printed)

Title: _____
(typed or printed)

Title: _____
(typed or printed)

Address:

Address:

Phone: _____

Phone: _____

Email: _____

Email: _____

(If [Type of Entity] is a corporation, attach evidence of authority to sign. If [Type of Entity] is a public body, attach evidence of authority to sign and resolution or other documents authorizing execution of this Agreement.)

License No.: _____
(where applicable)

State: _____

SECTION A-8

PERFORMANCE BOND

<p>Contractor</p> <p>Name: [Full formal name of Contractor]</p> <p>Address <i>(principal place of business)</i>: [Address of Contractor's principal place of business]</p>	<p>Surety</p> <p>Name: [Full formal name of Surety]</p> <p>Address <i>(principal place of business)</i>: [Address of Surety's principal place of business]</p>
<p>Owner</p> <p>Name: Wilson County</p> <p>Mailing address <i>(principal place of business)</i>: 1420 3rd Street, Floresville Texas, 78114</p>	<p>Contract</p> <p>Description <i>(name and location)</i>: 1.01 WILSON COUNTY CREEKWOOD SUBDIVISION PHASE 1.</p> <p>Contract Price: [Amount from Contract]</p> <p>Effective Date of Contract: [Date from Contract]</p>
<p>Bond</p> <p>Bond [Amount]</p> <p>Date of [Date]</p> <p><i>(Date of Bond cannot be earlier than Effective Date of Contract)</i></p> <p>Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 16</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Performance Bond, do each cause this Performance Bond to be duly executed by an authorized officer, agent, or representative.</p>	
<p>Contractor as Principal</p>	<p>Surety</p>
<p><i>(Full formal name of Contractor)</i></p>	<p><i>(Full formal name of Surety) (corporate seal)</i></p>
<p>By: _____ <i>(Signature)</i></p>	<p>By: _____ <i>(Signature)(Attach Power of Attorney)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____ <i>(Signature)</i></p>	<p>Attest: _____ <i>(Signature)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

SECTION A-8

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

1. If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Paragraph 3.
2. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 2.1. The Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice may indicate whether the Owner is requesting a conference among the Owner, Contractor, and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Paragraph 3.1 will be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor, and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement does not waive the Owner's right, if any, subsequently to declare a Contractor Default;
 - 2.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 2.3. The Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.
3. Failure on the part of the Owner to comply with the notice requirement in Paragraph 3.1 does not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.
4. When the Owner has satisfied the conditions of Paragraph 3, the Surety shall promptly and at the Surety's expense take one of the following actions:
 - 4.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 4.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 4.3. Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owners concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Paragraph 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or
 - 4.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

SECTION A-8

- 5.4.1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
 - 5.4.2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.
5. If the Surety does not proceed as provided in Paragraph 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Paragraph 5.4, and the Owner refuses the payment, or the Surety has denied liability, in whole or in part, without further notice, the Owner shall be entitled to enforce any remedy available to the Owner.
6. If the Surety elects to act under Paragraph 5.1, 5.2, or 5.3, then the responsibilities of the Surety to the Owner will not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety will not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication for:
 - 6.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 6.2. 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 5; and
 - 6.3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.
7. If the Surety elects to act under Paragraph 5.1, 5.3, or 5.4, the Surety's liability is limited to the amount of this Bond.
8. The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price will not be reduced or set off on account of any such unrelated obligations. No right of action will accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors, and assigns.
9. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
10. Any proceeding, legal or equitable, under this Bond must be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and must be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this paragraph are void or prohibited by law, the minimum periods of limitations available to sureties as a defense in the jurisdiction of the suit will be applicable.
11. Notice to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears.
12. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted therefrom and provisions conforming to such

SECTION A-8

statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.

13. Definitions

- 13.1. *Balance of the Contract Price*—The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made including allowance for the Contractor for any amounts received or to be received by the Owner 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 Construction Contract.
 - 13.2. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.
 - 13.3. *Contractor Default*—Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.
 - 13.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
 - 13.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
14. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
15. Modifications to this Bond are as follows: **None**

COMPLIANCE STATEMENT

Not applicable

SECTION A-10

**CERTIFICATE REGARDING DEBARMENT SUSPENSION, INELIGIBILITY
AND VOLUNTARY EXCLUSION**

Not applicable

SECTION A-11

ARTICLE 1— PAYMENT BOND

<p>Contractor Name: [Full formal name of Contractor] Address <i>(principal place of business)</i>: [Address of Contractor’s principal place of business]</p>	<p>Surety Name: [Full formal name of Surety] Address <i>(principal place of business)</i>: [Address of Surety’s principal place of business]</p>
<p>Owner Name: Wilson County Mailing address <i>(principal place of business)</i>: 1420 3rd Street, Floresville Texas, 78114</p>	<p>Contract Description <i>(name and location)</i>: 1.01 WILSON COUNTY CREEKWOOD SUBDIVISION PHASE 1.</p> <p>Contract Price: [Amount, from Contract] Effective Date of Contract: [Date, from Contract]</p>
<p>Bond Bond [Amount] Date of [Date] <i>(Date of Bond cannot be earlier than Effective Date of Contract)</i> Modifications to this Bond form: <input type="checkbox"/> None <input type="checkbox"/> See Paragraph 18</p>	
<p>Surety and Contractor, intending to be legally bound hereby, subject to the terms set forth in this Payment Bond, do each cause this Payment Bond to be duly executed by an authorized officer, agent, or representative.</p>	
<p>Contractor as Principal</p>	<p>Surety</p>
<p>_____ <i>(Full formal name of Contractor)</i></p>	<p>_____ <i>(Full formal name of Surety) (corporate seal)</i></p>
<p>By: _____ <i>(Signature)</i></p>	<p>By: _____ <i>(Signature)(Attach Power of Attorney)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p>Attest: _____ <i>(Signature)</i></p>	<p>Attest: _____ <i>(Signature)</i></p>
<p>Name: _____ <i>(Printed or typed)</i></p>	<p>Name: _____ <i>(Printed or typed)</i></p>
<p>Title: _____</p>	<p>Title: _____</p>
<p><i>Notes: (1) Provide supplemental execution by any additional parties, such as joint venturers. (2) Any singular reference to Contractor, Surety, Owner, or other party is considered plural where applicable.</i></p>	

SECTION A-11

1. The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to the Owner to pay for labor, materials, and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.
2. If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies, and holds harmless the Owner from claims, demands, liens, or suits by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.
3. If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond will arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Paragraph 13) of claims, demands, liens, or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials, or equipment furnished for use in the performance of the Construction Contract, and tendered defense of such claims, demands, liens, or suits to the Contractor and the Surety.
4. When the Owner has satisfied the conditions in Paragraph 3, the Surety shall promptly and at the Surety's expense defend, indemnify, and hold harmless the Owner against a duly tendered claim, demand, lien, or suit.
5. The Surety's obligations to a Claimant under this Bond will arise after the following:
 - 5.1. Claimants who do not have a direct contract with the Contractor
 - 5.1.1. have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 5.1.2. have sent a Claim to the Surety (at the address described in Paragraph 13).
 - 5.2. Claimants who are employed by or have a direct contract with the Contractor have sent a Claim to the Surety (at the address described in Paragraph 13).
6. If a notice of non-payment required by Paragraph 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Paragraph 5.1.1.
7. When a Claimant has satisfied the conditions of Paragraph 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:
 - 7.1. Send an answer to the Claimant, with a copy to the Owner, 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; and
 - 7.2. Pay or arrange for payment of any undisputed amounts.
 - 7.3. The Surety's failure to discharge its obligations under Paragraph 7.1 or 7.2 will not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Paragraph 7.1 or 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

SECTION A-11

8. The Surety's total obligation will not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Paragraph 7.3, and the amount of this Bond will be credited for any payments made in good faith by the Surety.
9. Amounts owed by the Owner to the Contractor under the Construction Contract will be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfying obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.
10. The Surety shall not be liable to the Owner, Claimants, or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to or give notice on behalf of Claimants, or otherwise have any obligations to Claimants under this Bond.
11. The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders, and other obligations.
12. No suit or action will be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Paragraph 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit will be applicable.
13. Notice and Claims to the Surety, the Owner, or the Contractor must be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, will be sufficient compliance as of the date received.
14. When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement will be deemed deleted here from and provisions conforming to such statutory or other legal requirement will be deemed incorporated herein. When so furnished, the intent is that this Bond will be construed as a statutory bond and not as a common law bond.
15. Upon requests by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.
16. Definitions
 - 16.1. *Claim*—A written statement by the Claimant including at a minimum:
 - 16.1.1. The name of the Claimant;
 - 16.1.2. The name of the person for whom the labor was done, or materials or equipment furnished;
 - 16.1.3. A copy of the agreement or purchase order pursuant to which labor, materials, or equipment was furnished for use in the performance of the Construction Contract;
 - 16.1.4. A brief description of the labor, materials, or equipment furnished;

SECTION A-11

- 16.1.5. The date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
 - 16.1.6. The total amount earned by the Claimant for labor, materials, or equipment furnished as of the date of the Claim;
 - 16.1.7. The total amount of previous payments received by the Claimant; and
 - 16.1.8. The total amount due and unpaid to the Claimant for labor, materials, or equipment furnished as of the date of the Claim.
- 16.2. *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 Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic’s lien or similar statute against the real property upon which the Project is located. The intent of this Bond is to include without limitation in the terms of “labor, materials, or equipment” that part of the water, gas, power, light, heat, oil, gasoline, telephone service, or rental equipment used in the Construction 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 may be asserted in the jurisdiction where the labor, materials, or equipment were furnished.
- 16.3. *Construction Contract*—The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.
- 16.4. *Owner Default*—Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.
- 16.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
17. If this Bond is issued for an agreement between a contractor and subcontractor, the term Contractor in this Bond will be deemed to be Subcontractor and the term Owner will be deemed to be Contractor.
18. Modifications to this Bond are as follows: **None.**

NOTICE TO PROCEED

Owner: Wilson County Owner's Project No.: _____
Engineer: KCI Technologies, Inc. Engineer's Project No.: 00009591_00001.015
Contractor: _____ Contractor's Project
No.: _____
Project: Creekwood Subdivision Phase 1
Contract Name: _____
Effective Date of
Contract: _____

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on **[date Contract Times are to start]** pursuant to Paragraph 4.01 of the General Conditions.

On that date, Contractor shall start performing its obligations under the Contract Documents. No Work will be done at the Site prior to such date.

In accordance with the Agreement:

The number of days to achieve Substantial Completion is **54 days** from the date stated above for the commencement of the Contract Times, resulting in a date for Substantial Completion of **[date, calculated from commencement date above]**; and the number of days to achieve readiness for final payment is **101 days** from the commencement date of the Contract Times, resulting in a date for readiness for final payment of **[date, calculated from commencement date above]**.

Owner: Wilson County
By (signature): _____
Name (printed): Frank Jaster, PE
Title: Senior Project Manager
Date Issued: _____
Copy: Engineer

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1—Definitions and Terminology.....	1
1.01 Defined Terms.....	1
1.02 Terminology	6
Article 2—Preliminary Matters.....	7
2.01 Delivery of Performance and Payment Bonds; Evidence of Insurance.....	7
2.02 Copies of Documents	7
2.03 Before Starting Construction	7
2.04 Preconstruction Conference; Designation of Authorized Representatives.....	8
2.05 Acceptance of Schedules	8
2.06 Electronic Transmittals	8
Article 3—Contract Documents: Intent, Requirements, Reuse.....	9
3.01 Intent.....	9
3.02 Reference Standards.....	9
3.03 Reporting and Resolving Discrepancies	10
3.04 Requirements of the Contract Documents.....	10
3.05 Reuse of Documents	11
Article 4—Commencement and Progress of the Work	11
4.01 Commencement of Contract Times; Notice to Proceed.....	11
4.02 Starting the Work.....	11
4.03 Reference Points	11
4.04 Progress Schedule.....	12
4.05 Delays in Contractor’s Progress	12
Article 5—Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions	13
5.01 Availability of Lands	13
5.02 Use of Site and Other Areas.....	14
5.03 Subsurface and Physical Conditions.....	15
5.04 Differing Subsurface or Physical Conditions	16

SECTION A-13

5.05 Underground Facilities 17

5.06 Hazardous Environmental Conditions at Site 19

Article 6—Bonds and Insurance..... 21

6.01 Performance, Payment, and Other Bonds 21

6.02 Insurance—General Provisions 22

6.03 Contractor’s Insurance..... 24

6.04 Builder’s Risk and Other Property Insurance 25

6.05 Property Losses; Subrogation 25

6.06 Receipt and Application of Property Insurance Proceeds 27

Article 7—Contractor’s Responsibilities 27

7.01 Contractor’s Means and Methods of Construction 27

7.02 Supervision and Superintendence 27

7.03 Labor; Working Hours 27

7.04 Services, Materials, and Equipment 28

7.05 “Or Equals” 28

7.06 Substitutes 29

7.07 Concerning Subcontractors and Suppliers 31

7.08 Patent Fees and Royalties 32

7.09 Permits 33

7.10 Taxes 33

7.11 Laws and Regulations..... 33

7.12 Record Documents..... 33

7.13 Safety and Protection 34

7.14 Hazard Communication Programs 35

7.15 Emergencies 35

7.16 Submittals 35

7.17 Contractor’s General Warranty and Guarantee 38

7.18 Indemnification 39

7.19 Delegation of Professional Design Services 39

Article 8—Other Work at the Site..... 40

8.01 Other Work 40

8.02 Coordination 41

8.03 Legal Relationships..... 41

SECTION A-13

Article 9—Owner’s Responsibilities 42

 9.01 Communications to Contractor 42

 9.02 Replacement of Engineer 42

 9.03 Furnish Data 42

 9.04 Pay When Due 42

 9.05 Lands and Easements; Reports, Tests, and Drawings 43

 9.06 Insurance 43

 9.07 Change Orders 43

 9.08 Inspections, Tests, and Approvals 43

 9.09 Limitations on Owner’s Responsibilities 43

 9.10 Undisclosed Hazardous Environmental Condition 43

 9.11 Evidence of Financial Arrangements 43

 9.12 Safety Programs 43

Article 10—Engineer’s Status During Construction 44

 10.01 Owner’s Representative 44

 10.02 Visits to Site 44

 10.03 Resident Project Representative 44

 10.04 Engineer’s Authority 44

 10.05 Determinations for Unit Price Work 45

 10.06 Decisions on Requirements of Contract Documents and Acceptability of Work 45

 10.07 Limitations on Engineer’s Authority and Responsibilities 45

 10.08 Compliance with Safety Program 45

Article 11—Changes to the Contract 46

 11.01 Amending and Supplementing the Contract 46

 11.02 Change Orders 46

 11.03 Work Change Directives 46

 11.04 Field Orders 47

 11.05 Owner-Authorized Changes in the Work 47

 11.06 Unauthorized Changes in the Work 47

 11.07 Change of Contract Price 47

 11.08 Change of Contract Times 49

 11.09 Change Proposals 49

 11.10 Notification to Surety 50

SECTION A-13

Article 12—Claims..... 50
 12.01 Claims..... 50
Article 13—Cost of the Work; Allowances; Unit Price Work 51
 13.01 Cost of the Work 51
 13.02 Allowances 55
 13.03 Unit Price Work..... 55
Article 14—Tests and Inspections; Correction, Removal, or Acceptance of Defective Work 56
 14.01 Access to Work..... 56
 14.02 Tests, Inspections, and Approvals..... 56
 14.03 Defective Work 57
 14.04 Acceptance of Defective Work..... 58
 14.05 Uncovering Work 58
 14.06 Owner May Stop the Work 58
 14.07 Owner May Correct Defective Work..... 59
Article 15—Payments to Contractor; Set-Offs; Completion; Correction Period 59
 15.01 Progress Payments..... 59
 15.02 Contractor’s Warranty of Title 62
 15.03 Substantial Completion..... 62
 15.04 Partial Use or Occupancy 63
 15.05 Final Inspection 64
 15.06 Final Payment..... 64
 15.07 Waiver of Claims 65
 15.08 Correction Period 66
Article 16—Suspension of Work and Termination 67
 16.01 Owner May Suspend Work 67
 16.02 Owner May Terminate for Cause..... 67
 16.03 Owner May Terminate for Convenience..... 68
 16.04 Contractor May Stop Work or Terminate 68
Article 17—Final Resolution of Disputes 69
 17.01 Methods and Procedures..... 69
Article 18—Miscellaneous 69
 18.01 Giving Notice 69
 18.02 Computation of Times..... 69

SECTION A-13

18.03 Cumulative Remedies 70

18.04 Limitation of Damages 70

18.05 No Waiver 70

18.06 Survival of Obligations 70

18.07 Controlling Law 70

18.08 Assignment of Contract..... 70

18.09 Successors and Assigns 70

18.10 Headings..... 70

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

1.01 *Defined Terms*

- A. Wherever used in the Bidding Requirements or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.
1. *Addenda*—Written or graphic instruments issued prior to the opening of Bids which clarify, correct, or change the Bidding Requirements or the proposed Contract Documents.
 2. *Agreement*—The written instrument, executed by Owner and Contractor, that sets forth the Contract Price and Contract Times, identifies the parties and the Engineer, and designates the specific items that are Contract Documents.
 3. *Application for Payment*—The document prepared by Contractor, in a form acceptable to Engineer, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 4. *Bid*—The offer of a Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.
 5. *Bidder*—An individual or entity that submits a Bid to Owner.
 6. *Bidding Documents*—The Bidding Requirements, the proposed Contract Documents, and all Addenda.
 7. *Bidding Requirements*—The Advertisement or invitation to bid, Instructions to Bidders, Bid Bond or other Bid security, if any, the Bid Form, and the Bid with any attachments.
 8. *Change Order*—A document which is signed by Contractor and Owner and authorizes an addition, deletion, or revision in the Work or an adjustment in the Contract Price or the Contract Times, or other revision to the Contract, issued on or after the Effective Date of the Contract.
 9. *Change Proposal*—A written request by Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Contract Price or Contract Times; contesting an initial decision by Engineer concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.
 10. *Claim*
 - a. A demand or assertion by Owner directly to Contractor, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting an initial decision by Engineer concerning the

SECTION A-13

- requirements of the Contract Documents or the acceptability of Work under the Contract Documents; contesting Engineer's decision regarding a Change Proposal; seeking resolution of a contractual issue that Engineer has declined to address; or seeking other relief with respect to the terms of the Contract.
- b. A demand or assertion by Contractor directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Engineer's decision regarding a Change Proposal, or seeking resolution of a contractual issue that Engineer has declined to address.
 - c. A demand or assertion by Owner or Contractor, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.4, concerning disputes arising after Engineer has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
11. *Constituent of Concern*—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
 12. *Contract*—The entire and integrated written contract between Owner and Contractor concerning the Work.
 13. *Contract Documents*—Those items so designated in the Agreement, and which together comprise the Contract.
 14. *Contract Price*—The money that Owner has agreed to pay Contractor for completion of the Work in accordance with the Contract Documents.
 15. *Contract Times*—The number of days or the dates by which Contractor shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work.
 16. *Contractor*—The individual or entity with which Owner has contracted for performance of the Work.
 17. *Cost of the Work*—See Paragraph 13.01 for definition.
 18. *Drawings*—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Contractor.
 19. *Effective Date of the Contract*—The date, indicated in the Agreement, on which the Contract becomes effective.
 20. *Electronic Document*—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
 21. *Electronic Means*—Electronic mail (email), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the

SECTION A-13

recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

22. *Engineer*—The individual or entity named as such in the Agreement.
23. *Field Order*—A written order issued by Engineer which requires minor changes in the Work but does not change the Contract Price or the Contract Times.
24. *Hazardous Environmental Condition*—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.
25. *Laws and Regulations; Laws or Regulations*—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. *Liens*—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
27. *Milestone*—A principal event in the performance of the Work that the Contract requires Contractor to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
28. *Notice of Award*—The written notice by Owner to a Bidder of Owner's acceptance of the Bid.
29. *Notice to Proceed*—A written notice by Owner to Contractor fixing the date on which the Contract Times will commence to run and on which Contractor shall start to perform the Work.
30. *Owner*—The individual or entity with which Contractor has contracted regarding the Work, and which has agreed to pay Contractor for the performance of the Work, pursuant to the terms of the Contract.
31. *Progress Schedule*—A schedule, prepared and maintained by Contractor, describing the sequence and duration of the activities comprising Contractor's plan to accomplish the Work within the Contract Times.
32. *Project*—The total undertaking to be accomplished for Owner by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the Work to be performed under the Contract Documents is a part.

SECTION A-13

33. *Resident Project Representative*—The authorized representative of Engineer assigned to assist Engineer at the Site. As used herein, the term Resident Project Representative (RPR) includes any assistants or field staff of Resident Project Representative.
34. *Samples*—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
35. *Schedule of Submittals*—A schedule, prepared and maintained by Contractor, of required submittals and the time requirements for Engineer’s review of the submittals.
36. *Schedule of Values*—A schedule, prepared and maintained by Contractor, allocating portions of the Contract Price to various portions of the Work and used as the basis for reviewing Contractor’s Applications for Payment.
37. *Shop Drawings*—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
38. *Site*—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Contractor.
39. *Specifications*—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
40. *Subcontractor*—An individual or entity having a direct contract with Contractor or with any other Subcontractor for the performance of a part of the Work.
41. *Submittal*—A written or graphic document, prepared by or for Contractor, which the Contract Documents require Contractor to submit to Engineer, or that is indicated as a Submittal in the Schedule of Submittals accepted by Engineer. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

SECTION A-13

43. *Successful Bidder*—The Bidder to which the Owner makes an award of contract.
44. *Supplementary Conditions*—The part of the Contract that amends or supplements these General Conditions.
45. *Supplier*—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Contractor or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Contractor or a Subcontractor.
46. *Technical Data*
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures (except Underground Facilities) or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Contractor.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated on the Drawings.
47. *Underground Facilities*—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
48. *Unit Price Work*—Work to be paid for on the basis of unit prices.
49. *Work*—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.
50. *Work Change Directive*—A written directive to Contractor issued on or after the Effective Date of the Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

SECTION A-13

1.02 Terminology

- A. The words and terms discussed in Paragraphs 1.02.B, C, D, and E are not defined terms that require initial capital letters, but, when used in the Bidding Requirements or Contract Documents, have the indicated meaning.
- B. *Intent of Certain Terms or Adjectives:* The Contract Documents include the terms “as allowed,” “as approved,” “as ordered,” “as directed” or terms of like effect or import to authorize an exercise of professional judgment by Engineer. In addition, the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe an action or determination of Engineer as to the Work. It is intended that such exercise of professional judgment, action, or determination will be solely to evaluate, in general, the Work for compliance with the information in the Contract Documents and with the design concept of the Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective is not intended to and shall not be effective to assign to Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility contrary to the provisions of Article 10 or any other provision of the Contract Documents.
- C. *Day:* The word “day” means a calendar day of 24 hours measured from midnight to the next midnight.
- D. *Defective:* The word “defective,” when modifying the word “Work,” refers to Work that is unsatisfactory, faulty, or deficient in that it:
1. does not conform to the Contract Documents;
 2. does not meet the requirements of any applicable inspection, reference standard, test, or approval referred to in the Contract Documents; or
 3. has been damaged prior to Engineer’s recommendation of final payment (unless responsibility for the protection thereof has been assumed by Owner at Substantial Completion in accordance with Paragraph 15.03 or Paragraph 15.04).
- E. *Furnish, Install, Perform, Provide*
1. The word “furnish,” when used in connection with services, materials, or equipment, means to supply and deliver said services, materials, or equipment to the Site (or some other specified location) ready for use or installation and in usable or operable condition.
 2. The word “install,” when used in connection with services, materials, or equipment, means to put into use or place in final position said services, materials, or equipment complete and ready for intended use.
 3. The words “perform” or “provide,” when used in connection with services, materials, or equipment, means to furnish and install said services, materials, or equipment complete and ready for intended use.
 4. If the Contract Documents establish an obligation of Contractor with respect to specific services, materials, or equipment, but do not expressly use any of the four words “furnish,” “install,” “perform,” or “provide,” then Contractor shall furnish and install said services, materials, or equipment complete and ready for intended use.

SECTION A-13

- F. *Contract Price or Contract Times*: References to a change in “Contract Price or Contract Times” or “Contract Times or Contract Price” or similar, indicate that such change applies to (1) Contract Price, (2) Contract Times, or (3) both Contract Price and Contract Times, as warranted, even if the term “or both” is not expressed.
- G. Unless stated otherwise in the Contract Documents, words or phrases that have a well-known technical or construction industry or trade meaning are used in the Contract Documents in accordance with such recognized meaning.

ARTICLE 2—PRELIMINARY MATTERS

2.01 *Delivery of Performance and Payment Bonds; Evidence of Insurance*

- A. *Performance and Payment Bonds*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner the performance bond and payment bond (if the Contract requires Contractor to furnish such bonds).
- B. *Evidence of Contractor’s Insurance*: When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner, with copies to each additional insured (as identified in the Contract), the certificates, endorsements, and other evidence of insurance required to be provided by Contractor in accordance with Article 6, except to the extent the Supplementary Conditions expressly establish other dates for delivery of specific insurance policies.
- C. *Evidence of Owner’s Insurance*: After receipt of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor, with copies to each additional insured (as identified in the Contract), the certificates and other evidence of insurance required to be provided by Owner under Article 6.

2.02 *Copies of Documents*

- A. Owner shall furnish to Contractor four printed copies of the Contract (including one fully signed counterpart of the Agreement), and one copy in electronic portable document format (PDF). Additional printed copies will be furnished upon request at the cost of reproduction.
- B. Owner shall maintain and safeguard at least one original printed record version of the Contract, including Drawings and Specifications signed and sealed by Engineer and other design professionals. Owner shall make such original printed record version of the Contract available to Contractor for review. Owner may delegate the responsibilities under this provision to Engineer.

2.03 *Before Starting Construction*

- A. *Preliminary Schedules*: Within 10 days after the Effective Date of the Contract (or as otherwise required by the Contract Documents), Contractor shall submit to Engineer for timely review:
 - 1. a preliminary Progress Schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestones specified in the Contract;
 - 2. a preliminary Schedule of Submittals; and
 - 3. a preliminary Schedule of Values for all of the Work which includes quantities and prices of items which when added together equal the Contract Price and subdivides the Work

SECTION A-13

into component parts in sufficient detail to serve as the basis for progress payments during performance of the Work. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

2.04 *Preconstruction Conference; Designation of Authorized Representatives*

- A. Before any Work at the Site is started, a conference attended by Owner, Contractor, Engineer, and others as appropriate will be held to establish a working understanding among the parties as to the Work, and to discuss the schedules referred to in Paragraph 2.03.A, procedures for handling Shop Drawings, Samples, and other Submittals, processing Applications for Payment, electronic or digital transmittals, and maintaining required records.
- B. At this conference Owner and Contractor each shall designate, in writing, a specific individual to act as its authorized representative with respect to the services and responsibilities under the Contract. Such individuals shall have the authority to transmit and receive information, render decisions relative to the Contract, and otherwise act on behalf of each respective party.

2.05 *Acceptance of Schedules*

- A. At least 10 days before submission of the first Application for Payment a conference, attended by Contractor, Engineer, and others as appropriate, will be held to review the schedules submitted in accordance with Paragraph 2.03.A. No progress payment will be made to Contractor until acceptable schedules are submitted to Engineer.
 - 1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 - 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 - 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 - 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

- A. Except as otherwise stated elsewhere in the Contract, the Owner, Engineer, and Contractor may send, and shall accept, Electronic Documents transmitted by Electronic Means.
- B. If the Contract does not establish protocols for Electronic Means, then Owner, Engineer, and Contractor shall jointly develop such protocols.
- C. Subject to any governing protocols for Electronic Means, when transmitting Electronic Documents by Electronic Means, the transmitting party makes no representations as to long-term compatibility, usability, or readability of the Electronic Documents resulting from the recipient's use of software application packages, operating systems, or computer hardware differing from those used in the drafting or transmittal of the Electronic Documents.

SECTION A-13

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

- A. The Contract Documents are complementary; what is required by one Contract Document is as binding as if required by all.
- B. It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents.
- C. Unless otherwise stated in the Contract Documents, if there is a discrepancy between the electronic versions of the Contract Documents (including any printed copies derived from such electronic versions) and the printed record version, the printed record version will govern.
- D. The Contract supersedes prior negotiations, representations, and agreements, whether written or oral.
- E. Engineer will issue clarifications and interpretations of the Contract Documents as provided herein.
- F. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation will be deemed stricken, and all remaining provisions will continue to be valid and binding upon Owner and Contractor, which agree that the Contract Documents will be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- G. Nothing in the Contract Documents creates:
 - 1. any contractual relationship between Owner or Engineer and any Subcontractor, Supplier, or other individual or entity performing or furnishing any of the Work, for the benefit of such Subcontractor, Supplier, or other individual or entity; or
 - 2. any obligation on the part of Owner or Engineer to pay or to see to the payment of any money due any such Subcontractor, Supplier, or other individual or entity, except as may otherwise be required by Laws and Regulations.

3.02 *Reference Standards*

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

SECTION A-13

inconsistent with the provisions of the part of the Contract Documents prepared by or for Engineer.

3.03 *Reporting and Resolving Discrepancies*

A. *Reporting Discrepancies*

1. *Contractor's Verification of Figures and Field Measurements:* Before undertaking each part of the Work, Contractor shall carefully study the Contract Documents, and check and verify pertinent figures and dimensions therein, particularly with respect to applicable field measurements. Contractor shall promptly report in writing to Engineer any conflict, error, ambiguity, or discrepancy that Contractor discovers, or has actual knowledge of, and shall not proceed with any Work affected thereby until the conflict, error, ambiguity, or discrepancy is resolved by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
2. *Contractor's Review of Contract Documents:* If, before or during the performance of the Work, Contractor discovers any conflict, error, ambiguity, or discrepancy within the Contract Documents, or between the Contract Documents and (a) any applicable Law or Regulation, (b) actual field conditions, (c) any standard specification, manual, reference standard, or code, or (d) any instruction of any Supplier, then Contractor shall promptly report it to Engineer in writing. Contractor shall not proceed with the Work affected thereby (except in an emergency as required by Paragraph 7.15) until the conflict, error, ambiguity, or discrepancy is resolved, by a clarification or interpretation by Engineer, or by an amendment or supplement to the Contract issued pursuant to Paragraph 11.01.
3. Contractor shall not be liable to Owner or Engineer for failure to report any conflict, error, ambiguity, or discrepancy in the Contract Documents unless Contractor had actual knowledge thereof.

B. *Resolving Discrepancies*

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

3.04 *Requirements of the Contract Documents*

- A. During the performance of the Work and until final payment, Contractor and Owner shall submit to the Engineer in writing all matters in question concerning the requirements of the Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Contract Documents, as soon as possible after such matters arise. Engineer will be the initial interpreter of the requirements of the Contract Documents, and judge of the acceptability of the Work.

SECTION A-13

- B. Engineer will, with reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or initiate an amendment or supplement to the Contract Documents. Engineer's written clarification, interpretation, or decision will be final and binding on Contractor, unless it appeals by submitting a Change Proposal, and on Owner, unless it appeals by filing a Claim.
- C. If a submitted matter in question concerns terms and conditions of the Contract Documents that do not involve (1) the performance or acceptability of the Work under the Contract Documents, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, then Engineer will promptly notify Owner and Contractor in writing that Engineer is unable to provide a decision or interpretation. If Owner and Contractor are unable to agree on resolution of such a matter in question, either party may pursue resolution as provided in Article 12.

3.05 *Reuse of Documents*

- A. Contractor and its Subcontractors and Suppliers shall not:
 - 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 - 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

- A. The Contract Times will commence to run on the 30th day after the Effective Date of the Contract or, if a Notice to Proceed is given, on the day indicated in the Notice to Proceed. A Notice to Proceed may be given at any time within 30 days after the Effective Date of the Contract. In no event will the Contract Times commence to run later than the 60th day after the day of Bid opening or the 30th day after the Effective Date of the Contract, whichever date is earlier.

4.02 *Starting the Work*

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

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the

SECTION A-13

established reference points and property monuments, and shall make no changes or relocations without the prior written approval of Owner. Contractor shall report to Engineer whenever any reference point or property monument is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points or property monuments by professionally qualified personnel.

4.04 *Progress Schedule*

- A. Contractor shall adhere to the Progress Schedule established in accordance with Paragraph 2.05 as it may be adjusted from time to time as provided below.
 - 1. Contractor shall submit to Engineer for acceptance (to the extent indicated in Paragraph 2.05) proposed adjustments in the Progress Schedule that will not result in changing the Contract Times.
 - 2. Proposed adjustments in the Progress Schedule that will change the Contract Times must be submitted in accordance with the requirements of Article 11.
- B. Contractor shall carry on the Work and adhere to the Progress Schedule during all disputes or disagreements with Owner. No Work will be delayed or postponed pending resolution of any disputes or disagreements, or during any appeal process, except as permitted by Paragraph 16.04, or as Owner and Contractor may otherwise agree in writing.

4.05 *Delays in Contractor's Progress*

- A. If Owner, Engineer, or anyone for whom Owner is responsible, delays, disrupts, or interferes with the performance or progress of the Work, then Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times.
- B. Contractor shall not be entitled to an adjustment in Contract Price or Contract Times for delay, disruption, or interference caused by or within the control of Contractor. Delay, disruption, and interference attributable to and within the control of a Subcontractor or Supplier shall be deemed to be within the control of Contractor.
- C. If Contractor's performance or progress is delayed, disrupted, or interfered with by unanticipated causes not the fault of and beyond the control of Owner, Contractor, and those for which they are responsible, then Contractor shall be entitled to an equitable adjustment in Contract Times. Such an adjustment will be Contractor's sole and exclusive remedy for the delays, disruption, and interference described in this paragraph. Causes of delay, disruption, or interference that may give rise to an adjustment in Contract Times under this paragraph include but are not limited to the following:
 - 1. Severe and unavoidable natural catastrophes such as fires, floods, epidemics, and earthquakes;
 - 2. Abnormal weather conditions;
 - 3. Acts or failures to act of third-party utility owners or other third-party entities (other than those third-party utility owners or other third-party entities performing other work at or adjacent to the Site as arranged by or under contract with Owner, as contemplated in Article 8); and
 - 4. Acts of war or terrorism.

SECTION A-13

- D. Contractor's entitlement to an adjustment of Contract Times or Contract Price is limited as follows:
1. Contractor's entitlement to an adjustment of the Contract Times is conditioned on the delay, disruption, or interference adversely affecting an activity on the critical path to completion of the Work, as of the time of the delay, disruption, or interference.
 2. Contractor shall not be entitled to an adjustment in Contract Price for any delay, disruption, or interference if such delay is concurrent with a delay, disruption, or interference caused by or within the control of Contractor. Such a concurrent delay by Contractor shall not preclude an adjustment of Contract Times to which Contractor is otherwise entitled.
 3. Adjustments of Contract Times or Contract Price are subject to the provisions of Article 11.
- E. Each Contractor request or Change Proposal seeking an increase in Contract Times or Contract Price must be supplemented by supporting data that sets forth in detail the following:
1. The circumstances that form the basis for the requested adjustment;
 2. The date upon which each cause of delay, disruption, or interference began to affect the progress of the Work;
 3. The date upon which each cause of delay, disruption, or interference ceased to affect the progress of the Work;
 4. The number of days' increase in Contract Times claimed as a consequence of each such cause of delay, disruption, or interference; and
 5. The impact on Contract Price, in accordance with the provisions of Paragraph 11.07.
- Contractor shall also furnish such additional supporting documentation as Owner or Engineer may require including, where appropriate, a revised progress schedule indicating all the activities affected by the delay, disruption, or interference, and an explanation of the effect of the delay, disruption, or interference on the critical path to completion of the Work.
- F. Delays, disruption, and interference to the performance or progress of the Work resulting from the existence of a differing subsurface or physical condition, an Underground Facility that was not shown or indicated by the Contract Documents, or not shown or indicated with reasonable accuracy, and those resulting from Hazardous Environmental Conditions, are governed by Article 5, together with the provisions of Paragraphs 4.05.D and 4.05.E.
- G. Paragraph 8.03 addresses delays, disruption, and interference to the performance or progress of the Work resulting from the performance of certain other work at or adjacent to the Site.

ARTICLE 5—SITE; SUBSURFACE AND PHYSICAL CONDITIONS; HAZARDOUS ENVIRONMENTAL CONDITIONS

5.01 *Availability of Lands*

- A. Owner shall furnish the Site. Owner shall notify Contractor in writing of any encumbrances or restrictions not of general application but specifically related to use of the Site with which Contractor must comply in performing the Work.

SECTION A-13

- B. Upon reasonable written request, Owner shall furnish Contractor with a current statement of record legal title and legal description of the lands upon which permanent improvements are to be made and Owner's interest therein as necessary for giving notice of or filing a mechanic's or construction lien against such lands in accordance with applicable Laws and Regulations.
- C. Contractor shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

5.02 *Use of Site and Other Areas*

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

1. Contractor shall confine construction equipment, temporary construction facilities, the storage of materials and equipment, and the operations of workers to the Site, adjacent areas that Contractor has arranged to use through construction easements or otherwise, and other adjacent areas permitted by Laws and Regulations, and shall not unreasonably encumber the Site and such other adjacent areas with construction equipment or other materials or equipment. Contractor shall assume full responsibility for (a) damage to the Site; (b) damage to any such other adjacent areas used for Contractor's operations; (c) damage to any other adjacent land or areas, or to improvements, structures, utilities, or similar facilities located at such adjacent lands or areas; and (d) for injuries and losses sustained by the owners or occupants of any such land or areas; provided that such damage or injuries result from the performance of the Work or from other actions or conduct of the Contractor or those for which Contractor is responsible.
 2. If a damage or injury claim is made by the owner or occupant of any such land or area because of the performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible, Contractor shall (a) take immediate corrective or remedial action as required by Paragraph 7.13, or otherwise; (b) promptly attempt to settle the claim as to all parties through negotiations with such owner or occupant, or otherwise resolve the claim by arbitration or other dispute resolution proceeding, or in a court of competent jurisdiction; and (c) to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from and against any such claim, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to any claim or action, legal or equitable, brought by any such owner or occupant against Owner, Engineer, or any other party indemnified hereunder to the extent caused directly or indirectly, in whole or in part by, or based upon, Contractor's performance of the Work, or because of other actions or conduct of the Contractor or those for which Contractor is responsible.
- B. *Removal of Debris During Performance of the Work:* During the progress of the Work the Contractor shall keep the Site and other adjacent areas free from accumulations of waste materials, rubbish, and other debris. Removal and disposal of such waste materials, rubbish, and other debris will conform to applicable Laws and Regulations.
 - C. *Cleaning:* Prior to Substantial Completion of the Work Contractor shall clean the Site and the Work and make it ready for utilization by Owner. At the completion of the Work Contractor shall remove from the Site and adjacent areas all tools, appliances, construction equipment

SECTION A-13

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

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

5.03 *Subsurface and Physical Conditions*

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

1. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data;
2. Those drawings of existing physical conditions at or adjacent to the Site, including those drawings depicting existing surface or subsurface structures at or adjacent to the Site (except Underground Facilities), that contain Technical Data; and
3. Technical Data contained in such reports and drawings.

- B. *Underground Facilities:* Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05, and not in the drawings referred to in Paragraph 5.03.A. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.

- C. *Reliance by Contractor on Technical Data:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely upon the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b.

- D. *Limitations of Other Data and Documents:* Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:
1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor, and safety precautions and programs incident thereto;
 2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings;
 3. the contents of other Site-related documents made available to Contractor, such as record drawings from other projects at or adjacent to the Site, or Owner's archival documents concerning the Site; or
 4. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions, or information.

SECTION A-13

5.04 *Differing Subsurface or Physical Conditions*

- A. *Notice by Contractor:* If Contractor believes that any subsurface or physical condition that is uncovered or revealed at the Site:
1. is of such a nature as to establish that any Technical Data on which Contractor is entitled to rely as provided in Paragraph 5.03 is materially inaccurate;
 2. is of such a nature as to require a change in the Drawings or Specifications;
 3. differs materially from that shown or indicated in the Contract Documents; or
 4. is of an unusual nature, and differs materially from conditions ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents;

then Contractor shall, promptly after becoming aware thereof and before further disturbing the subsurface or physical conditions or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing about such condition. Contractor shall not further disturb such condition or perform any Work in connection therewith (except with respect to an emergency) until receipt of a written statement permitting Contractor to do so.

- B. *Engineer's Review:* After receipt of written notice as required by the preceding paragraph, Engineer will promptly review the subsurface or physical condition in question; determine whether it is necessary for Owner to obtain additional exploration or tests with respect to the condition; conclude whether the condition falls within any one or more of the differing site condition categories in Paragraph 5.04.A; obtain any pertinent cost or schedule information from Contractor; prepare recommendations to Owner regarding the Contractor's resumption of Work in connection with the subsurface or physical condition in question and the need for any change in the Drawings or Specifications; and advise Owner in writing of Engineer's findings, conclusions, and recommendations.
- C. *Owner's Statement to Contractor Regarding Site Condition:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the subsurface or physical condition in question, addressing the resumption of Work in connection with such condition, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations, in whole or in part.
- D. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the subsurface or physical condition in question may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the condition in question has been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- E. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in Contract Price or Contract Times, to the extent that the existence of a differing subsurface or physical condition, or any related delay, disruption, or interference, causes an increase or decrease in

SECTION A-13

Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. Such condition must fall within any one or more of the categories described in Paragraph 5.04.A;
 - b. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03; and,
 - c. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E.
2. Contractor shall not be entitled to any adjustment in the Contract Price or Contract Times with respect to a subsurface or physical condition if:
- a. Contractor knew of the existence of such condition at the time Contractor made a commitment to Owner with respect to Contract Price and Contract Times by the submission of a Bid or becoming bound under a negotiated contract, or otherwise;
 - b. The existence of such condition reasonably could have been discovered or revealed as a result of any examination, investigation, exploration, test, or study of the Site and contiguous areas expressly required by the Bidding Requirements or Contract Documents to be conducted by or for Contractor prior to Contractor's making such commitment; or
 - c. Contractor failed to give the written notice required by Paragraph 5.04.A.
3. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
4. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the subsurface or physical condition in question.
- F. *Underground Facilities; Hazardous Environmental Conditions*: Paragraph 5.05 governs rights and responsibilities regarding the presence or location of Underground Facilities. Paragraph 5.06 governs rights and responsibilities regarding Hazardous Environmental Conditions. The provisions of Paragraphs 5.03 and 5.04 are not applicable to the presence or location of Underground Facilities, or to Hazardous Environmental Conditions.

5.05 *Underground Facilities*

- A. *Contractor's Responsibilities*: Unless it is otherwise expressly provided in the Supplementary Conditions, the cost of all of the following are included in the Contract Price, and Contractor shall have full responsibility for:
1. reviewing and checking all information and data regarding existing Underground Facilities at the Site;
 2. complying with applicable state and local utility damage prevention Laws and Regulations;

SECTION A-13

3. verifying the actual location of those Underground Facilities shown or indicated in the Contract Documents as being within the area affected by the Work, by exposing such Underground Facilities during the course of construction;
 4. coordination of the Work with the owners (including Owner) of such Underground Facilities, during construction; and
 5. the safety and protection of all existing Underground Facilities at the Site, and repairing any damage thereto resulting from the Work.
- B. *Notice by Contractor:* If Contractor believes that an Underground Facility that is uncovered or revealed at the Site was not shown or indicated on the Drawings, or was not shown or indicated on the Drawings with reasonable accuracy, then Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by Paragraph 7.15), notify Owner and Engineer in writing regarding such Underground Facility.
- C. *Engineer's Review:* Engineer will:
1. promptly review the Underground Facility and conclude whether such Underground Facility was not shown or indicated on the Drawings, or was not shown or indicated with reasonable accuracy;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

During such time, Contractor shall be responsible for the safety and protection of such Underground Facility.

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown

SECTION A-13

or indicated on the Drawings, or was not shown or indicated with reasonable accuracy, or any related delay, disruption, or interference, causes an increase or decrease in Contractor's cost of, or time required for, performance of the Work; subject, however, to the following:

- a. With respect to Work that is paid for on a unit price basis, any adjustment in Contract Price will be subject to the provisions of Paragraph 13.03;
 - b. Contractor's entitlement to an adjustment of the Contract Times is subject to the provisions of Paragraphs 4.05.D and 4.05.E; and
 - c. Contractor gave the notice required in Paragraph 5.05.B.
2. If Owner and Contractor agree regarding Contractor's entitlement to and the amount or extent of any adjustment in the Contract Price or Contract Times, then any such adjustment will be set forth in a Change Order.
 3. Contractor may submit a Change Proposal regarding its entitlement to or the amount or extent of any adjustment in the Contract Price or Contract Times, no later than 30 days after Owner's issuance of the Owner's written statement to Contractor regarding the Underground Facility in question.
 4. The information and data shown or indicated on the Drawings with respect to existing Underground Facilities at the Site is based on information and data (a) furnished by the owners of such Underground Facilities, or by others, (b) obtained from available records, or (c) gathered in an investigation conducted in accordance with the current edition of ASCE 38, Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data, by the American Society of Civil Engineers. If such information or data is incorrect or incomplete, Contractor's remedies are limited to those set forth in this Paragraph 5.05.F.

5.06 *Hazardous Environmental Conditions at Site*

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

1. those reports known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site;
2. drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site; and
3. Technical Data contained in such reports and drawings.

B. *Reliance by Contractor on Technical Data Authorized:* Contractor may rely upon the accuracy of the Technical Data expressly identified in the Supplementary Conditions with respect to such reports and drawings, but such reports and drawings are not Contract Documents. If no such express identification has been made, then Contractor may rely on the accuracy of the Technical Data as defined in Paragraph 1.01.A.46.b. Except for such reliance on Technical Data, Contractor may not rely upon or make any claim against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, with respect to:

1. the completeness of such reports and drawings for Contractor's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures

SECTION A-13

- of construction to be employed by Contractor, and safety precautions and programs incident thereto;
2. other data, interpretations, opinions, and information contained in such reports or shown or indicated in such drawings; or
 3. any Contractor interpretation of or conclusion drawn from any Technical Data or any such other data, interpretations, opinions or information.
- C. Contractor shall not be responsible for removing or remediating any Hazardous Environmental Condition encountered, uncovered, or revealed at the Site unless such removal or remediation is expressly identified in the Contract Documents to be within the scope of the Work.
- D. Contractor shall be responsible for controlling, containing, and duly removing all Constituents of Concern brought to the Site by Contractor, Subcontractors, Suppliers, or anyone else for whom Contractor is responsible, and for any associated costs; and for the costs of removing and remediating any Hazardous Environmental Condition created by the presence of any such Constituents of Concern.
- E. If Contractor encounters, uncovers, or reveals a Hazardous Environmental Condition whose removal or remediation is not expressly identified in the Contract Documents as being within the scope of the Work, or if Contractor or anyone for whom Contractor is responsible creates a Hazardous Environmental Condition, then Contractor shall immediately: (1) secure or otherwise isolate such condition; (2) stop all Work in connection with such condition and in any area affected thereby (except in an emergency as required by Paragraph 7.15); and (3) notify Owner and Engineer (and promptly thereafter confirm such notice in writing). Owner shall promptly consult with Engineer concerning the necessity for Owner to retain a qualified expert to evaluate such condition or take corrective action, if any. Promptly after consulting with Engineer, Owner shall take such actions as are necessary to permit Owner to timely obtain required permits and provide Contractor the written notice required by Paragraph 5.06.F. If Contractor or anyone for whom Contractor is responsible created the Hazardous Environmental Condition in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
- G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
- H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special

SECTION A-13

conditions, then Owner may order the portion of the Work that is in the area affected by such condition to be deleted from the Work, following the contractual change procedures in Article 11. Owner may have such deleted portion of the Work performed by Owner's own forces or others in accordance with Article 8.

- I. To the fullest extent permitted by Laws and Regulations, Owner shall indemnify and hold harmless Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court, arbitration, or other dispute resolution costs) arising out of or relating to a Hazardous Environmental Condition, provided that such Hazardous Environmental Condition (1) was not shown or indicated in the Drawings, Specifications, or other Contract Documents, identified as Technical Data entitled to limited reliance pursuant to Paragraph 5.06.B, or identified in the Contract Documents to be included within the scope of the Work, and (2) was not created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.I obligates Owner to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- J. To the fullest extent permitted by Laws and Regulations, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to the failure to control, contain, or remove a Constituent of Concern brought to the Site by Contractor or by anyone for whom Contractor is responsible, or to a Hazardous Environmental Condition created by Contractor or by anyone for whom Contractor is responsible. Nothing in this Paragraph 5.06.J obligates Contractor to indemnify any individual or entity from and against the consequences of that individual's or entity's own negligence.
- K. The provisions of Paragraphs 5.03, 5.04, and 5.05 do not apply to the presence of Constituents of Concern or to a Hazardous Environmental Condition uncovered or revealed at the Site.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

- A. Contractor shall furnish a performance bond and a payment bond, each in an amount at least equal to the Contract Price, as security for the faithful performance and payment of Contractor's obligations under the Contract. These bonds must remain in effect until one year after the date when final payment becomes due or until completion of the correction period specified in Paragraph 15.08, whichever is later, except as provided otherwise by Laws or Regulations, the terms of a prescribed bond form, the Supplementary Conditions, or other provisions of the Contract.
- B. Contractor shall also furnish such other bonds (if any) as are required by the Supplementary Conditions or other provisions of the Contract.
- C. All bonds must be in the form included in the Bidding Documents or otherwise specified by Owner prior to execution of the Contract, except as provided otherwise by Laws or

SECTION A-13

Regulations, and must be issued and signed by a surety named in “Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies” as published in Department Circular 570 (as amended and supplemented) by the Bureau of the Fiscal Service, U.S. Department of the Treasury. A bond signed by an agent or attorney-in-fact must be accompanied by a certified copy of that individual’s authority to bind the surety. The evidence of authority must show that it is effective on the date the agent or attorney-in-fact signed the accompanying bond.

- D. Contractor shall obtain the required bonds from surety companies that are duly licensed or authorized, in the state or jurisdiction in which the Project is located, to issue bonds in the required amounts.
- E. If the surety on a bond furnished by Contractor is declared bankrupt or becomes insolvent, or the surety ceases to meet the requirements above, then Contractor shall promptly notify Owner and Engineer in writing and shall, within 20 days after the event giving rise to such notification, provide another bond and surety, both of which must comply with the bond and surety requirements above.
- F. If Contractor has failed to obtain a required bond, Owner may exclude the Contractor from the Site and exercise Owner’s termination rights under Article 16.
- G. Upon request to Owner from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Owner shall provide a copy of the payment bond to such person or entity.
- H. Upon request to Contractor from any Subcontractor, Supplier, or other person or entity claiming to have furnished labor, services, materials, or equipment used in the performance of the Work, Contractor shall provide a copy of the payment bond to such person or entity.

6.02 *Insurance—General Provisions*

- A. Owner and Contractor shall obtain and maintain insurance as required in this article and in the Supplementary Conditions.
- B. All insurance required by the Contract to be purchased and maintained by Owner or Contractor shall be obtained from insurance companies that are duly licensed or authorized in the state or jurisdiction in which the Project is located to issue insurance policies for the required limits and coverages. Unless a different standard is indicated in the Supplementary Conditions, all companies that provide insurance policies required under this Contract shall have an A.M. Best rating of A-VII or better.
- C. Alternative forms of insurance coverage, including but not limited to self-insurance and “Occupational Accident and Excess Employer’s Indemnity Policies,” are not sufficient to meet the insurance requirements of this Contract, unless expressly allowed in the Supplementary Conditions.
- D. Contractor shall deliver to Owner, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Contractor has obtained and is maintaining the policies and coverages required by the Contract. Upon request by Owner or any other insured, Contractor shall also furnish other evidence of such required insurance, including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, full disclosure of all relevant exclusions, and evidence of insurance required to be purchased and maintained by

SECTION A-13

- Subcontractors or Suppliers. In any documentation furnished under this provision, Contractor, Subcontractors, and Suppliers may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those applicable to this Contract.
- E. Owner shall deliver to Contractor, with copies to each additional insured identified in the Contract, certificates of insurance and endorsements establishing that Owner has obtained and is maintaining the policies and coverages required of Owner by the Contract (if any). Upon request by Contractor or any other insured, Owner shall also provide other evidence of such required insurance (if any), including but not limited to copies of policies, documentation of applicable self-insured retentions (if allowed) and deductibles, and full disclosure of all relevant exclusions. In any documentation furnished under this provision, Owner may block out (redact) (1) any confidential premium or pricing information and (2) any wording specific to a project or jurisdiction other than those relevant to this Contract.
 - F. Failure of Owner or Contractor to demand such certificates or other evidence of the other party's full compliance with these insurance requirements, or failure of Owner or Contractor to identify a deficiency in compliance from the evidence provided, will not be construed as a waiver of the other party's obligation to obtain and maintain such insurance.
 - G. In addition to the liability insurance required to be provided by Contractor, the Owner, at Owner's option, may purchase and maintain Owner's own liability insurance. Owner's liability policies, if any, operate separately and independently from policies required to be provided by Contractor, and Contractor cannot rely upon Owner's liability policies for any of Contractor's obligations to the Owner, Engineer, or third parties.
 - H. Contractor shall require:
 - 1. Subcontractors to purchase and maintain worker's compensation, commercial general liability, and other insurance that is appropriate for their participation in the Project, and to name as additional insureds Owner and Engineer (and any other individuals or entities identified in the Supplementary Conditions as additional insureds on Contractor's liability policies) on each Subcontractor's commercial general liability insurance policy; and
 - 2. Suppliers to purchase and maintain insurance that is appropriate for their participation in the Project.
 - I. If either party does not purchase or maintain the insurance required of such party by the Contract, such party shall notify the other party in writing of such failure to purchase prior to the start of the Work, or of such failure to maintain prior to any change in the required coverage.
 - J. If Contractor has failed to obtain and maintain required insurance, Contractor's entitlement to enter or remain at the Site will end immediately, and Owner may impose an appropriate set-off against payment for any associated costs (including but not limited to the cost of purchasing necessary insurance coverage), and exercise Owner's termination rights under Article 16.
 - K. Without prejudice to any other right or remedy, if a party has failed to obtain required insurance, the other party may elect (but is in no way obligated) to obtain equivalent insurance to protect such other party's interests at the expense of the party who was required to provide such coverage, and the Contract Price will be adjusted accordingly.

SECTION A-13

- L. Owner does not represent that insurance coverage and limits established in this Contract necessarily will be adequate to protect Contractor or Contractor's interests. Contractor is responsible for determining whether such coverage and limits are adequate to protect its interests, and for obtaining and maintaining any additional insurance that Contractor deems necessary.
- M. The insurance and insurance limits required herein will not be deemed as a limitation on Contractor's liability, or that of its Subcontractors or Suppliers, under the indemnities granted to Owner and other individuals and entities in the Contract or otherwise.
- N. All the policies of insurance required to be purchased and maintained under this Contract will contain a provision or endorsement that the coverage afforded will not be canceled, or renewal refused, until at least 10 days prior written notice has been given to the purchasing policyholder. Within three days of receipt of any such written notice, the purchasing policyholder shall provide a copy of the notice to each other insured and Engineer.

6.03 Contractor's Insurance

- A. *Required Insurance:* Contractor shall purchase and maintain Worker's Compensation, Commercial General Liability, and other insurance pursuant to the specific requirements of the Supplementary Conditions.
- B. *General Provisions:* The policies of insurance required by this Paragraph 6.03 as supplemented must:
 - 1. include at least the specific coverages required;
 - 2. be written for not less than the limits provided, or those required by Laws or Regulations, whichever is greater;
 - 3. remain in effect at least until the Work is complete (as set forth in Paragraph 15.06.D), and longer if expressly required elsewhere in this Contract, and at all times thereafter when Contractor may be correcting, removing, or replacing defective Work as a warranty or correction obligation, or otherwise, or returning to the Site to conduct other tasks arising from the Contract;
 - 4. apply with respect to the performance of the Work, whether such performance is by Contractor, any Subcontractor or Supplier, or by anyone directly or indirectly employed by any of them to perform any of the Work, or by anyone for whose acts any of them may be liable; and
 - 5. include all necessary endorsements to support the stated requirements.
- C. *Additional Insureds:* The Contractor's commercial general liability, automobile liability, employer's liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies, if required by this Contract, must:
 - 1. include and list as additional insureds Owner and Engineer, and any individuals or entities identified as additional insureds in the Supplementary Conditions;
 - 2. include coverage for the respective officers, directors, members, partners, employees, and consultants of all such additional insureds;
 - 3. afford primary coverage to these additional insureds for all claims covered thereby (including as applicable those arising from both ongoing and completed operations);

SECTION A-13

4. not seek contribution from insurance maintained by the additional insured; and
5. as to commercial general liability insurance, apply to additional insureds with respect to liability caused in whole or in part by Contractor's acts or omissions, or the acts and omissions of those working on Contractor's behalf, in the performance of Contractor's operations.

6.04 *Builder's Risk and Other Property Insurance*

- A. *Builder's Risk*: Unless otherwise provided in the Supplementary Conditions, Contractor shall purchase and maintain builder's risk insurance upon the Work on a completed value basis, in the amount of the Work's full insurable replacement cost (subject to such deductible amounts as may be provided in the Supplementary Conditions or required by Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.
- B. *Property Insurance for Facilities of Owner Where Work Will Occur*: Owner is responsible for obtaining and maintaining property insurance covering each existing structure, building, or facility in which any part of the Work will occur, or to which any part of the Work will attach or be adjoined. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, providing coverage consistent with that required for the builder's risk insurance, and will be maintained until the Work is complete, as set forth in Paragraph 15.06.D.
- C. *Property Insurance for Substantially Complete Facilities*: Promptly after Substantial Completion, and before actual occupancy or use of the substantially completed Work, Owner will obtain property insurance for such substantially completed Work, and maintain such property insurance at least until the Work is complete, as set forth in Paragraph 15.06.D. Such property insurance will be written on a special perils (all-risk) form, on a replacement cost basis, and provide coverage consistent with that required for the builder's risk insurance. The builder's risk insurance may terminate upon written confirmation of Owner's procurement of such property insurance.
- D. *Partial Occupancy or Use by Owner*: If Owner will occupy or use a portion or portions of the Work prior to Substantial Completion of all the Work, as provided in Paragraph 15.04, then Owner (directly, if it is the purchaser of the builder's risk policy, or through Contractor) will provide advance notice of such occupancy or use to the builder's risk insurer, and obtain an endorsement consenting to the continuation of coverage prior to commencing such partial occupancy or use.
- E. *Insurance of Other Property; Additional Insurance*: If the express insurance provisions of the Contract do not require or address the insurance of a property item or interest, then the entity or individual owning such property item will be responsible for insuring it. If Contractor elects to obtain other special insurance to be included in or supplement the builder's risk or property insurance policies provided under this Paragraph 6.04, it may do so at Contractor's expense.

6.05 *Property Losses; Subrogation*

- A. The builder's risk insurance policy purchased and maintained in accordance with Paragraph 6.04 (or an installation floater policy if authorized by the Supplementary Conditions), will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against

SECTION A-13

Engineer or its consultants, or their officers, directors, members, partners, employees, agents, consultants, or subcontractors.

1. Owner and Contractor waive all rights against each other and the respective officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from any of the perils, risks, or causes of loss covered by such policies and any other property insurance applicable to the Work; and, in addition, waive all such rights against Engineer, its consultants, all individuals or entities identified in the Supplementary Conditions as builder's risk or installation floater insureds, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, under such policies for losses and damages so caused.
 2. None of the above waivers extends to the rights that any party making such waiver may have to the proceeds of insurance held by Owner or Contractor as trustee or fiduciary, or otherwise payable under any policy so issued.
- B. Any property insurance policy maintained by Owner covering any loss, damage, or consequential loss to Owner's existing structures, buildings, or facilities in which any part of the Work will occur, or to which any part of the Work will attach or adjoin; to adjacent structures, buildings, or facilities of Owner; or to part or all of the completed or substantially completed Work, during partial occupancy or use pursuant to Paragraph 15.04, after Substantial Completion pursuant to Paragraph 15.03, or after final payment pursuant to Paragraph 15.06, will contain provisions to the effect that in the event of payment of any loss or damage the insurer will have no rights of recovery against any insureds thereunder, or against Contractor, Subcontractors, or Engineer, or the officers, directors, members, partners, employees, agents, consultants, or subcontractors of each and any of them, and that the insured is allowed to waive the insurer's rights of subrogation in a written contract executed prior to the loss, damage, or consequential loss.
1. Owner waives all rights against Contractor, Subcontractors, and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, for all losses and damages caused by, arising out of, or resulting from fire or any of the perils, risks, or causes of loss covered by such policies.
- C. The waivers in this Paragraph 6.05 include the waiver of rights due to business interruption, loss of use, or other consequential loss extending beyond direct physical loss or damage to Owner's property or the Work caused by, arising out of, or resulting from fire or other insured peril, risk, or cause of loss.
- D. Contractor shall be responsible for assuring that each Subcontract contains provisions whereby the Subcontractor waives all rights against Owner, Contractor, all individuals or entities identified in the Supplementary Conditions as insureds, the Engineer and its consultants, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, for all losses and damages caused by, arising out of, relating to, or resulting from fire or other peril, risk, or cause of loss covered by builder's risk insurance, installation floater, and any other property insurance applicable to the Work.

SECTION A-13

6.06 *Receipt and Application of Property Insurance Proceeds*

- A. Any insured loss under the builder's risk and other policies of property insurance required by Paragraph 6.04 will be adjusted and settled with the named insured that purchased the policy. Such named insured shall act as fiduciary for the other insureds, and give notice to such other insureds that adjustment and settlement of a claim is in progress. Any other insured may state its position regarding a claim for insured loss in writing within 15 days after notice of such claim.
- B. Proceeds for such insured losses may be made payable by the insurer either jointly to multiple insureds, or to the named insured that purchased the policy in its own right and as fiduciary for other insureds, subject to the requirements of any applicable mortgage clause. A named insured receiving insurance proceeds under the builder's risk and other policies of insurance required by Paragraph 6.04 shall maintain such proceeds in a segregated account, and distribute such proceeds in accordance with such agreement as the parties in interest may reach, or as otherwise required under the dispute resolution provisions of this Contract or applicable Laws and Regulations.
- C. If no other special agreement is reached, Contractor shall repair or replace the damaged Work, using allocated insurance proceeds.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.01 *Contractor's Means and Methods of Construction*

- A. Contractor shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction.
- B. If the Contract Documents note, or Contractor determines, that professional engineering or other design services are needed to carry out Contractor's responsibilities for construction means, methods, techniques, sequences, and procedures, or for Site safety, then Contractor shall cause such services to be provided by a properly licensed design professional, at Contractor's expense. Such services are not Owner-delegated professional design services under this Contract, and neither Owner nor Engineer has any responsibility with respect to (1) Contractor's determination of the need for such services, (2) the qualifications or licensing of the design professionals retained or employed by Contractor, (3) the performance of such services, or (4) any errors, omissions, or defects in such services.

7.02 *Supervision and Superintendence*

- A. Contractor shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents.
- B. At all times during the progress of the Work, Contractor shall assign a competent resident superintendent who will not be replaced without written notice to Owner and Engineer except under extraordinary circumstances.

7.03 *Labor; Working Hours*

- A. Contractor shall provide competent, suitably qualified personnel to survey and lay out the Work and perform construction as required by the Contract Documents. Contractor shall maintain good discipline and order at the Site.

SECTION A-13

- B. Contractor shall be fully responsible to Owner and Engineer for all acts and omissions of Contractor's employees; of Suppliers and Subcontractors, and their employees; and of any other individuals or entities performing or furnishing any of the Work, just as Contractor is responsible for Contractor's own acts and omissions.
- C. Except as otherwise required for the safety or protection of persons or the Work or property at the Site or adjacent thereto, and except as otherwise stated in the Contract Documents, all Work at the Site will be performed during regular working hours, Monday through Friday. Contractor will not perform Work on a Saturday, Sunday, or any legal holiday. Contractor may perform Work outside regular working hours or on Saturdays, Sundays, or legal holidays only with Owner's written consent, which will not be unreasonably withheld.

7.04 *Services, Materials, and Equipment*

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

7.05 *"Or Equals"*

- A. *Contractor's Request; Governing Criteria:* Whenever an item of equipment or material is specified or described in the Contract Documents by using the names of one or more proprietary items or specific Suppliers, the Contract Price has been based upon Contractor furnishing such item as specified. The specification or description of such an item is intended to establish the type, function, appearance, and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent, or "or equal" item is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material, or items from other proposed Suppliers, under the circumstances described below.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an "or equal" item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;

SECTION A-13

- 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
- b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
- 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor's Expense:* Contractor shall provide all data in support of any proposed "or equal" item at Contractor's expense.
- C. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each "or-equal" request. Engineer may require Contractor to furnish additional data about the proposed "or-equal" item. Engineer will be the sole judge of acceptability. No "or-equal" item will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an "or-equal," which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.
- D. *Effect of Engineer's Determination:* Neither approval nor denial of an "or-equal" request will result in any change in Contract Price. The Engineer's denial of an "or-equal" request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an "or-equal" item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 Substitutes

- A. *Contractor's Request; Governing Criteria:* Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.

SECTION A-13

3. Contractor shall make written application to Engineer for review of a proposed substitute item of equipment or material that Contractor seeks to furnish or use. The application:
 - a. will certify that the proposed substitute item will:
 - 1) perform adequately the functions and achieve the results called for by the general design;
 - 2) be similar in substance to the item specified; and
 - 3) be suited to the same use as the item specified.
 - b. will state:
 - 1) the extent, if any, to which the use of the proposed substitute item will necessitate a change in Contract Times;
 - 2) whether use of the proposed substitute item in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with Owner for other work on the Project) to adapt the design to the proposed substitute item; and
 - 3) whether incorporation or use of the proposed substitute item in connection with the Work is subject to payment of any license fee or royalty.
 - c. will identify:
 - 1) all variations of the proposed substitute item from the item specified; and
 - 2) available engineering, sales, maintenance, repair, and replacement services.
 - d. will contain an itemized estimate of all costs or credits that will result directly or indirectly from use of such substitute item, including but not limited to changes in Contract Price, shared savings, costs of redesign, and claims of other contractors affected by any resulting change.
- B. *Engineer's Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each substitute request, and to obtain comments and direction from Owner. Engineer may require Contractor to furnish additional data about the proposed substitute item. Engineer will be the sole judge of acceptability. No substitute will be ordered, furnished, installed, or utilized until Engineer's review is complete and Engineer determines that the proposed item is an acceptable substitute. Engineer's determination will be evidenced by a Field Order or a proposed Change Order accounting for the substitution itself and all related impacts, including changes in Contract Price or Contract Times. Engineer will advise Contractor in writing of any negative determination.
- C. *Special Guarantee:* Owner may require Contractor to furnish at Contractor's expense a special performance guarantee or other surety with respect to any substitute.
- D. *Reimbursement of Engineer's Cost:* Engineer will record Engineer's costs in evaluating a substitute proposed or submitted by Contractor. Whether or not Engineer approves a substitute so proposed or submitted by Contractor, Contractor shall reimburse Owner for the reasonable charges of Engineer for evaluating each such proposed substitute. Contractor shall also reimburse Owner for the reasonable charges of Engineer for making changes in the Contract Documents (or in the provisions of any other direct contract with Owner) resulting from the acceptance of each proposed substitute.

SECTION A-13

- E. *Contractor's Expense*: Contractor shall provide all data in support of any proposed substitute at Contractor's expense.
- F. *Effect of Engineer's Determination*: If Engineer approves the substitution request, Contractor shall execute the proposed Change Order and proceed with the substitution. The Engineer's denial of a substitution request will be final and binding, and may not be reversed through an appeal under any provision of the Contract. Contractor may challenge the scope of reimbursement costs imposed under Paragraph 7.06.D, by timely submittal of a Change Proposal.

7.07 *Concerning Subcontractors and Suppliers*

- A. Contractor may retain Subcontractors and Suppliers for the performance of parts of the Work. Such Subcontractors and Suppliers must be acceptable to Owner. The Contractor's retention of a Subcontractor or Supplier for the performance of parts of the Work will not relieve Contractor's obligation to Owner to perform and complete the Work in accordance with the Contract Documents.
- B. Contractor shall retain specific Subcontractors and Suppliers for the performance of designated parts of the Work if required by the Contract to do so.
- C. Subsequent to the submittal of Contractor's Bid or final negotiation of the terms of the Contract, Owner may not require Contractor to retain any Subcontractor or Supplier to furnish or perform any of the Work against which Contractor has reasonable objection.
- D. Prior to entry into any binding subcontract or purchase order, Contractor shall submit to Owner the identity of the proposed Subcontractor or Supplier (unless Owner has already deemed such proposed Subcontractor or Supplier acceptable during the bidding process or otherwise). Such proposed Subcontractor or Supplier shall be deemed acceptable to Owner unless Owner raises a substantive, reasonable objection within 5 days.
- E. Owner may require the replacement of any Subcontractor or Supplier. Owner also may require Contractor to retain specific replacements; provided, however, that Owner may not require a replacement to which Contractor has a reasonable objection. If Contractor has submitted the identity of certain Subcontractors or Suppliers for acceptance by Owner, and Owner has accepted it (either in writing or by failing to make written objection thereto), then Owner may subsequently revoke the acceptance of any such Subcontractor or Supplier so identified solely on the basis of substantive, reasonable objection after due investigation. Contractor shall submit an acceptable replacement for the rejected Subcontractor or Supplier.
- F. If Owner requires the replacement of any Subcontractor or Supplier retained by Contractor to perform any part of the Work, then Contractor shall be entitled to an adjustment in Contract Price or Contract Times, with respect to the replacement; and Contractor shall initiate a Change Proposal for such adjustment within 30 days of Owner's requirement of replacement.
- G. No acceptance by Owner of any such Subcontractor or Supplier, whether initially or as a replacement, will constitute a waiver of the right of Owner to the completion of the Work in accordance with the Contract Documents.

SECTION A-13

- H. On a monthly basis, Contractor shall submit to Engineer a complete list of all Subcontractors and Suppliers having a direct contract with Contractor, and of all other Subcontractors and Suppliers known to Contractor at the time of submittal.
- I. Contractor shall be solely responsible for scheduling and coordinating the work of Subcontractors and Suppliers.
- J. The divisions and sections of the Specifications and the identifications of any Drawings do not control Contractor in dividing the Work among Subcontractors or Suppliers, or in delineating the Work to be performed by any specific trade.
- K. All Work performed for Contractor by a Subcontractor or Supplier must be pursuant to an appropriate contractual agreement that specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract for the benefit of Owner and Engineer.
- L. Owner may furnish to any Subcontractor or Supplier, to the extent practicable, information about amounts paid to Contractor for Work performed for Contractor by the Subcontractor or Supplier.
- M. Contractor shall restrict all Subcontractors and Suppliers from communicating with Engineer or Owner, except through Contractor or in case of an emergency, or as otherwise expressly allowed in this Contract.

7.08 *Patent Fees and Royalties*

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

SECTION A-13

7.09 *Permits*

- A. Unless otherwise provided in the Contract Documents, Contractor shall obtain and pay for all construction permits, licenses, and certificates of occupancy. Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. Contractor shall pay all governmental charges and inspection fees necessary for the prosecution of the Work which are applicable at the time of the submission of Contractor's Bid (or when Contractor became bound under a negotiated contract). Owner shall pay all charges of utility owners for connections for providing permanent service to the Work.

7.10 *Taxes*

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

7.11 *Laws and Regulations*

- A. Contractor shall give all notices required by and shall comply with all Laws and Regulations applicable to the performance of the Work. Neither Owner nor Engineer shall be responsible for monitoring Contractor's compliance with any Laws or Regulations.
- B. If Contractor performs any Work or takes any other action knowing or having reason to know that it is contrary to Laws or Regulations, Contractor shall bear all resulting costs and losses, and shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants, and subcontractors of each and any of them, from and against all claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such Work or other action. It is not Contractor's responsibility to make certain that the Work described in the Contract Documents is in accordance with Laws and Regulations, but this does not relieve Contractor of its obligations under Paragraph 3.03.
- C. Owner or Contractor may give written notice to the other party of any changes after the submission of Contractor's Bid (or after the date when Contractor became bound under a negotiated contract) in Laws or Regulations having an effect on the cost or time of performance of the Work, including but not limited to changes in Laws or Regulations having an effect on procuring permits and on sales, use, value-added, consumption, and other similar taxes. If Owner and Contractor are unable to agree on entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times resulting from such changes, then within 30 days of such written notice Contractor may submit a Change Proposal, or Owner may initiate a Claim.

7.12 *Record Documents*

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

SECTION A-13

7.13 *Safety and Protection*

- A. Contractor shall be solely responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work. Such responsibility does not relieve Subcontractors of their responsibility for the safety of persons or property in the performance of their work, nor for compliance with applicable safety Laws and Regulations.
- B. Contractor shall designate a qualified and experienced safety representative whose duties and responsibilities are the prevention of Work-related accidents and the maintenance and supervision of safety precautions and programs.
- C. Contractor shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury, or loss to:
 - 1. all persons on the Site or who may be affected by the Work;
 - 2. all the Work and materials and equipment to be incorporated therein, whether in storage on or off the Site; and
 - 3. other property at the Site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, other work in progress, utilities, and Underground Facilities not designated for removal, relocation, or replacement in the course of construction.
- D. All damage, injury, or loss to any property referred to in Paragraph 7.13.C.2 or 7.13.C.3 caused, directly or indirectly, in whole or in part, by Contractor, any Subcontractor, Supplier, or any other individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, shall be remedied by Contractor at its expense (except damage or loss attributable to the fault of Drawings or Specifications or to the acts or omissions of Owner or Engineer or anyone employed by any of them, or anyone for whose acts any of them may be liable, and not attributable, directly or indirectly, in whole or in part, to the fault or negligence of Contractor or any Subcontractor, Supplier, or other individual or entity directly or indirectly employed by any of them).
- E. Contractor shall comply with all applicable Laws and Regulations relating to the safety of persons or property, or to the protection of persons or property from damage, injury, or loss; and shall erect and maintain all necessary safeguards for such safety and protection.
- F. Contractor shall notify Owner; the owners of adjacent property; the owners of Underground Facilities and other utilities (if the identity of such owners is known to Contractor); and other contractors and utility owners performing work at or adjacent to the Site, in writing, when Contractor knows that prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property or work in progress.
- G. Contractor shall comply with the applicable requirements of Owner's safety programs, if any. Any Owner's safety programs that are applicable to the Work are identified or included in the Supplementary Conditions or Specifications.
- H. Contractor shall inform Owner and Engineer of the specific requirements of Contractor's safety program with which Owner's and Engineer's employees and representatives must comply while at the Site.

SECTION A-13

- I. Contractor's duties and responsibilities for safety and protection will continue until all the Work is completed, Engineer has issued a written notice to Owner and Contractor in accordance with Paragraph 15.06.C that the Work is acceptable, and Contractor has left the Site (except as otherwise expressly provided in connection with Substantial Completion).
- J. Contractor's duties and responsibilities for safety and protection will resume whenever Contractor or any Subcontractor or Supplier returns to the Site to fulfill warranty or correction obligations, or to conduct other tasks arising from the Contract Documents.

7.14 *Hazard Communication Programs*

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

7.15 *Emergencies*

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

7.16 *Submittals*

A. *Shop Drawing and Sample Requirements*

1. Before submitting a Shop Drawing or Sample, Contractor shall:
 - a. review and coordinate the Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents;
 - b. determine and verify:
 - 1) all field measurements, quantities, dimensions, specified performance and design criteria, installation requirements, materials, catalog numbers, and similar information with respect to the Submittal;
 - 2) the suitability of all materials and equipment offered with respect to the indicated application, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.

SECTION A-13

3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.
- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.
1. *Shop Drawings*
 - a. Contractor shall submit the number of copies required in the Specifications.
 - b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.
 2. *Samples*
 - a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
 3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.
- C. *Engineer's Review of Shop Drawings and Samples*
1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
 2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
 3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
 4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will

SECTION A-13

document any such approved variation from the requirements of the Contract Documents in a Field Order or other appropriate Contract modification.

5. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for complying with the requirements of Paragraphs 7.16.A and B.
6. Engineer's review and approval of a Shop Drawing or Sample, or of a variation from the requirements of the Contract Documents, will not, under any circumstances, change the Contract Times or Contract Price, unless such changes are included in a Change Order.
7. Neither Engineer's receipt, review, acceptance, or approval of a Shop Drawing or Sample will result in such item becoming a Contract Document.
8. Contractor shall perform the Work in compliance with the requirements and commitments set forth in approved Shop Drawings and Samples, subject to the provisions of Paragraph 7.16.C.4.

D. *Resubmittal Procedures for Shop Drawings and Samples*

1. Contractor shall make corrections required by Engineer and shall return the required number of corrected copies of Shop Drawings and submit, as required, new Samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Engineer on previous Submittals.
2. Contractor shall furnish required Shop Drawing and Sample submittals with sufficient information and accuracy to obtain required approval of an item with no more than two resubmittals. Engineer will record Engineer's time for reviewing a third or subsequent resubmittal of a Shop Drawing or Sample, and Contractor shall be responsible for Engineer's charges to Owner for such time. Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges.
3. If Contractor requests a change of a previously approved Shop Drawing or Sample, Contractor shall be responsible for Engineer's charges to Owner for its review time, and Owner may impose a set-off against payments due Contractor to secure reimbursement for such charges, unless the need for such change is beyond the control of Contractor.

E. *Submittals Other than Shop Drawings, Samples, and Owner-Delegated Designs*

1. The following provisions apply to all Submittals other than Shop Drawings, Samples, and Owner-delegated designs:
 - a. Contractor shall submit all such Submittals to the Engineer in accordance with the Schedule of Submittals and pursuant to the applicable terms of the Contract Documents.
 - b. Engineer will provide timely review of all such Submittals in accordance with the Schedule of Submittals and return such Submittals with a notation of either Accepted or Not Accepted. Any such Submittal that is not returned within the time established in the Schedule of Submittals will be deemed accepted.
 - c. Engineer's review will be only to determine if the Submittal is acceptable under the requirements of the Contract Documents as to general form and content of the Submittal.

SECTION A-13

- d. If any such Submittal is not accepted, Contractor shall confer with Engineer regarding the reason for the non-acceptance, and resubmit an acceptable document.
 2. Procedures for the submittal and acceptance of the Progress Schedule, the Schedule of Submittals, and the Schedule of Values are set forth in Paragraphs 2.03, 2.04, and 2.05.
- F. Owner-delegated Designs: Submittals pursuant to Owner-delegated designs are governed by the provisions of Paragraph 7.19.

7.17 *Contractor's General Warranty and Guarantee*

- A. Contractor warrants and guarantees to Owner that all Work will be in accordance with the Contract Documents and will not be defective. Engineer is entitled to rely on Contractor's warranty and guarantee.
- B. Owner's rights under this warranty and guarantee are in addition to, and are not limited by, Owner's rights under the correction period provisions of Paragraph 15.08. The time in which Owner may enforce its warranty and guarantee rights under this Paragraph 7.17 is limited only by applicable Laws and Regulations restricting actions to enforce such rights; provided, however, that after the end of the correction period under Paragraph 15.08:
1. Owner shall give Contractor written notice of any defective Work within 60 days of the discovery that such Work is defective; and
 2. Such notice will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the notice.
- C. Contractor's warranty and guarantee hereunder excludes defects or damage caused by:
1. abuse, or improper modification, maintenance, or operation, by persons other than Contractor, Subcontractors, Suppliers, or any other individual or entity for whom Contractor is responsible; or
 2. normal wear and tear under normal usage.
- D. Contractor's obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents, a release of Contractor's obligation to perform the Work in accordance with the Contract Documents, or a release of Owner's warranty and guarantee rights under this Paragraph 7.17:
1. Observations by Engineer;
 2. Recommendation by Engineer or payment by Owner of any progress or final payment;
 3. The issuance of a certificate of Substantial Completion by Engineer or any payment related thereto by Owner;
 4. Use or occupancy of the Work or any part thereof by Owner;
 5. Any review and approval of a Shop Drawing or Sample submittal;
 6. The issuance of a notice of acceptability by Engineer;
 7. The end of the correction period established in Paragraph 15.08;
 8. Any inspection, test, or approval by others; or

SECTION A-13

9. Any correction of defective Work by Owner.

- E. If the Contract requires the Contractor to accept the assignment of a contract entered into by Owner, then the specific warranties, guarantees, and correction obligations contained in the assigned contract will govern with respect to Contractor's performance obligations to Owner for the Work described in the assigned contract.

7.18 *Indemnification*

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.
- B. In any and all claims against Owner or Engineer, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

7.19 *Delegation of Professional Design Services*

- A. Owner may require Contractor to provide professional design services for a portion of the Work by express delegation in the Contract Documents. Such delegation will specify the performance and design criteria that such services must satisfy, and the Submittals that Contractor must furnish to Engineer with respect to the Owner-delegated design.
- B. Contractor shall cause such Owner-delegated professional design services to be provided pursuant to the professional standard of care by a properly licensed design professional, whose signature and seal must appear on all drawings, calculations, specifications, certifications, and Submittals prepared by such design professional. Such design professional must issue all certifications of design required by Laws and Regulations.
- C. If a Shop Drawing or other Submittal related to the Owner-delegated design is prepared by Contractor, a Subcontractor, or others for submittal to Engineer, then such Shop Drawing or other Submittal must bear the written approval of Contractor's design professional when submitted by Contractor to Engineer.

SECTION A-13

- D. Owner and Engineer shall be entitled to rely upon the adequacy, accuracy, and completeness of the services, certifications, and approvals performed or provided by the design professionals retained or employed by Contractor under an Owner-delegated design, subject to the professional standard of care and the performance and design criteria stated in the Contract Documents.
- E. Pursuant to this Paragraph 7.19, Engineer's review, approval, and other determinations regarding design drawings, calculations, specifications, certifications, and other Submittals furnished by Contractor pursuant to an Owner-delegated design will be only for the following limited purposes:
 - 1. Checking for conformance with the requirements of this Paragraph 7.19;
 - 2. Confirming that Contractor (through its design professionals) has used the performance and design criteria specified in the Contract Documents; and
 - 3. Establishing that the design furnished by Contractor is consistent with the design concept expressed in the Contract Documents.
- F. Contractor shall not be responsible for the adequacy of performance or design criteria specified by Owner or Engineer.
- G. Contractor is not required to provide professional services in violation of applicable Laws and Regulations.

ARTICLE 8—OTHER WORK AT THE SITE

8.01 *Other Work*

- A. In addition to and apart from the Work under the Contract Documents, the Owner may perform other work at or adjacent to the Site. Such other work may be performed by Owner's employees, or through contracts between the Owner and third parties. Owner may also arrange to have third-party utility owners perform work on their utilities and facilities at or adjacent to the Site.
- B. If Owner performs other work at or adjacent to the Site with Owner's employees, or through contracts for such other work, then Owner shall give Contractor written notice thereof prior to starting any such other work. If Owner has advance information regarding the start of any third-party utility work that Owner has arranged to take place at or adjacent to the Site, Owner shall provide such information to Contractor.
- C. Contractor shall afford proper and safe access to the Site to each contractor that performs such other work, each utility owner performing other work, and Owner, if Owner is performing other work with Owner's employees, and provide a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work.
- D. Contractor shall do all cutting, fitting, and patching of the Work that may be required to properly connect or otherwise make its several parts come together and properly integrate with such other work. Contractor shall not endanger any work of others by cutting, excavating, or otherwise altering such work; provided, however, that Contractor may cut or alter others' work with the written consent of Engineer and the others whose work will be affected.

SECTION A-13

- E. If the proper execution or results of any part of Contractor's Work depends upon work performed by others, Contractor shall inspect such other work and promptly report to Engineer in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of Contractor's Work. Contractor's failure to so report will constitute an acceptance of such other work as fit and proper for integration with Contractor's Work except for latent defects and deficiencies in such other work.
- F. The provisions of this article are not applicable to work that is performed by third-party utilities or other third-party entities without a contract with Owner, or that is performed without having been arranged by Owner. If such work occurs, then any related delay, disruption, or interference incurred by Contractor is governed by the provisions of Paragraph 4.05.C.3.

8.02 *Coordination*

- A. If Owner intends to contract with others for the performance of other work at or adjacent to the Site, to perform other work at or adjacent to the Site with Owner's employees, or to arrange to have utility owners perform work at or adjacent to the Site, the following will be set forth in the Supplementary Conditions or provided to Contractor prior to the start of any such other work:
 - 1. The identity of the individual or entity that will have authority and responsibility for coordination of the activities among the various contractors;
 - 2. An itemization of the specific matters to be covered by such authority and responsibility; and
 - 3. The extent of such authority and responsibilities.
- B. Unless otherwise provided in the Supplementary Conditions, Owner shall have sole authority and responsibility for such coordination.

8.03 *Legal Relationships*

- A. If, in the course of performing other work for Owner at or adjacent to the Site, the Owner's employees, any other contractor working for Owner, or any utility owner that Owner has arranged to perform work, causes damage to the Work or to the property of Contractor or its Subcontractors, or delays, disrupts, interferes with, or increases the scope or cost of the performance of the Work, through actions or inaction, then Contractor shall be entitled to an equitable adjustment in the Contract Price or the Contract Times. Contractor must submit any Change Proposal seeking an equitable adjustment in the Contract Price or the Contract Times under this paragraph within 30 days of the damaging, delaying, disrupting, or interfering event. The entitlement to, and extent of, any such equitable adjustment will take into account information (if any) regarding such other work that was provided to Contractor in the Contract Documents prior to the submittal of the Bid or the final negotiation of the terms of the Contract, and any remedies available to Contractor under Laws or Regulations concerning utility action or inaction. When applicable, any such equitable adjustment in Contract Price will be conditioned on Contractor assigning to Owner all Contractor's rights against such other contractor or utility owner with respect to the damage, delay, disruption, or interference that is the subject of the adjustment. Contractor's entitlement to an adjustment of the Contract Times or Contract Price is subject to the provisions of Paragraphs 4.05.D and 4.05.E.

SECTION A-13

- B. Contractor shall take reasonable and customary measures to avoid damaging, delaying, disrupting, or interfering with the work of Owner, any other contractor, or any utility owner performing other work at or adjacent to the Site.
 - 1. If Contractor fails to take such measures and as a result damages, delays, disrupts, or interferes with the work of any such other contractor or utility owner, then Owner may impose a set-off against payments due Contractor, and assign to such other contractor or utility owner the Owner's contractual rights against Contractor with respect to the breach of the obligations set forth in this Paragraph 8.03.B.
 - 2. When Owner is performing other work at or adjacent to the Site with Owner's employees, Contractor shall be liable to Owner for damage to such other work, and for the reasonable direct delay, disruption, and interference costs incurred by Owner as a result of Contractor's failure to take reasonable and customary measures with respect to Owner's other work. In response to such damage, delay, disruption, or interference, Owner may impose a set-off against payments due Contractor.
- C. If Contractor damages, delays, disrupts, or interferes with the work of any other contractor, or any utility owner performing other work at or adjacent to the Site, through Contractor's failure to take reasonable and customary measures to avoid such impacts, or if any claim arising out of Contractor's actions, inactions, or negligence in performance of the Work at or adjacent to the Site is made by any such other contractor or utility owner against Contractor, Owner, or Engineer, then Contractor shall (1) promptly attempt to settle the claim as to all parties through negotiations with such other contractor or utility owner, or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law, and (2) indemnify and hold harmless Owner and Engineer, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them from and against any such claims, and against all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such damage, delay, disruption, or interference.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.01 *Communications to Contractor*

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

9.02 *Replacement of Engineer*

- A. Owner may at its discretion appoint an engineer to replace Engineer, provided Contractor makes no reasonable objection to the replacement engineer. The replacement engineer's status under the Contract Documents will be that of the former Engineer.

9.03 *Furnish Data*

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

9.04 *Pay When Due*

- A. Owner shall make payments to Contractor when they are due as provided in the Agreement.

SECTION A-13

9.05 *Lands and Easements; Reports, Tests, and Drawings*

- A. Owner's duties with respect to providing lands and easements are set forth in Paragraph 5.01.
- B. Owner's duties with respect to providing engineering surveys to establish reference points are set forth in Paragraph 4.03.
- C. Article 5 refers to Owner's identifying and making available to Contractor copies of reports of explorations and tests of conditions at the Site, and drawings of physical conditions relating to existing surface or subsurface structures at the Site.

9.06 *Insurance*

- A. Owner's responsibilities, if any, with respect to purchasing and maintaining liability and property insurance are set forth in Article 6.

9.07 *Change Orders*

- A. Owner's responsibilities with respect to Change Orders are set forth in Article 11.

9.08 *Inspections, Tests, and Approvals*

- A. Owner's responsibility with respect to certain inspections, tests, and approvals is set forth in Paragraph 14.02.B.

9.09 *Limitations on Owner's Responsibilities*

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

9.10 *Undisclosed Hazardous Environmental Condition*

- A. Owner's responsibility in respect to an undisclosed Hazardous Environmental Condition is set forth in Paragraph 5.06.

9.11 *Evidence of Financial Arrangements*

- A. Upon request of Contractor, Owner shall furnish Contractor reasonable evidence that financial arrangements have been made to satisfy Owner's obligations under the Contract (including obligations under proposed changes in the Work).

9.12 *Safety Programs*

- A. While at the Site, Owner's employees and representatives shall comply with the specific applicable requirements of Contractor's safety programs of which Owner has been informed.
- B. Owner shall furnish copies of any applicable Owner safety programs to Contractor.

SECTION A-13

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.01 *Owner's Representative*

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

10.02 *Visits to Site*

- A. Engineer will make visits to the Site at intervals appropriate to the various stages of construction as Engineer deems necessary in order to observe, as an experienced and qualified design professional, the progress that has been made and the quality of the various aspects of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer, for the benefit of Owner, will determine, in general, if the Work is proceeding in accordance with the Contract Documents. Engineer will not be required to make exhaustive or continuous inspections on the Site to check the quality or quantity of the Work. Engineer's efforts will be directed toward providing for Owner a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and observations, Engineer will keep Owner informed of the progress of the Work and will endeavor to guard Owner against defective Work.
- B. Engineer's visits and observations are subject to all the limitations on Engineer's authority and responsibility set forth in Paragraph 10.07. Particularly, but without limitation, during or as a result of Engineer's visits or observations of Contractor's Work, Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work.

10.03 *Resident Project Representative*

- A. If Owner and Engineer have agreed that Engineer will furnish a Resident Project Representative to represent Engineer at the Site and assist Engineer in observing the progress and quality of the Work, then the authority and responsibilities of any such Resident Project Representative will be as provided in the Supplementary Conditions, and limitations on the responsibilities thereof will be as provided in the Supplementary Conditions and in Paragraph 10.07.
- B. If Owner designates an individual or entity who is not Engineer's consultant, agent, or employee to represent Owner at the Site, then the responsibilities and authority of such individual or entity will be as provided in the Supplementary Conditions.

10.04 *Engineer's Authority*

- A. Engineer has the authority to reject Work in accordance with Article 14.
- B. Engineer's authority as to Submittals is set forth in Paragraph 7.16.
- C. Engineer's authority as to design drawings, calculations, specifications, certifications and other Submittals from Contractor in response to Owner's delegation (if any) to Contractor of professional design services, is set forth in Paragraph 7.19.
- D. Engineer's authority as to changes in the Work is set forth in Article 11.

SECTION A-13

E. Engineer's authority as to Applications for Payment is set forth in Article 15.

10.05 *Determinations for Unit Price Work*

A. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor as set forth in Paragraph 13.03.

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

A. Engineer will render decisions regarding the requirements of the Contract Documents, and judge the acceptability of the Work, pursuant to the specific procedures set forth herein for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to Owner or Contractor, and will not be liable to Owner, Contractor, or others in connection with any proceedings, interpretations, decisions, or judgments conducted or rendered in good faith.

10.07 *Limitations on Engineer's Authority and Responsibilities*

A. Neither Engineer's authority or responsibility under this Article 10 or under any other provision of the Contract, nor any decision made by Engineer in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise, or performance of any authority or responsibility by Engineer, will create, impose, or give rise to any duty in contract, tort, or otherwise owed by Engineer to Contractor, any Subcontractor, any Supplier, any other individual or entity, or to any surety for or employee or agent of any of them.

B. Engineer will not supervise, direct, control, or have authority over or be responsible for Contractor's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of Contractor to comply with Laws and Regulations applicable to the performance of the Work. Engineer will not be responsible for Contractor's failure to perform the Work in accordance with the Contract Documents.

C. Engineer will not be responsible for the acts or omissions of Contractor or of any Subcontractor, any Supplier, or of any other individual or entity performing any of the Work.

D. Engineer's review of the final Application for Payment and accompanying documentation, and all maintenance and operating instructions, schedules, guarantees, bonds, certificates of inspection, tests and approvals, and other documentation required to be delivered by Contractor under Paragraph 15.06.A, will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests, and approvals, that the results certified indicate compliance with the Contract Documents.

E. The limitations upon authority and responsibility set forth in this Paragraph 10.07 also apply to the Resident Project Representative, if any.

10.08 *Compliance with Safety Program*

A. While at the Site, Engineer's employees and representatives will comply with the specific applicable requirements of Owner's and Contractor's safety programs of which Engineer has been informed.

SECTION A-13

ARTICLE 11—CHANGES TO THE CONTRACT

11.01 *Amending and Supplementing the Contract*

- A. The Contract may be amended or supplemented by a Change Order, a Work Change Directive, or a Field Order.
- B. If an amendment or supplement to the Contract includes a change in the Contract Price or the Contract Times, such amendment or supplement must be set forth in a Change Order.
- C. All changes to the Contract that involve (1) the performance or acceptability of the Work, (2) the design (as set forth in the Drawings, Specifications, or otherwise), or (3) other engineering or technical matters, must be supported by Engineer's recommendation. Owner and Contractor may amend other terms and conditions of the Contract without the recommendation of the Engineer.

11.02 *Change Orders*

- A. Owner and Contractor shall execute appropriate Change Orders covering:
 - 1. Changes in Contract Price or Contract Times which are agreed to by the parties, including any undisputed sum or amount of time for Work actually performed in accordance with a Work Change Directive;
 - 2. Changes in Contract Price resulting from an Owner set-off, unless Contractor has duly contested such set-off;
 - 3. Changes in the Work which are: (a) ordered by Owner pursuant to Paragraph 11.05, (b) required because of Owner's acceptance of defective Work under Paragraph 14.04 or Owner's correction of defective Work under Paragraph 14.07, or (c) agreed to by the parties, subject to the need for Engineer's recommendation if the change in the Work involves the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters; and
 - 4. Changes that embody the substance of any final and binding results under: Paragraph 11.03.B, resolving the impact of a Work Change Directive; Paragraph 11.09, concerning Change Proposals; Article 12, Claims; Paragraph 13.02.D, final adjustments resulting from allowances; Paragraph 13.03.D, final adjustments relating to determination of quantities for Unit Price Work; and similar provisions.
- B. If Owner or Contractor refuses to execute a Change Order that is required to be executed under the terms of Paragraph 11.02.A, it will be deemed to be of full force and effect, as if fully executed.

11.03 *Work Change Directives*

- A. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the modification ordered or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order, following negotiations by the parties as to the Work Change Directive's effect, if any, on the Contract Price and Contract Times; or, if negotiations are unsuccessful, by a determination under the terms of the Contract Documents governing adjustments, expressly including Paragraph 11.07 regarding change of Contract Price.

SECTION A-13

- B. If Owner has issued a Work Change Directive and:
 - 1. Contractor believes that an adjustment in Contract Times or Contract Price is necessary, then Contractor shall submit any Change Proposal seeking such an adjustment no later than 30 days after the completion of the Work set out in the Work Change Directive.
 - 2. Owner believes that an adjustment in Contract Times or Contract Price is necessary, then Owner shall submit any Claim seeking such an adjustment no later than 60 days after issuance of the Work Change Directive.

11.04 *Field Orders*

- A. Engineer may authorize minor changes in the Work if the changes do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Such changes will be accomplished by a Field Order and will be binding on Owner and also on Contractor, which shall perform the Work involved promptly.
- B. If Contractor believes that a Field Order justifies an adjustment in the Contract Price or Contract Times, then before proceeding with the Work at issue, Contractor shall submit a Change Proposal as provided herein.

11.05 *Owner-Authorized Changes in the Work*

- A. Without invalidating the Contract and without notice to any surety, Owner may, at any time or from time to time, order additions, deletions, or revisions in the Work. Changes involving the design (as set forth in the Drawings, Specifications, or otherwise) or other engineering or technical matters will be supported by Engineer's recommendation.
- B. Such changes in the Work may be accomplished by a Change Order, if Owner and Contractor have agreed as to the effect, if any, of the changes on Contract Times or Contract Price; or by a Work Change Directive. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved; or, in the case of a deletion in the Work, promptly cease construction activities with respect to such deleted Work. Added or revised Work must be performed under the applicable conditions of the Contract Documents.
- C. Nothing in this Paragraph 11.05 obligates Contractor to undertake work that Contractor reasonably concludes cannot be performed in a manner consistent with Contractor's safety obligations under the Contract Documents or Laws and Regulations.

11.06 *Unauthorized Changes in the Work*

- A. Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any work performed that is not required by the Contract Documents, as amended, modified, or supplemented, except in the case of an emergency as provided in Paragraph 7.15 or in the case of uncovering Work as provided in Paragraph 14.05.C.2.

11.07 *Change of Contract Price*

- A. The Contract Price may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Price must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment of Contract Price must comply with the provisions of Article 12.
- B. An adjustment in the Contract Price will be determined as follows:

SECTION A-13

1. Where the Work involved is covered by unit prices contained in the Contract Documents, then by application of such unit prices to the quantities of the items involved (subject to the provisions of Paragraph 13.03);
 2. Where the Work involved is not covered by unit prices contained in the Contract Documents, then by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.07.C.2); or
 3. Where the Work involved is not covered by unit prices contained in the Contract Documents and the parties do not reach mutual agreement to a lump sum, then on the basis of the Cost of the Work (determined as provided in Paragraph 13.01) plus a Contractor's fee for overhead and profit (determined as provided in Paragraph 11.07.C).
- C. *Contractor's Fee:* When applicable, the Contractor's fee for overhead and profit will be determined as follows:
1. A mutually acceptable fixed fee; or
 2. If a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the Work:
 - a. For costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2, the Contractor's fee will be 15 percent;
 - b. For costs incurred under Paragraph 13.01.B.3, the Contractor's fee will be 5 percent;
 - c. Where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of Paragraphs 11.07.C.2.a and 11.07.C.2.b is that the Contractor's fee will be based on: (1) a fee of 15 percent of the costs incurred under Paragraphs 13.01.B.1 and 13.01.B.2 by the Subcontractor that actually performs the Work, at whatever tier, and (2) with respect to Contractor itself and to any Subcontractors of a tier higher than that of the Subcontractor that actually performs the Work, a fee of 5 percent of the amount (fee plus underlying costs incurred) attributable to the next lower tier Subcontractor; provided, however, that for any such subcontracted Work the maximum total fee to be paid by Owner will be no greater than 27 percent of the costs incurred by the Subcontractor that actually performs the Work;
 - d. No fee will be payable on the basis of costs itemized under Paragraphs 13.01.B.4, 13.01.B.5, and 13.01.C;
 - e. The amount of credit to be allowed by Contractor to Owner for any change which results in a net decrease in Cost of the Work will be the amount of the actual net decrease in Cost of the Work and a deduction of an additional amount equal to 5 percent of such actual net decrease in Cost of the Work; and
 - f. When both additions and credits are involved in any one change or Change Proposal, the adjustment in Contractor's fee will be computed by determining the sum of the costs in each of the cost categories in Paragraph 13.01.B (specifically, payroll costs, Paragraph 13.01.B.1; incorporated materials and equipment costs, Paragraph 13.01.B.2; Subcontract costs, Paragraph 13.01.B.3; special consultants costs, Paragraph 13.01.B.4; and other costs, Paragraph 13.01.B.5) and applying to each such cost category sum the appropriate fee from Paragraphs 11.07.C.2.a through 11.07.C.2.e, inclusive.

SECTION A-13

11.08 *Change of Contract Times*

- A. The Contract Times may only be changed by a Change Order. Any Change Proposal for an adjustment in the Contract Times must comply with the provisions of Paragraph 11.09. Any Claim for an adjustment in the Contract Times must comply with the provisions of Article 12.
- B. Delay, disruption, and interference in the Work, and any related changes in Contract Times, are addressed in and governed by Paragraph 4.05.

11.09 *Change Proposals*

- A. *Purpose and Content:* Contractor shall submit a Change Proposal to Engineer to request an adjustment in the Contract Times or Contract Price; contest an initial decision by Engineer concerning the requirements of the Contract Documents or relating to the acceptability of the Work under the Contract Documents; challenge a set-off against payment due; or seek other relief under the Contract. The Change Proposal will specify any proposed change in Contract Times or Contract Price, or other proposed relief, and explain the reason for the proposed change, with citations to any governing or applicable provisions of the Contract Documents. Each Change Proposal will address only one issue, or a set of closely related issues.

B. *Change Proposal Procedures*

1. *Submittal:* Contractor shall submit each Change Proposal to Engineer within 30 days after the start of the event giving rise thereto, or after such initial decision.
2. *Supporting Data:* The Contractor shall submit supporting data, including the proposed change in Contract Price or Contract Time (if any), to the Engineer and Owner within 15 days after the submittal of the Change Proposal.
 - a. Change Proposals based on or related to delay, interruption, or interference must comply with the provisions of Paragraphs 4.05.D and 4.05.E.
 - b. Change proposals related to a change of Contract Price must include full and detailed accounts of materials incorporated into the Work and labor and equipment used for the subject Work.

The supporting data must be accompanied by a written statement that the supporting data are accurate and complete, and that any requested time or price adjustment is the entire adjustment to which Contractor believes it is entitled as a result of said event.

3. *Engineer's Initial Review:* Engineer will advise Owner regarding the Change Proposal, and consider any comments or response from Owner regarding the Change Proposal. If in its discretion Engineer concludes that additional supporting data is needed before conducting a full review and making a decision regarding the Change Proposal, then Engineer may request that Contractor submit such additional supporting data by a date specified by Engineer, prior to Engineer beginning its full review of the Change Proposal.
4. *Engineer's Full Review and Action on the Change Proposal:* Upon receipt of Contractor's supporting data (including any additional data requested by Engineer), Engineer will conduct a full review of each Change Proposal and, within 30 days after such receipt of the Contractor's supporting data, either approve the Change Proposal in whole, deny it in whole, or approve it in part and deny it in part. Such actions must be in writing, with a copy provided to Owner and Contractor. If Engineer does not take action on the Change

SECTION A-13

Proposal within 30 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of Engineer's inaction the Change Proposal is deemed denied, thereby commencing the time for appeal of the denial under Article 12.

5. *Binding Decision*: Engineer's decision is final and binding upon Owner and Contractor, unless Owner or Contractor appeals the decision by filing a Claim under Article 12.
- C. *Resolution of Certain Change Proposals*: If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties in writing that the Engineer is unable to resolve the Change Proposal. For purposes of further resolution of such a Change Proposal, such notice will be deemed a denial, and Contractor may choose to seek resolution under the terms of Article 12.
- D. *Post-Completion*: Contractor shall not submit any Change Proposals after Engineer issues a written recommendation of final payment pursuant to Paragraph 15.06.B.

11.10 Notification to Surety

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

ARTICLE 12—CLAIMS

12.01 Claims

- A. *Claims Process*: The following disputes between Owner and Contractor are subject to the Claims process set forth in this article:
 1. Appeals by Owner or Contractor of Engineer's decisions regarding Change Proposals;
 2. Owner demands for adjustments in the Contract Price or Contract Times, or other relief under the Contract Documents;
 3. Disputes that Engineer has been unable to address because they do not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters; and
 4. Subject to the waiver provisions of Paragraph 15.07, any dispute arising after Engineer has issued a written recommendation of final payment pursuant to Paragraph 15.06.B.
- B. *Submittal of Claim*: The party submitting a Claim shall deliver it directly to the other party to the Contract promptly (but in no event later than 30 days) after the start of the event giving rise thereto; in the case of appeals regarding Change Proposals within 30 days of the decision under appeal. The party submitting the Claim shall also furnish a copy to the Engineer, for its information only. The responsibility to substantiate a Claim rests with the party making the Claim. In the case of a Claim by Contractor seeking an increase in the Contract Times or Contract Price, Contractor shall certify that the Claim is made in good faith, that the supporting data are accurate and complete, and that to the best of Contractor's knowledge

SECTION A-13

and belief the amount of time or money requested accurately reflects the full amount to which Contractor is entitled.

- C. *Review and Resolution*: The party receiving a Claim shall review it thoroughly, giving full consideration to its merits. The two parties shall seek to resolve the Claim through the exchange of information and direct negotiations. The parties may extend the time for resolving the Claim by mutual agreement. All actions taken on a Claim will be stated in writing and submitted to the other party, with a copy to Engineer.
- D. *Mediation*
 - 1. At any time after initiation of a Claim, Owner and Contractor may mutually agree to mediation of the underlying dispute. The agreement to mediate will stay the Claim submittal and response process.
 - 2. If Owner and Contractor agree to mediation, then after 60 days from such agreement, either Owner or Contractor may unilaterally terminate the mediation process, and the Claim submittal and decision process will resume as of the date of the termination. If the mediation proceeds but is unsuccessful in resolving the dispute, the Claim submittal and decision process will resume as of the date of the conclusion of the mediation, as determined by the mediator.
 - 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

ARTICLE 13—COST OF THE WORK; ALLOWANCES; UNIT PRICE WORK

13.01 *Cost of the Work*

- A. *Purposes for Determination of Cost of the Work*: The term Cost of the Work means the sum of all costs necessary for the proper performance of the Work at issue, as further defined below. The provisions of this Paragraph 13.01 are used for two distinct purposes:
 - 1. To determine Cost of the Work when Cost of the Work is a component of the Contract Price, under cost-plus-fee, time-and-materials, or other cost-based terms; or

SECTION A-13

2. When needed to determine the value of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price. When the value of any such adjustment is determined on the basis of Cost of the Work, Contractor is entitled only to those additional or incremental costs required because of the change in the Work or because of the event giving rise to the adjustment.
- B. *Costs Included:* Except as otherwise may be agreed to in writing by Owner, costs included in the Cost of the Work will be in amounts no higher than those commonly incurred in the locality of the Project, will not include any of the costs itemized in Paragraph 13.01.C, and will include only the following items:
1. Payroll costs for employees in the direct employ of Contractor in the performance of the Work under schedules of job classifications agreed upon by Owner and Contractor in advance of the subject Work. Such employees include, without limitation, superintendents, foremen, safety managers, safety representatives, and other personnel employed full time on the Work. Payroll costs for employees not employed full time on the Work will be apportioned on the basis of their time spent on the Work. Payroll costs include, but are not limited to, salaries and wages plus the cost of fringe benefits, which include social security contributions, unemployment, excise, and payroll taxes, workers' compensation, health and retirement benefits, sick leave, and vacation and holiday pay applicable thereto. The expenses of performing Work outside of regular working hours, on Saturday, Sunday, or legal holidays, will be included in the above to the extent authorized by Owner.
 2. Cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith. All cash discounts accrue to Contractor unless Owner deposits funds with Contractor with which to make payments, in which case the cash discounts will accrue to Owner. All trade discounts, rebates, and refunds and returns from sale of surplus materials and equipment will accrue to Owner, and Contractor shall make provisions so that they may be obtained.
 3. Payments made by Contractor to Subcontractors for Work performed by Subcontractors. If required by Owner, Contractor shall obtain competitive bids from subcontractors acceptable to Owner and Contractor and shall deliver such bids to Owner, which will then determine, with the advice of Engineer, which bids, if any, will be acceptable. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work plus a fee, the Subcontractor's Cost of the Work and fee will be determined in the same manner as Contractor's Cost of the Work and fee as provided in this Paragraph 13.01.
 4. Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys, and accountants) employed or retained for services specifically related to the Work.
 5. Other costs consisting of the following:
 - a. The proportion of necessary transportation, travel, and subsistence expenses of Contractor's employees incurred in discharge of duties connected with the Work.
 - b. Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office, and temporary facilities at the Site, which are

SECTION A-13

consumed in the performance of the Work, and cost, less market value, of such items used but not consumed which remain the property of Contractor.

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.

c. *Construction Equipment Rental*

- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
- 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
- 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price ("changed Work"), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.

- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
- e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
- f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder's risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor's fee.

SECTION A-13

- g. The cost of utilities, fuel, and sanitary facilities at the Site.
 - h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
 - i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.
- C. *Costs Excluded*: The term Cost of the Work does not include any of the following items:
- 1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
 - 2. The cost of purchasing, renting, or furnishing small tools and hand tools.
 - 3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
 - 4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
 - 5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
 - 6. Expenses incurred in preparing and advancing Claims.
 - 7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.
- D. *Contractor's Fee*
- 1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
 - 2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change

SECTION A-13

Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work will be determined in accordance with Paragraph 11.07.C.2.

- E. *Documentation and Audit:* Whenever the Cost of the Work for any purpose is to be determined pursuant to this Article 13, Contractor and pertinent Subcontractors will establish and maintain records of the costs in accordance with generally accepted accounting practices. Subject to prior written notice, Owner will be afforded reasonable access, during normal business hours, to all Contractor's accounts, records, books, correspondence, instructions, drawings, receipts, vouchers, memoranda, and similar data relating to the Cost of the Work and Contractor's fee. Contractor shall preserve all such documents for a period of three years after the final payment by Owner. Pertinent Subcontractors will afford such access to Owner, and preserve such documents, to the same extent required of Contractor.

13.02 Allowances

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

13.03 Unit Price Work

- A. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement.
- B. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Payments to Contractor for Unit Price Work will be based on actual quantities.
- C. Each unit price will be deemed to include an amount considered by Contractor to be adequate to cover Contractor's overhead and profit for each separately identified item.
- D. Engineer will determine the actual quantities and classifications of Unit Price Work performed by Contractor. Engineer will review with Contractor the Engineer's preliminary determinations on such matters before rendering a written decision thereon (by recommendation of an Application for Payment or otherwise). Engineer's written decision

SECTION A-13

thereon will be final and binding (except as modified by Engineer to reflect changed factual conditions or more accurate data) upon Owner and Contractor, and the final adjustment of Contract Price will be set forth in a Change Order, subject to the provisions of the following paragraph.

E. *Adjustments in Unit Price*

1. Contractor or Owner shall be entitled to an adjustment in the unit price with respect to an item of Unit Price Work if:
 - a. the quantity of the item of Unit Price Work performed by Contractor differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and
 - b. Contractor's unit costs to perform the item of Unit Price Work have changed materially and significantly as a result of the quantity change.
2. The adjustment in unit price will account for and be coordinated with any related changes in quantities of other items of Work, and in Contractor's costs to perform such other Work, such that the resulting overall change in Contract Price is equitable to Owner and Contractor.
3. Adjusted unit prices will apply to all units of that item.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

14.01 *Access to Work*

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

14.02 *Tests, Inspections, and Approvals*

- A. Contractor shall give Engineer timely notice of readiness of the Work (or specific parts thereof) for all required inspections and tests, and shall cooperate with inspection and testing personnel to facilitate required inspections and tests.
- B. Owner shall retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05.
- C. If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested, or approved by an employee or other representative of such public body, Contractor shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith, and furnish Engineer the required certificates of inspection or approval.

SECTION A-13

- D. Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
1. by the Contract Documents, unless the Contract Documents expressly allocate responsibility for a specific inspection or test to Owner;
 2. to attain Owner's and Engineer's acceptance of materials or equipment to be incorporated in the Work;
 3. by manufacturers of equipment furnished under the Contract Documents;
 4. for testing, adjusting, and balancing of mechanical, electrical, and other equipment to be incorporated into the Work; and
 5. for acceptance of materials, mix designs, or equipment submitted for approval prior to Contractor's purchase thereof for incorporation in the Work.

Such inspections and tests will be performed by independent inspectors, testing laboratories, or other qualified individuals or entities acceptable to Owner and Engineer.

- E. If the Contract Documents require the Work (or part thereof) to be approved by Owner, Engineer, or another designated individual or entity, then Contractor shall assume full responsibility for arranging and obtaining such approvals.
- F. If any Work (or the work of others) that is to be inspected, tested, or approved is covered by Contractor without written concurrence of Engineer, Contractor shall, if requested by Engineer, uncover such Work for observation. Such uncovering will be at Contractor's expense unless Contractor had given Engineer timely notice of Contractor's intention to cover the same and Engineer had not acted with reasonable promptness in response to such notice.

14.03 *Defective Work*

- A. *Contractor's Obligation:* It is Contractor's obligation to assure that the Work is not defective.
- B. *Engineer's Authority:* Engineer has the authority to determine whether Work is defective, and to reject defective Work.
- C. *Notice of Defects:* Prompt written notice of all defective Work of which Owner or Engineer has actual knowledge will be given to Contractor.
- D. *Correction, or Removal and Replacement:* Promptly after receipt of written notice of defective Work, Contractor shall correct all such defective Work, whether or not fabricated, installed, or completed, or, if Engineer has rejected the defective Work, remove it from the Project and replace it with Work that is not defective.
- E. *Preservation of Warranties:* When correcting defective Work, Contractor shall take no action that would void or otherwise impair Owner's special warranty and guarantee, if any, on said Work.
- F. *Costs and Damages:* In addition to its correction, removal, and replacement obligations with respect to defective Work, Contractor shall pay all claims, costs, losses, and damages arising out of or relating to defective Work, including but not limited to the cost of the inspection, testing, correction, removal, replacement, or reconstruction of such defective Work, fines levied against Owner by governmental authorities because the Work is defective, and the costs of repair or replacement of work of others resulting from defective Work. Prior to final payment, if Owner and Contractor are unable to agree as to the measure of such claims, costs,

SECTION A-13

losses, and damages resulting from defective Work, then Owner may impose a reasonable set-off against payments due under Article 15.

14.04 *Acceptance of Defective Work*

- A. If, instead of requiring correction or removal and replacement of defective Work, Owner prefers to accept it, Owner may do so (subject, if such acceptance occurs prior to final payment, to Engineer's confirmation that such acceptance is in general accord with the design intent and applicable engineering principles, and will not endanger public safety). Contractor shall pay all claims, costs, losses, and damages attributable to Owner's evaluation of and determination to accept such defective Work (such costs to be approved by Engineer as to reasonableness), and for the diminished value of the Work to the extent not otherwise paid by Contractor. If any such acceptance occurs prior to final payment, the necessary revisions in the Contract Documents with respect to the Work will be incorporated in a Change Order. If the parties are unable to agree as to the decrease in the Contract Price, reflecting the diminished value of Work so accepted, then Owner may impose a reasonable set-off against payments due under Article 15. If the acceptance of defective Work occurs after final payment, Contractor shall pay an appropriate amount to Owner.

14.05 *Uncovering Work*

- A. Engineer has the authority to require additional inspection or testing of the Work, whether or not the Work is fabricated, installed, or completed.
- B. If any Work is covered contrary to the written request of Engineer, then Contractor shall, if requested by Engineer, uncover such Work for Engineer's observation, and then replace the covering, all at Contractor's expense.
- C. If Engineer considers it necessary or advisable that covered Work be observed by Engineer or inspected or tested by others, then Contractor, at Engineer's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as Engineer may require, that portion of the Work in question, and provide all necessary labor, material, and equipment.
 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

- A. If the Work is defective, or Contractor fails to supply sufficient skilled workers or suitable materials or equipment, or fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, then Owner may order Contractor to stop the Work,

SECTION A-13

or any portion thereof, until the cause for such order has been eliminated; however, this right of Owner to stop the Work will not give rise to any duty on the part of Owner to exercise this right for the benefit of Contractor, any Subcontractor, any Supplier, any other individual or entity, or any surety for, or employee or agent of any of them.

14.07 *Owner May Correct Defective Work*

- A. If Contractor fails within a reasonable time after written notice from Engineer to correct defective Work, or to remove and replace defective Work as required by Engineer, then Owner may, after 7 days' written notice to Contractor, correct or remedy any such deficiency.
- B. In exercising the rights and remedies under this Paragraph 14.07, Owner shall proceed expeditiously. In connection with such corrective or remedial action, Owner may exclude Contractor from all or part of the Site, take possession of all or part of the Work and suspend Contractor's services related thereto, and incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere. Contractor shall allow Owner, Owner's representatives, agents and employees, Owner's other contractors, and Engineer and Engineer's consultants access to the Site to enable Owner to exercise the rights and remedies under this paragraph.
- C. All claims, costs, losses, and damages incurred or sustained by Owner in exercising the rights and remedies under this Paragraph 14.07 will be charged against Contractor as set-offs against payments due under Article 15. Such claims, costs, losses and damages will include but not be limited to all costs of repair, or replacement of work of others destroyed or damaged by correction, removal, or replacement of Contractor's defective Work.
- D. Contractor shall not be allowed an extension of the Contract Times because of any delay in the performance of the Work attributable to the exercise by Owner of Owner's rights and remedies under this Paragraph 14.07.

ARTICLE 15—PAYMENTS TO CONTRACTOR; SET-OFFS; COMPLETION; CORRECTION PERIOD

15.01 *Progress Payments*

- A. *Basis for Progress Payments:* The Schedule of Values established as provided in Article 2 will serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to Engineer. Progress payments for Unit Price Work will be based on the number of units completed during the pay period, as determined under the provisions of Paragraph 13.03. Progress payments for cost-based Work will be based on Cost of the Work completed by Contractor during the pay period.
- B. *Applications for Payments*
 - 1. At least 20 days before the date established in the Agreement for each progress payment (but not more often than once a month), Contractor shall submit to Engineer for review an Application for Payment filled out and signed by Contractor covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
 - 2. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the Site or at another location agreed to in writing, the Application for Payment must also be accompanied by: (a) a bill of sale, invoice, copies of subcontract or purchase order payments, or other documentation

SECTION A-13

establishing full payment by Contractor for the materials and equipment; (b) at Owner's request, documentation warranting that Owner has received the materials and equipment free and clear of all Liens; and (c) evidence that the materials and equipment are covered by appropriate property insurance, a warehouse bond, or other arrangements to protect Owner's interest therein, all of which must be satisfactory to Owner.

3. Beginning with the second Application for Payment, each Application must include an affidavit of Contractor stating that all previous progress payments received by Contractor have been applied to discharge Contractor's legitimate obligations associated with prior Applications for Payment.
4. The amount of retainage with respect to progress payments will be as stipulated in the Agreement.

C. *Review of Applications*

1. Engineer will, within 10 days after receipt of each Application for Payment, including each resubmittal, either indicate in writing a recommendation of payment and present the Application to Owner, or return the Application to Contractor indicating in writing Engineer's reasons for refusing to recommend payment. In the latter case, Contractor may make the necessary corrections and resubmit the Application.
2. Engineer's recommendation of any payment requested in an Application for Payment will constitute a representation by Engineer to Owner, based on Engineer's observations of the executed Work as an experienced and qualified design professional, and on Engineer's review of the Application for Payment and the accompanying data and schedules, that to the best of Engineer's knowledge, information and belief:
 - a. the Work has progressed to the point indicated;
 - b. the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests called for in the Contract Documents, a final determination of quantities and classifications for Unit Price Work under Paragraph 13.03, and any other qualifications stated in the recommendation); and
 - c. the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is Engineer's responsibility to observe the Work.
3. By recommending any such payment Engineer will not thereby be deemed to have represented that:
 - a. inspections made to check the quality or the quantity of the Work as it has been performed have been exhaustive, extended to every aspect of the Work in progress, or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
 - b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.

SECTION A-13

4. Neither Engineer's review of Contractor's Work for the purposes of recommending payments nor Engineer's recommendation of any payment, including final payment, will impose responsibility on Engineer:
 - a. to supervise, direct, or control the Work;
 - b. for the means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto;
 - c. for Contractor's failure to comply with Laws and Regulations applicable to Contractor's performance of the Work;
 - d. to make any examination to ascertain how or for what purposes Contractor has used the money paid by Owner; or
 - e. to determine that title to any of the Work, materials, or equipment has passed to Owner free and clear of any Liens.
 5. Engineer may refuse to recommend the whole or any part of any payment if, in Engineer's opinion, it would be incorrect to make the representations to Owner stated in Paragraph 15.01.C.2.
 6. Engineer will recommend reductions in payment (set-offs) necessary in Engineer's opinion to protect Owner from loss because:
 - a. the Work is defective, requiring correction or replacement;
 - b. the Contract Price has been reduced by Change Orders;
 - c. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible; or
 - e. Engineer has actual knowledge of the occurrence of any of the events that would constitute a default by Contractor and therefore justify termination for cause under the Contract Documents.
- D. *Payment Becomes Due*
1. Ten days after presentation of the Application for Payment to Owner with Engineer's recommendation, the amount recommended (subject to any Owner set-offs) will become due, and when due will be paid by Owner to Contractor.
- E. *Reductions in Payment by Owner*
1. In addition to any reductions in payment (set-offs) recommended by Engineer, Owner is entitled to impose a set-off against payment based on any of the following:
 - a. Claims have been made against Owner based on Contractor's conduct in the performance or furnishing of the Work, or Owner has incurred costs, losses, or damages resulting from Contractor's conduct in the performance or furnishing of the Work, including but not limited to claims, costs, losses, or damages from workplace injuries, adjacent property damage, non-compliance with Laws and Regulations, and patent infringement;

SECTION A-13

- b. Contractor has failed to take reasonable and customary measures to avoid damage, delay, disruption, and interference with other work at or adjacent to the Site;
 - c. Contractor has failed to provide and maintain required bonds or insurance;
 - d. Owner has been required to remove or remediate a Hazardous Environmental Condition for which Contractor is responsible;
 - e. Owner has incurred extra charges or engineering costs related to submittal reviews, evaluations of proposed substitutes, tests and inspections, or return visits to manufacturing or assembly facilities;
 - f. The Work is defective, requiring correction or replacement;
 - g. Owner has been required to correct defective Work in accordance with Paragraph 14.07, or has accepted defective Work pursuant to Paragraph 14.04;
 - h. The Contract Price has been reduced by Change Orders;
 - i. An event has occurred that would constitute a default by Contractor and therefore justify a termination for cause;
 - j. Liquidated or other damages have accrued as a result of Contractor's failure to achieve Milestones, Substantial Completion, or final completion of the Work;
 - k. Liens have been filed in connection with the Work, except where Contractor has delivered a specific bond satisfactory to Owner to secure the satisfaction and discharge of such Liens; or
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
 3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

- A. Contractor warrants and guarantees that title to all Work, materials, and equipment furnished under the Contract will pass to Owner free and clear of (1) all Liens and other title defects, and (2) all patent, licensing, copyright, or royalty obligations, no later than 7 days after the time of payment by Owner.

15.03 *Substantial Completion*

- A. When Contractor considers the entire Work ready for its intended use Contractor shall notify Owner and Engineer in writing that the entire Work is substantially complete and request that Engineer issue a certificate of Substantial Completion. Contractor shall at the same time

SECTION A-13

submit to Owner and Engineer an initial draft of punch list items to be completed or corrected before final payment.

- B. Promptly after Contractor's notification, Owner, Contractor, and Engineer shall make an inspection of the Work to determine the status of completion. If Engineer does not consider the Work substantially complete, Engineer will notify Contractor in writing giving the reasons therefor.
- C. If Engineer considers the Work substantially complete, Engineer will deliver to Owner a preliminary certificate of Substantial Completion which will fix the date of Substantial Completion. Engineer shall attach to the certificate a punch list of items to be completed or corrected before final payment. Owner shall have 7 days after receipt of the preliminary certificate during which to make written objection to Engineer as to any provisions of the certificate or attached punch list. If, after considering the objections to the provisions of the preliminary certificate, Engineer concludes that the Work is not substantially complete, Engineer will, within 14 days after submission of the preliminary certificate to Owner, notify Contractor in writing that the Work is not substantially complete, stating the reasons therefor. If Owner does not object to the provisions of the certificate, or if despite consideration of Owner's objections Engineer concludes that the Work is substantially complete, then Engineer will, within said 14 days, execute and deliver to Owner and Contractor a final certificate of Substantial Completion (with a revised punch list of items to be completed or corrected) reflecting such changes from the preliminary certificate as Engineer believes justified after consideration of any objections from Owner.
- D. At the time of receipt of the preliminary certificate of Substantial Completion, Owner and Contractor will confer regarding Owner's use or occupancy of the Work following Substantial Completion, review the builder's risk insurance policy with respect to the end of the builder's risk coverage, and confirm the transition to coverage of the Work under a permanent property insurance policy held by Owner. Unless Owner and Contractor agree otherwise in writing, Owner shall bear responsibility for security, operation, protection of the Work, property insurance, maintenance, heat, and utilities upon Owner's use or occupancy of the Work.
- E. After Substantial Completion the Contractor shall promptly begin work on the punch list of items to be completed or corrected prior to final payment. In appropriate cases Contractor may submit monthly Applications for Payment for completed punch list items, following the progress payment procedures set forth above.
- F. Owner shall have the right to exclude Contractor from the Site after the date of Substantial Completion subject to allowing Contractor reasonable access to remove its property and complete or correct items on the punch list.

15.04 *Partial Use or Occupancy*

- A. Prior to Substantial Completion of all the Work, Owner may use or occupy any substantially completed part of the Work which has specifically been identified in the Contract Documents, or which Owner, Engineer, and Contractor agree constitutes a separately functioning and usable part of the Work that can be used by Owner for its intended purpose without

SECTION A-13

significant interference with Contractor's performance of the remainder of the Work, subject to the following conditions:

1. At any time, Owner may request in writing that Contractor permit Owner to use or occupy any such part of the Work that Owner believes to be substantially complete. If and when Contractor agrees that such part of the Work is substantially complete, Contractor, Owner, and Engineer will follow the procedures of Paragraph 15.03.A through 15.03.E for that part of the Work.
2. At any time, Contractor may notify Owner and Engineer in writing that Contractor considers any such part of the Work substantially complete and request Engineer to issue a certificate of Substantial Completion for that part of the Work.
3. Within a reasonable time after either such request, Owner, Contractor, and Engineer shall make an inspection of that part of the Work to determine its status of completion. If Engineer does not consider that part of the Work to be substantially complete, Engineer will notify Owner and Contractor in writing giving the reasons therefor. If Engineer considers that part of the Work to be substantially complete, the provisions of Paragraph 15.03 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof and access thereto.
4. No use or occupancy or separate operation of part of the Work may occur prior to compliance with the requirements of Paragraph 6.04 regarding builder's risk or other property insurance.

15.05 *Final Inspection*

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

15.06 *Final Payment*

A. *Application for Payment*

1. After Contractor has, in the opinion of Engineer, satisfactorily completed all corrections identified during the final inspection and has delivered, in accordance with the Contract Documents, all maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance, certificates of inspection, annotated record documents (as provided in Paragraph 7.12), and other documents, Contractor may make application for final payment.
2. The final Application for Payment must be accompanied (except as previously delivered) by:
 - a. all documentation called for in the Contract Documents;
 - b. consent of the surety, if any, to final payment;
 - c. satisfactory evidence that all title issues have been resolved such that title to all Work, materials, and equipment has passed to Owner free and clear of any Liens or other title defects, or will so pass upon final payment.

SECTION A-13

- d. a list of all duly pending Change Proposals and Claims; and
 - e. complete and legally effective releases or waivers (satisfactory to Owner) of all Lien rights arising out of the Work, and of Liens filed in connection with the Work.
3. In lieu of the releases or waivers of Liens specified in Paragraph 15.06.A.2 and as approved by Owner, Contractor may furnish receipts or releases in full and an affidavit of Contractor that: (a) the releases and receipts include all labor, services, material, and equipment for which a Lien could be filed; and (b) all payrolls, material and equipment bills, and other indebtedness connected with the Work for which Owner might in any way be responsible, or which might in any way result in liens or other burdens on Owner's property, have been paid or otherwise satisfied. If any Subcontractor or Supplier fails to furnish such a release or receipt in full, Contractor may furnish a bond or other collateral satisfactory to Owner to indemnify Owner against any Lien, or Owner at its option may issue joint checks payable to Contractor and specified Subcontractors and Suppliers.
- B. *Engineer's Review of Final Application and Recommendation of Payment:* If, on the basis of Engineer's observation of the Work during construction and final inspection, and Engineer's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, Engineer is satisfied that the Work has been completed and Contractor's other obligations under the Contract have been fulfilled, Engineer will, within 10 days after receipt of the final Application for Payment, indicate in writing Engineer's recommendation of final payment and present the final Application for Payment to Owner for payment. Such recommendation will account for any set-offs against payment that are necessary in Engineer's opinion to protect Owner from loss for the reasons stated above with respect to progress payments. Otherwise, Engineer will return the Application for Payment to Contractor, indicating in writing the reasons for refusing to recommend final payment, in which case Contractor shall make the necessary corrections and resubmit the Application for Payment.
- C. *Notice of Acceptability:* In support of its recommendation of payment of the final Application for Payment, Engineer will also give written notice to Owner and Contractor that the Work is acceptable, subject to stated limitations in the notice and to the provisions of Paragraph 15.07.
- D. *Completion of Work:* The Work is complete (subject to surviving obligations) when it is ready for final payment as established by the Engineer's written recommendation of final payment and issuance of notice of the acceptability of the Work.
- E. *Final Payment Becomes Due:* Upon receipt from Engineer of the final Application for Payment and accompanying documentation, Owner shall set off against the amount recommended by Engineer for final payment any further sum to which Owner is entitled, including but not limited to set-offs for liquidated damages and set-offs allowed under the provisions of this Contract with respect to progress payments. Owner shall pay the resulting balance due to Contractor within 30 days of Owner's receipt of the final Application for Payment from Engineer.

15.07 Waiver of Claims

- A. By making final payment, Owner waives its claim or right to liquidated damages or other damages for late completion by Contractor, except as set forth in an outstanding Claim,

SECTION A-13

appeal under the provisions of Article 17, set-off, or express reservation of rights by Owner. Owner reserves all other claims or rights after final payment.

- B. The acceptance of final payment by Contractor will constitute a waiver by Contractor of all claims and rights against Owner other than those pending matters that have been duly submitted as a Claim, or appealed under the provisions of Article 17.

15.08 *Correction Period*

- A. If within ~~one~~ **two (2)** years after the date of Substantial Completion (or such longer period of time as may be prescribed by the Supplementary Conditions or the terms of any applicable special guarantee required by the Contract Documents), Owner gives Contractor written notice that any Work has been found to be defective, or that Contractor's repair of any damages to the Site or adjacent areas has been found to be defective, then after receipt of such notice of defect Contractor shall promptly, without cost to Owner and in accordance with Owner's written instructions:
 - 1. correct the defective repairs to the Site or such adjacent areas;
 - 2. correct such defective Work;
 - 3. remove the defective Work from the Project and replace it with Work that is not defective, if the defective Work has been rejected by Owner, and
 - 4. satisfactorily correct or repair or remove and replace any damage to other Work, to the work of others, or to other land or areas resulting from the corrective measures.
- B. Owner shall give any such notice of defect within 60 days of the discovery that such Work or repairs is defective. If such notice is given within such 60 days but after the end of the correction period, the notice will be deemed a notice of defective Work under Paragraph 7.17.B.
- C. If, after receipt of a notice of defect within 60 days and within the correction period, Contractor does not promptly comply with the terms of Owner's written instructions, or in an emergency where delay would cause serious risk of loss or damage, Owner may have the defective Work corrected or repaired or may have the rejected Work removed and replaced. Contractor shall pay all costs, losses, and damages (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals and all court or arbitration or other dispute resolution costs) arising out of or relating to such correction or repair or such removal and replacement (including but not limited to all costs of repair or replacement of work of others). Contractor's failure to pay such costs, losses, and damages within 10 days of invoice from Owner will be deemed the start of an event giving rise to a Claim under Paragraph 12.01.B, such that any related Claim must be brought within 30 days of the failure to pay.
- D. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications.
- E. Where defective Work (and damage to other Work resulting therefrom) has been corrected or removed and replaced under this paragraph, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

SECTION A-13

- F. Contractor's obligations under this paragraph are in addition to all other obligations and warranties. The provisions of this paragraph are not to be construed as a substitute for, or a waiver of, the provisions of any applicable statute of limitation or repose.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

16.01 *Owner May Suspend Work*

- A. At any time and without cause, Owner may suspend the Work or any portion thereof for a period of not more than 90 consecutive days by written notice to Contractor and Engineer. Such notice will fix the date on which Work will be resumed. Contractor shall resume the Work on the date so fixed. Contractor shall be entitled to an adjustment in the Contract Price or an extension of the Contract Times directly attributable to any such suspension. Any Change Proposal seeking such adjustments must be submitted no later than 30 days after the date fixed for resumption of Work.

16.02 *Owner May Terminate for Cause*

- A. The occurrence of any one or more of the following events will constitute a default by Contractor and justify termination for cause:
 - 1. Contractor's persistent failure to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment, or failure to adhere to the Progress Schedule);
 - 2. Failure of Contractor to perform or otherwise to comply with a material term of the Contract Documents;
 - 3. Contractor's disregard of Laws or Regulations of any public body having jurisdiction; or
 - 4. Contractor's repeated disregard of the authority of Owner or Engineer.
- B. If one or more of the events identified in Paragraph 16.02.A occurs, then after giving Contractor (and any surety) 10 days' written notice that Owner is considering a declaration that Contractor is in default and termination of the Contract, Owner may proceed to:
 - 1. declare Contractor to be in default, and give Contractor (and any surety) written notice that the Contract is terminated; and
 - 2. enforce the rights available to Owner under any applicable performance bond.
- C. Subject to the terms and operation of any applicable performance bond, if Owner has terminated the Contract for cause, Owner may exclude Contractor from the Site, take possession of the Work, incorporate in the Work all materials and equipment stored at the Site or for which Owner has paid Contractor but which are stored elsewhere, and complete the Work as Owner may deem expedient.
- D. Owner may not proceed with termination of the Contract under Paragraph 16.02.B if Contractor within 7 days of receipt of notice of intent to terminate begins to correct its failure to perform and proceeds diligently to cure such failure.
- E. If Owner proceeds as provided in Paragraph 16.02.B, Contractor shall not be entitled to receive any further payment until the Work is completed. If the unpaid balance of the Contract Price exceeds the cost to complete the Work, including all related claims, costs, losses, and damages (including but not limited to all fees and charges of engineers, architects,

SECTION A-13

attorneys, and other professionals) sustained by Owner, such excess will be paid to Contractor. If the cost to complete the Work including such related claims, costs, losses, and damages exceeds such unpaid balance, Contractor shall pay the difference to Owner. Such claims, costs, losses, and damages incurred by Owner will be reviewed by Engineer as to their reasonableness and, when so approved by Engineer, incorporated in a Change Order. When exercising any rights or remedies under this paragraph, Owner shall not be required to obtain the lowest price for the Work performed.

- F. Where Contractor's services have been so terminated by Owner, the termination will not affect any rights or remedies of Owner against Contractor then existing or which may thereafter accrue, or any rights or remedies of Owner against Contractor or any surety under any payment bond or performance bond. Any retention or payment of money due Contractor by Owner will not release Contractor from liability.
- G. If and to the extent that Contractor has provided a performance bond under the provisions of Paragraph 6.01.A, the provisions of that bond will govern over any inconsistent provisions of Paragraphs 16.02.B and 16.02.D.

16.03 *Owner May Terminate for Convenience*

- A. Upon 7 days' written notice to Contractor and Engineer, Owner may, without cause and without prejudice to any other right or remedy of Owner, terminate the Contract. In such case, Contractor shall be paid for (without duplication of any items):
 - 1. completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;
 - 2. expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials, or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses; and
 - 3. other reasonable expenses directly attributable to termination, including costs incurred to prepare a termination for convenience cost proposal.
- B. Contractor shall not be paid for any loss of anticipated profits or revenue, post-termination overhead costs, or other economic loss arising out of or resulting from such termination.

16.04 *Contractor May Stop Work or Terminate*

- A. If, through no act or fault of Contractor, (1) the Work is suspended for more than 90 consecutive days by Owner or under an order of court or other public authority, or (2) Engineer fails to act on any Application for Payment within 30 days after it is submitted, or (3) Owner fails for 30 days to pay Contractor any sum finally determined to be due, then Contractor may, upon 7 days' written notice to Owner and Engineer, and provided Owner or Engineer do not remedy such suspension or failure within that time, terminate the contract and recover from Owner payment on the same terms as provided in Paragraph 16.03.
- B. In lieu of terminating the Contract and without prejudice to any other right or remedy, if Engineer has failed to act on an Application for Payment within 30 days after it is submitted, or Owner has failed for 30 days to pay Contractor any sum finally determined to be due, Contractor may, 7 days after written notice to Owner and Engineer, stop the Work until payment is made of all such amounts due Contractor, including interest thereon. The

SECTION A-13

provisions of this paragraph are not intended to preclude Contractor from submitting a Change Proposal for an adjustment in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to Contractor's stopping the Work as permitted by this paragraph.

ARTICLE 17—FINAL RESOLUTION OF DISPUTES

17.01 *Methods and Procedures*

- A. *Disputes Subject to Final Resolution:* The following disputed matters are subject to final resolution under the provisions of this article:
1. A timely appeal of an approval in part and denial in part of a Claim, or of a denial in full, pursuant to Article 12; and
 2. Disputes between Owner and Contractor concerning the Work, or obligations under the Contract Documents, that arise after final payment has been made.
- B. *Final Resolution of Disputes:* For any dispute subject to resolution under this article, Owner or Contractor may:
1. elect in writing to invoke the dispute resolution process provided for in the Supplementary Conditions;
 2. agree with the other party to submit the dispute to another dispute resolution process; or
 3. if no dispute resolution process is provided for in the Supplementary Conditions or mutually agreed to, give written notice to the other party of the intent to submit the dispute to a court of competent jurisdiction.

ARTICLE 18—MISCELLANEOUS

18.01 *Giving Notice*

- A. Whenever any provision of the Contract requires the giving of written notice to Owner, Engineer, or Contractor, it will be deemed to have been validly given only if delivered:
1. in person, by a commercial courier service or otherwise, to the recipient's place of business;
 2. by registered or certified mail, postage prepaid, to the recipient's place of business; or
 3. by e-mail to the recipient, with the words "Formal Notice" or similar in the e-mail's subject line.

18.02 *Computation of Times*

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

SECTION A-13

18.03 *Cumulative Remedies*

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

18.04 *Limitation of Damages*

- A. With respect to any and all Change Proposals, Claims, disputes subject to final resolution, and other matters at issue, neither Owner nor Engineer, nor any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, shall be liable to Contractor for any claims, costs, losses, or damages sustained by Contractor on or in connection with any other project or anticipated project.

18.05 *No Waiver*

- A. A party's non-enforcement of any provision will not constitute a waiver of that provision, nor will it affect the enforceability of that provision or of the remainder of this Contract.

18.06 *Survival of Obligations*

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

18.07 *Controlling Law*

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

18.08 *Assignment of Contract*

- A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party to this Contract of any rights under or interests in the Contract will be binding on the other party without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract.

18.09 *Successors and Assigns*

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

18.10 *Headings*

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

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1— Definitions and Terminology.....	1
Article 2— Preliminary Matters	2
Article 3— Contract Documents: Intent, Requirements, Reuse	4
Article 4— Commencement and Progress of the Work	5
Article 5— Site, Subsurface and Physical Conditions, Hazardous Environmental Conditions	5
Article 6— Bonds and Insurance	6
Article 7— Contractor’s Responsibilities	10
Article 8— Other Work at the Site	11
Article 9— Owner’s Responsibilities	11
Article 10— Engineer’s Status During Construction	11
Article 11— Changes to the Contract	13
Article 12— Claims	13
Article 13— Cost of Work; Allowances, Unit Price Work.....	13
Article 14— Tests and Inspections; Correction, Removal, or Acceptance of Defective Work.....	13
Article 15— Payments to Contractor, Set Offs; Completions; Correction Period	15
Article 16— Suspension of Work and Termination	15
Article 17— Final Resolutions of Disputes	15
Article 18— Miscellaneous	17
Exhibit A— Software Requirements for Electronic Document Exchange.....	1
Exhibit B— Foreseeable Bad Weather Days	1
Exhibit C— Geotechnical Baseline Report Supplement to the Supplementary Conditions Error! Bookmark not defined.	

SUPPLEMENTARY CONDITIONS OF THE CONSTRUCTION CONTRACT

These Supplementary Conditions amend or supplement EJCDC® C-700, Standard General Conditions of the Construction Contract (2018). The General Conditions remain in full force and effect except as amended.

The terms used in these Supplementary Conditions have the meanings stated in the General Conditions. Additional terms used in these Supplementary Conditions have the meanings stated below, which are applicable to both the singular and plural thereof.

The address system used in these Supplementary Conditions is the same as the address system used in the General Conditions, with the prefix "SC" added—for example, "Paragraph SC-4.05."

ARTICLE 1—DEFINITIONS AND TERMINOLOGY

- SC-1.01 Delete Paragraph 1.01.A.22. and 1.01.A.42. in their entirety and insert the following in its place:
22. *Engineer*—The individual or entity named as such in the Agreement, or their designated representative.
 42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where all mill and overlay operations have been completed, and material testing and density reports have been accepted by the Engineer. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion of such Work.
- SC-8.06 Add the following new paragraphs immediately after Paragraph 1.01.A.50.
51. *Quality Assurance*—All those planned and systematic actions necessary to provide confidence that a product or service will satisfy given requirements for quality
 52. *Quality Control*—All contractor/vendor operational techniques and activities that are performed or conducted to fulfill the contract requirements.
 53. *Qualified Laboratories*—Laboratories capable as defined by appropriate programs identified by the Engineer. As a minimum, the qualification program shall include provisions for checking testing equipment, and the laboratory shall keep records of calibration checks.
 54. *Qualified Sampling and Testing Personnel*—Personnel who are capable as defined by appropriate programs identified by the Engineer.
 55. *Vendor*—A supplier of project-produced material that is not the contractor.
 56. *Verification Sampling and Testing*—Sampling and testing performed to validate the quality of the product.

ARTICLE 2—PRELIMINARY MATTERS

2.06 *Electronic Transmittals*

SC-2.06 Delete Paragraphs 2.06.B and 2.06.C in their entirety and insert the following in their place:

B. *Electronic Documents Protocol*: The parties shall conform to the following provisions in Paragraphs 2.06.B and 2.06.C, together referred to as the Electronic Documents Protocol (“EDP” or “Protocol”) for exchange of electronic transmittals.

1. *Basic Requirements*

- a. To the fullest extent practical, the parties agree to and will transmit and accept Electronic Documents in an electronic or digital format using the procedures described in this Protocol. Use of the Electronic Documents and any information contained therein is subject to the requirements of this Protocol and other provisions of the Contract.
- b. The contents of the information in any Electronic Document will be the responsibility of the transmitting party.
- c. Electronic Documents as exchanged by this Protocol may be used in the same manner as the printed versions of the same documents that are exchanged using non-electronic format and methods, subject to the same governing requirements, limitations, and restrictions, set forth in the Contract Documents.
- d. Except as otherwise explicitly stated herein, the terms of this Protocol will be incorporated into any other agreement or subcontract between a party and any third party for any portion of the Work on the Project, or any Project-related services, where that third party is, either directly or indirectly, required to exchange Electronic Documents with a party or with Engineer. Nothing herein will modify the requirements of the Contract regarding communications between and among the parties and their subcontractors and consultants.
- e. When transmitting Electronic Documents, the transmitting party makes no representations as to long term compatibility, usability, or readability of the items resulting from the receiving party’s use of software application packages, operating systems, or computer hardware differing from those established in this Protocol.
- f. Nothing herein negates any obligation 1) in the Contract to create, provide, or maintain an original printed record version of Drawings and Specifications, signed and sealed according to applicable Laws and Regulations; 2) to comply with any applicable Law or Regulation governing the signing and sealing of design documents or the signing and electronic transmission of any other documents; or 3) to comply with the notice requirements of Paragraph 18.01 of the General Conditions.

2. *System Infrastructure for Electronic Document Exchange*

- a. Each party will provide hardware, operating system(s) software, internet, e-mail, and large file transfer functions (“System Infrastructure”) at its own cost and sufficient for complying with the EDP requirements. With the exception of minimum standards set forth in this EDP, and any explicit system requirements

SECTION A-14

specified by attachment to this EDP, it is the obligation of each party to determine, for itself, its own System Infrastructure.

- 1) The maximum size of an email attachment for exchange of Electronic Documents under this EDP is 10 MB. Attachments larger than that may be exchanged using large file transfer functions or physical media.
 - 2) Each Party assumes full and complete responsibility for any and all of its own costs, delays, deficiencies, and errors associated with converting, translating, updating, verifying, licensing, or otherwise enabling its System Infrastructure, including operating systems and software, for use with respect to this EDP.
- b. Each party is responsible for its own system operations, security, back-up, archiving, audits, printing resources, and other Information Technology (“IT”) for maintaining operations of its System Infrastructure during the Project, including coordination with the party’s individual(s) or entity responsible for managing its System Infrastructure and capable of addressing routine communications and other IT issues affecting the exchange of Electronic Documents.
 - c. Each party will operate and maintain industry-standard, industry-accepted, ISO-standard, commercial-grade security software and systems that are intended to protect the other party from: software viruses and other malicious software like worms, trojans, adware; data breaches; loss of confidentiality; and other threats in the transmission to or storage of information from the other parties, including transmission of Electronic Documents by physical media such as CD/DVD/flash drive/hard drive. To the extent that a party maintains and operates such security software and systems, it shall not be liable to the other party for any breach of system security.
 - d. In the case of disputes, conflicts, or modifications to the EDP required to address issues affecting System Infrastructure, the parties shall cooperatively resolve the issues; but, failing resolution, the Owner is authorized to make and require reasonable and necessary changes to the EDP to effectuate its original intent. If the changes cause additional cost or time to Contractor, not reasonably anticipated under the original EDP, Contractor may seek an adjustment in price or time under the appropriate process in the Contract.
 - e. Each party is responsible for its own back-up and archive of documents sent and received during the term of the contract under this EDP, unless this EDP establishes a Project document archive, either as part of a mandatory Project website or other communications protocol, upon which the parties may rely for document archiving during the specified term of operation of such Project document archive. Further, each party remains solely responsible for its own post-Project back-up and archive of Project documents after the term of the Contract, or after termination of the Project document archive, if one is established, for as long as required by the Contract and as each party deems necessary for its own purposes.
 - f. If a receiving party receives an obviously corrupted, damaged, or unreadable Electronic Document, the receiving party will advise the sending party of the incomplete transmission.

SECTION A-14

- g. The parties will bring any non-conforming Electronic Documents into compliance with the EDP. The parties will attempt to complete a successful transmission of the Electronic Document or use an alternative delivery method to complete the communication.
 - h. The Owner will operate a Project information management system (also referred to in this EDP as “Project Website”) for use of Owner, Engineer and Contractor during the Project for exchange and storage of Project-related communications and information. Except as otherwise provided in this EDP or the General Conditions, use of the Project Website by the parties as described in this Paragraph will be mandatory for exchange of Project documents, communications, submittals, and other Project-related information. The following conditions and standards will govern use of the Project Website:
 - 1) Describe the period of time during which the Project Website will be operated and be available for reliance by the parties;
 - 2) Provide any minimum system infrastructure, software licensing and security standards for access to and use of the Project Website;
 - 3) Describe the types and extent of services to be provided at the Project Website (such as large file transfer, email, communication and document archives, etc.); and
 - 4) Include any other Project Website attributes that may be pertinent to Contractor’s use of the facility and pricing of such use.
- C. *Software Requirements for Electronic Document Exchange; Limitations*
- 1. Each party will acquire the software and software licenses necessary to create and transmit Electronic Documents and to read and to use any Electronic Documents received from the other party (and if relevant from third parties), using the software formats required in this section of the EDP.
 - a. Prior to using any updated version of the software required in this section for sending Electronic Documents to the other party, the originating party will first notify and receive concurrence from the other party for use of the updated version or adjust its transmission to comply with this EDP.
 - 2. The parties agree not to intentionally edit, reverse engineer, decrypt, remove security or encryption features, or convert to another format for modification purposes any Electronic Document or information contained therein that was transmitted in a software data format, including Portable Document Format (PDF), intended by sender not to be modified, unless the receiving party obtains the permission of the sending party or is citing or quoting excerpts of the Electronic Document for Project purposes.
 - 3. Software and data formats for exchange of Electronic Documents will conform to the requirements set forth in Exhibit A to this EDP, including software versions, if listed.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

There are no Supplementary Conditions in this Article.

SECTION A-14

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.05 *Delays in Contractor's Progress*

SC-4.05 Amend Paragraph 4.05.C by adding the following subparagraphs:

5. *Weather-Related Delays*

- a. If "abnormal weather conditions" as set forth in Paragraph 4.05.C.2 of the General Conditions are the basis for a request for an equitable adjustment in the Contract Times, such request must be documented by data substantiating each of the following: 1) that weather conditions were abnormal for the period of time in which the delay occurred, 2) that such weather conditions could not have been reasonably anticipated, and 3) that such weather conditions had an adverse effect on the Work as scheduled.
- b. The existence of abnormal weather conditions will be determined on a month-by-month basis in accordance with the following:
 - 1) Every workday on which one or more of the following conditions exist will be considered a "bad weather day":
 - i) Total precipitation (as rain equivalent) occurring between 7:00 p.m. on the preceding day (regardless of whether such preceding day is a workday) through 7:00 p.m. on the workday in question equals or exceeds **1.5 inches** of precipitation (as rain equivalent, based on the snow/rain conversion indicated in the table entitled Foreseeable Bad Weather Days; such table is hereby incorporated in this SC-4.05.C by reference.
 - 2) Determination of actual bad weather days during performance of the Work will be based on the weather records measured and recorded by **Weather Underground** weather monitoring station at **CC BLUFFS STATION**.
 - 3) Contractor shall anticipate the number of foreseeable bad weather days per month indicated in the table in Exhibit **B—Foreseeable Bad Weather Days**.
 - 4) In each month, every bad weather day exceeding the number of foreseeable bad weather days established in the table in Exhibit **B—Foreseeable Bad Weather Days** will be considered as "abnormal weather conditions." The existence of abnormal weather conditions will not relieve Contractor of the obligation to demonstrate and document that delays caused by abnormal weather are specific to the planned work activities or that such activities thus delayed were on Contractor's then-current Progress Schedule's critical path for the Project.

ARTICLE 5—SITE, SUBSURFACE AND PHYSICAL CONDITIONS, HAZARDOUS ENVIRONMENTAL CONDITIONS

5.06 *Hazardous Environmental Conditions*

SECTION A-14

SC-5.06 Add the following new paragraphs immediately after Paragraph 5.06.A.3:

4. The following table lists the reports known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and the Technical Data (if any) upon which Contractor may rely:

Report Title	Date of Report	Technical Data
N/A	N/A	No HECs identified.

5. The following table lists the drawings known to Owner relating to Hazardous Environmental Conditions at or adjacent to the Site, and Technical Data (if any) contained in such Drawings upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
N/A	N/A	No HECs identified.

ARTICLE 6—BONDS AND INSURANCE

6.01 *Performance, Payment, and Other Bonds*

SC-6.01 Add the following paragraphs immediately after Paragraph 6.01.A:

1. *Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2010, 2013, or 2018 edition).
2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2010, 2013, or 2018 edition).

6.03 *Contractor’s Insurance*

SC-6.03 Supplement Paragraph 6.03 with the following provisions after Paragraph 6.03.C:

- D. *Workers’ Compensation and Employer’s Liability:* Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance, including, as applicable, United States Longshoreman and Harbor Workers’ Compensation Act, Jones Act, stop-gap employer’s liability coverage for monopolistic states, and foreign voluntary workers’ compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers’ Compensation and Related Policies	Policy limits of not less than:
Workers’ Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman’s)	Statutory
Foreign voluntary workers’ compensation (employer’s responsibility coverage), if applicable	Statutory
Jones Act (if applicable)	
Bodily injury by accident—each accident	N/A

SECTION A-14

Workers' Compensation and Related Policies	Policy limits of not less than:
Bodily injury by disease—aggregate	N/A
Employer's Liability	
Each accident	\$1,000,000.00
Each employee	\$1,000,000.00
Policy limit	\$1,000,000.00
Stop-gap Liability Coverage	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker's compensation or commercial general liability policy with a minimum limit of:	N/A

- E. *Commercial General Liability—Claims Covered:* Contractor shall purchase and maintain commercial general liability insurance, covering all operations by or on behalf of Contractor, on an occurrence basis, against claims for:
1. damages because of bodily injury, sickness or disease, or death of any person other than Contractor's employees,
 2. damages insured by reasonably available personal injury liability coverage, and
 3. damages because of injury to or destruction of tangible property wherever located, including loss of use resulting therefrom.
- F. *Commercial General Liability—Form and Content:* Contractor's commercial liability policy must be written on a 1996 (or later) Insurance Services Organization, Inc. (ISO) commercial general liability form (occurrence form) and include the following coverages and endorsements:
1. Products and completed operations coverage.
 - a. Such insurance must be maintained for three years after final payment.
 - b. Contractor shall furnish Owner and each other additional insured (as identified in the Supplementary Conditions or elsewhere in the Contract) evidence of continuation of such insurance at final payment and three years thereafter.
 2. Blanket contractual liability coverage, including but not limited to coverage of Contractor's contractual indemnity obligations in Paragraph 7.18.
 3. Severability of interests and no insured-versus-insured or cross-liability exclusions.
 4. Underground, explosion, and collapse coverage.
 5. Personal injury coverage.
 6. Additional insured endorsements that include both ongoing operations and products and completed operations coverage through ISO Endorsements CG 20 10 10 01 and CG 20 37 10 01 (together). If Contractor demonstrates to Owner that the specified ISO endorsements are not commercially available, then Contractor may satisfy this requirement by providing equivalent endorsements.
 7. For design professional additional insureds, ISO Endorsement CG 20 32 07 04 "Additional Insured—Engineers, Architects or Surveyors Not Engaged by the Named Insured" or its equivalent.

SECTION A-14

- G. *Commercial General Liability—Excluded Content:* The commercial general liability insurance policy, including its coverages, endorsements, and incorporated provisions, must not include any of the following:
1. Any modification of the standard definition of “insured contract” (except to delete the railroad protective liability exclusion if Contractor is required to indemnify a railroad or others with respect to Work within 50 feet of railroad property).
 2. Any exclusion for water intrusion or water damage.
 3. Any provisions resulting in the erosion of insurance limits by defense costs other than those already incorporated in ISO form CG 00 01.
 4. Any exclusion of coverage relating to earth subsidence or movement.
 5. Any exclusion for the insured’s vicarious liability, strict liability, or statutory liability (other than worker’s compensation).
 6. Any limitation or exclusion based on the nature of Contractor’s work.
 7. Any professional liability exclusion broader in effect than the most recent edition of ISO form CG 22 79.
- H. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$2,000,000.00, or its equivalent in Umbrella or Excess Liability Coverage
Products—Completed Operations Aggregate	\$1,000,000.00 per occurrence
Personal and Advertising Injury	\$1,000,000.00 per occurrence
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000.00 per occurrence

- I. *Automobile Liability:* Contractor shall purchase and maintain automobile liability insurance for damages because of bodily injury or death of any person or property damage arising out of the ownership, maintenance, or use of any motor vehicle. The automobile liability policy must be written on an occurrence basis.

Automobile Liability	Policy limits of not less than:
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$1,000,000.00 per occurrence

- J. *Umbrella or Excess Liability:* Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer’s liability, commercial general

SECTION A-14

liability, and automobile liability insurance described in the Paragraphs above. The coverage afforded must be at least as broad as that of each and every one of the underlying policies.

Excess or Umbrella Liability	Policy limits of not less than:
Each Occurrence	\$5,000,000.00
General Aggregate	N/A

- K. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer’s liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy’s policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of **\$3,000,000.00** after accounting for partial attribution of its limits to underlying policies, as allowed above.
- L. *Contractor’s Pollution Liability Insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor’s operations and completed operations. This insurance must be maintained for no less than three years after final completion.

Contractor’s Pollution Liability	Policy limits of not less than:
Each Occurrence/Claim	\$1,000,000.00
General Aggregate	\$2,000,000.00

- M. *Combining Contractor’s Pollution and Professional Liability Policies:* An acceptable alternative to providing two separate policies is for Contractor to provide a policy that combines Contractor’s Pollution Liability and Professional Liabilities at the stated policy limits.
- N. *Contractor’s Professional Liability Insurance:* If Contractor will provide or furnish professional services under this *Contract*, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

Contractor’s Professional Liability	Policy limits of not less than:
Each Claim	\$1,000,000.00 per claim, to pay on behalf of the insured all sums which the

SECTION A-14

Contractor's Professional Liability	Policy limits of not less than:
	insured shall become legally obligated to pay as damages by reason of any act, malpractice, error, or omission in professional services.
Annual Aggregate	N/A

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provision:

- G. *Coverage for Completion Delays:* The builder's risk policy will include, for the benefit of Owner, loss of revenue and soft cost coverage for losses arising from delays in completion that result from covered physical losses or damage. Such coverage will include, without limitation, fixed expenses and debt service for a minimum of 12 months with a maximum deductible of 30 days, compensation for loss of net revenues, rental costs, and attorneys' fees and engineering or other consultants' fees, if not otherwise covered.

SC-6.04 Supplement Paragraph 6.04 of the General Conditions with the following provisions:

- H. *Builder's Risk and Other Property Insurance Deductibles:* The purchaser of any required builder's risk, or other property insurance will be responsible for costs not covered because of the application of a policy deductible.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.10 *Taxes*

SC-7.10 Add a new paragraph immediately after Paragraph 7.10.A:

- A. Owner is exempt from payment of sales and compensating use taxes of the State of **Texas** and of cities and counties thereof on all materials to be incorporated into the Work.
 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.
 2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

7.18 *Indemnification*

SC-7.18 Delete Paragraph 7.18 in its entirety and insert the following in its place:

- A. To the fullest extent permitted by Laws and Regulations, and in addition to any other obligations of Contractor under the Contract or otherwise, Contractor shall indemnify and hold harmless Owner and Engineer and CPS Energy, and the officers, directors, members, partners, employees, agents, consultants and subcontractors of each and any of them, from losses, damages, costs, and judgments (including but not limited to all fees and charges of engineers, architects, attorneys, and other professionals, and all court or arbitration or other

SECTION A-14

dispute resolution costs) arising from third-party claims or actions relating to or resulting from the performance or furnishing of the Work, provided that any such claim, action, loss, cost, judgment or damage is attributable to bodily injury, sickness, disease, or death, or to damage to or destruction of tangible property (other than the Work itself), including the loss of use resulting therefrom, but only to the extent caused by any negligent act or omission of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable.

- B. In any and all claims against Owner or Engineer or CPS Energy, or any of their officers, directors, members, partners, employees, agents, consultants, or subcontractors, by any employee (or the survivor or personal representative of such employee) of Contractor, any Subcontractor, any Supplier, or any individual or entity directly or indirectly employed by any of them to perform any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under Paragraph 7.18.A will not be limited in any way by any limitation on the amount or type of damages, compensation, or benefits payable by or for Contractor or any such Subcontractor, Supplier, or other individual or entity under workers' compensation acts, disability benefit acts, or other employee benefit acts.

ARTICLE 8—OTHER WORK AT THE SITE

There are no Supplementary Conditions in this Article.

ARTICLE 9—OWNER'S RESPONSIBILITIES

There are no Supplementary Conditions in this Article.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

SC-10.03 Add the following new paragraphs immediately after Paragraph 10.03.B:

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site. RPR's dealings in matters pertaining to the Work in general will be with Engineer and Contractor. RPR's dealings with Subcontractors will only be through or with the full knowledge or approval of Contractor. The RPR will:
1. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.
 2. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.
 3. *Liaison*

SECTION A-14

- a. Serve as Engineer's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Contract Documents.
 - b. Assist Engineer in serving as Owner's liaison with Contractor when Contractor's operations affect Owner's on-Site operations.
 - c. Assist in obtaining from Owner additional details or information, when required for Contractor's proper execution of the Work.
4. *Review of Work; Defective Work*
- a. Conduct on-Site observations of the Work to assist Engineer in determining, to the extent set forth in Paragraph 10.02, if the Work is in general proceeding in accordance with the Contract Documents.
 - b. Observe whether any Work in place appears to be defective.
 - c. Observe whether any Work in place should be uncovered for observation, or requires special testing, inspection or approval.
5. *Inspections and Tests*
- a. Observe Contractor-arranged inspections required by Laws and Regulations, including but not limited to those performed by public or other agencies having jurisdiction over the Work.
 - b. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work.
6. *Payment Requests: Review Applications for Payment with Contractor.*
7. *Completion*
- a. Participate in Engineer's visits regarding Substantial Completion.
 - b. Assist in the preparation of a punch list of items to be completed or corrected.
 - c. Participate in Engineer's visit to the Site in the company of Owner and Contractor regarding completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.
 - d. Observe whether items on the final punch list have been completed or corrected.
- D. The RPR will not:
1. Authorize any deviation from the Contract Documents or substitution of materials or equipment (including "or-equal" items).
 2. Exceed limitations of Engineer's authority as set forth in the Contract Documents.
 3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers.
 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction.
 5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of Owner or Contractor.

SECTION A-14

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer.
7. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11—CHANGES TO THE CONTRACT

There are no Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

There are no Supplementary Conditions in this Article.

ARTICLE 13—COST OF WORK; ALLOWANCES, UNIT PRICE WORK

SC-13.01 Supplement Paragraph 13.01.B.1. by adding the following sentence:

Contractor is responsible to make all wage payments under this provision to its employees and agents, and Contractor indemnifies and will hold Owner harmless for any claims made by Contractor's employees for any wage or payment claims.

SC-13.01 Supplement Paragraph 13.01.B.4. by adding the following sentence:

Contractor is responsible to make all wage payments under this provision to its employees and agents, and Contractor indemnifies and will hold Owner harmless for any claims made by Contractor's employees for any wage or payment claims.

ARTICLE 14—TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

SC-14.02 Delete Paragraph 14.02.B in its entirety and insert the following in its place:

- B. Owner may retain and pay for the services of an independent inspector, testing laboratory, or other qualified individual or entity to perform all inspections and tests expressly required by the Contract Documents to be furnished and paid for by Owner, except that costs incurred in connection with tests or inspections of covered Work will be governed by the provisions of Paragraph 14.05. Quality Assurance
 1. Quality assurance activities of the Owner and Engineer through their own forces or through contracts with materials testing laboratories and survey crews are for the purpose of monitoring the results of the Contractor's work to see that it is in compliance with the requirements of the Contract Documents.
 - a. Quality assurance activities of the Owner and Engineer in no way relieves the Contractor of the obligation to perform work and furnish products and constructed work conforming to the Contract Documents.
 - b. Failure on the part of the Owner or Engineer to perform or test products or constructed works in no way relieves the Contractor of the obligation to perform work and furnish materials conforming to the Contract Documents.
 2. Verification Testing
 - a. Provide verification testing when tests performed by the Owner indicate that

SECTION A-14

materials or the results of construction activities are not in conformance with Contract Documents.

- b. Verification testing is to be provided at the Contractor's expense to verify products or constructed works are in compliance after corrections have been made.
- c. Tests must comply with recognized methods or with methods recommended by the Owner's testing laboratory and approved by the Engineer.

SC-14.02 Delete Paragraph 14.02.D in its entirety and insert the following in its place:

- C. *Quality Control*—Contractor shall be responsible for arranging, obtaining, and paying for all inspections and tests required:
 - 3. Control the quality of work produced and verify that the work performed meets the standards of quality established in the Contract Documents.
 - a. Inspect the work performed by the Contractor, subcontractors and suppliers. Correct defective work.
 - b. Inspect products to be incorporated into the project. Provide only those products that comply with the Contract Documents.
 - c. Verify conformance of the work and products with the Contract Documents before notifying the Owner of need for testing.
 - d. Provide consumable construction materials of adequate quality to provide a finished product that complies with the Contract Documents.
 - e. Provide and pay for the services of an approved professional materials testing laboratory to ensure that products proposed for use fully comply with the Contract Documents.
 - f. Perform tests as indicated in this and other sections of the specifications. Schedule the time and sequence of testing with the Owner and Engineer. Testing is to be observed by the Owner, Engineer, or designated representative.
 - g. Provide labor, materials, tools, equipment, and related items for testing by the Owner including, but not limited to temporary construction required for testing and operation of new and existing utilities.
 - 4. Provide Certified Test Reports on products or constructed works to be incorporated into the project as required by Section 01300, SUBMITTALS. Reports are to indicate that products or constructed works are in compliance with the Contract Documents.
 - 5. Provide and maintain a written Quality Control Program that establishes the methods of assuring compliance with the Contract Documents.
 - 6. D. Designate Quality Control personnel at the start of the project. These personnel shall have the authority to monitor the work effectively and to implement and enforce the Quality Control Program.
 - 7. E. Assist the Engineer, Owner, and Owner's testing organization to perform quality assurance activities.
 - a. Provide access to the work and to the Manufacturer's operations at all times work is in progress.
 - b. Cooperate fully in the performance of sampling, inspection, and testing.
 - c. Furnish labor and facilities to:
 - d. Provide access to the work to be tested.
 - e. Obtain and handle samples for testing at the project site or at the source of the

SECTION A-14

- product to be tested.
- f. Facilitate inspections and tests.
 - g. Store and cure test samples.
 - h. Furnish copies of the tests performed on products.
 - i. Provide adequate quantities of representative product to be tested to the laboratory at the designated location.
 - j. Give the Owner adequate notice before proceeding with work that would interfere with testing.
 - k. Notify the Engineer and the testing laboratory prior to the time that testing is required. Lead time is to be adequate to allow arrangements to be made for testing.
 - l. Do not proceed with any work until testing services have been performed and results of tests indicate that the work is acceptable.
 - m. Provide complete access to the site and make Contract Documents available.
 - n. Provide personnel and equipment needed to perform sampling or to assist in making the field tests.
 - o. Testing performed by the Owner will be paid for by the Owner.
8. Provide a recognized testing laboratory capable of performing a full range of testing procedures complying with the standards or testing procedures specified. Obtain Owners' approval for the testing laboratory before testing is performed.
 9. Provide personnel certified to perform the test required.
 10. Should requirements of this Section of the specification conflict with the requirements of the technical specifications, the technical specifications shall govern.

ARTICLE 15—PAYMENTS TO CONTRACTOR, SET OFFS; COMPLETIONS; CORRECTION PERIOD

15.03 *Substantial Completion*

SC-15.03 Add the following new subparagraph to Paragraph 15.03.B:

1. If some or all of the Work has been determined not to be at a point of Substantial Completion and will require re-inspection or re-testing by Engineer, the cost of such re-inspection or re-testing, including the cost of time, travel and living expenses, will be paid by Contractor to Owner. If Contractor does not pay, or the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under this Article 15.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.

17.02 *Arbitration*

SECTION A-14

- A. All matters subject to final resolution under this Article will be settled by arbitration administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules (subject to the conditions and limitations of this Paragraph SC-17.02). Any controversy or claim in the amount of \$100,000 or less will be settled in accordance with the American Arbitration Association's supplemental rules for Fixed Time and Cost Construction Arbitration. This agreement to arbitrate will be specifically enforceable under the prevailing law of any court having jurisdiction.
- B. The demand for arbitration will be filed in writing with the other party to the Contract and with the selected arbitration administrator, and a copy will be sent to Engineer for information. The demand for arbitration will be made within the specific time required in Article 17, or if no specified time is applicable within a reasonable time after the matter in question has arisen, and in no event will any such demand be made after the date when institution of legal or equitable proceedings based on such matter in question would be barred by the applicable statute of limitations.
- C. The arbitrator(s) must be licensed engineers, contractors, attorneys, or construction managers. Hearings will take place pursuant to the standard procedures of the Construction Arbitration Rules that contemplate in-person hearings. The arbitrators will have no authority to award punitive or other damages not measured by the prevailing party's actual damages, except as may be required by statute or the Contract. Any award in an arbitration initiated under this clause will be limited to monetary damages and include no injunction or direction to any party other than the direction to pay a monetary amount.
- D. The Arbitrators will have the authority to allocate the costs of the arbitration process among the parties, but will only have the authority to allocate attorneys' fees if a specific Law or Regulation or this Contract permits them to do so.
- E. The award of the arbitrators must be accompanied by a reasoned written opinion and a concise breakdown of the award. The written opinion will cite the Contract provisions deemed applicable and relied on in making the award.
- F. The parties agree that failure or refusal of a party to pay its required share of the deposits for arbitrator compensation or administrative charges will constitute a waiver by that party to present evidence or cross-examine witness. In such event, the other party shall be required to present evidence and legal argument as the arbitrator(s) may require for the making of an award. Such waiver will not allow for a default judgment against the non-paying party in the absence of evidence presented as provided for above.
- G. No arbitration arising out of or relating to the Contract will include by consolidation, joinder, or in any other manner any other individual or entity (including Engineer, and Engineer's consultants and the officers, directors, partners, agents, employees or consultants of any of them) who is not a party to this Contract unless:
 - 1. the inclusion of such other individual or entity will allow complete relief to be afforded among those who are already parties to the arbitration;
 - 2. such other individual or entity is substantially involved in a question of law or fact which is common to those who are already parties to the arbitration, and which will arise in such proceedings;
 - 3. such other individual or entity is subject to arbitration under a contract with either Owner or Contractor, or consents to being joined in the arbitration; and

SECTION A-14

4. the consolidation or joinder is in compliance with the arbitration administrator's procedural rules.
- H. The award will be final. Judgment may be entered upon it in any court having jurisdiction thereof, and it will not be subject to modification or appeal, subject to provisions of the Laws and Regulations relating to vacating or modifying an arbitral award.
- I. Except as may be required by Laws or Regulations, neither party nor an arbitrator may disclose the existence, content, or results of any arbitration hereunder without the prior written consent of both parties, with the exception of any disclosure required by Laws and Regulations or the Contract. To the extent any disclosure is allowed pursuant to the exception, the disclosure must be strictly and narrowly limited to maintain confidentiality to the extent possible.

ARTICLE 18—MISCELLANEOUS

There are no Supplementary Conditions in this Article.

EXHIBIT A—SOFTWARE REQUIREMENTS FOR ELECTRONIC DOCUMENT EXCHANGE

Item	Electronic Documents	Transmittal Means	Data Format	Note (1)
a.1	General communications, transmittal covers, meeting notices and responses to general information requests for which there is no specific prescribed form.	Email	Email	
a.2	Meeting agendas, meeting minutes, RFI's and responses to RFI's, and Contract forms.	Email w/ Attachment	PDF	(2)
a.3	Contactors Submittals (Shop Drawings, "or equal" requests, substitution requests, documentation accompanying Sample submittals and other submittals) to Owner and Engineer, and Owner's and Engineer's responses to Contractor's Submittals, Shop Drawings, correspondence, and Applications for Payment.	Email w/ Attachment	PDF	
a.4	Correspondence; milestone and final version Submittals of reports, layouts, Drawings, maps, calculations and spreadsheets, Specifications, Drawings and other Submittals from Contractor to Owner or Engineer and for responses from Engineer and Owner to Contractor regarding Submittals.	Email w/ Attachment or LFE	PDF	
a.5	Layouts and drawings to be submitted to Owner for future use and modification.	Email w/ Attachment or LFE	DWG	
a.6	Correspondence, reports and Specifications to be submitted to Owner for future word processing use and modification.	Email w/ Attachment or LFE	DOC	
a.7	Spreadsheets and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	EXC	
a.8	Database files and data to be submitted to Owner for future data processing use and modification.	Email w/ Attachment or LFE	DB	
Notes				
(1)	All exchanges and uses of transmitted data are subject to the appropriate provisions of Contract Documents.			
(2)	Transmittal of written notices is governed by Paragraph 18.01 of the General Conditions.			
Key				
Email	Standard Email formats (.htm, .rtf, or .txt). Do not use stationery formatting or other features that impair legibility of content on screen or in printed copies			
LFE	Agreed upon Large File Exchange method (FTP, CD, DVD, hard drive)			
PDF	Portable Document Format readable by Adobe® Acrobat Reader			
DGN	Bentley MicroStation .dgn format			
DOC	Microsoft® Word .docx format			
EXC	Microsoft® Excel .xls or .xml format			
DB	Microsoft® Access .mdb format			

EXHIBIT B—FORESEEABLE BAD WEATHER DAYS

Month	Number of Foreseeable Bad Weather Days in Month Based on Precipitation as Rain Equivalent (inches) (1)	Ambient Outdoor Air Temperature (degrees F)	
		Number of Foreseeable Bad Weather Days in Month Based on Low Temperature (at 11:00 a.m.)	Number of Foreseeable Bad Weather Days in Month Based on High Temperature (at 3:00 p.m.)
January	2 days		
February	3 days		
March	4 days		
April	3 days		
May	4 days		
June	6 days		
July	3 days		
August	4 days		
September	5 days		
October	5 days		
November	5 days		
December	3 days		
Notes:			
1. Two inches of sleet equal one inch of rain. Five inches of wet, heavy snow equal one inch of rain. Fifteen inches of “dry” powder snow equals one inch of rain.			

ENGINEER CERTIFICATE AND SEAL

The enclosed specifications, special specifications, special provisions, general notes and specification data in this document have been issued by me or under my responsible supervision as being applicable to this project.

Alteration of a sealed document without proper notification of the responsible engineer is an offense under the Texas Engineering Practice Act.



The seal appearing on this document was authorized by Frank Jaster, P.E. on May 12, 2025

SECTION B-1

CONTRACT TIME & LIQUIDATED DAMAGES

The Contract Performance for this project shall be **54 Calendar Days** as defined in the Specifications.

The time set forth in the proposal for the completion of the work is an essential element of the Contract. For each working day under the conditions described in the preceding paragraph that any work shall remain uncompleted after the expiration of the working days specified in the Contract, together with any additional working days allowed, the amount per day given in the following schedule will be deducted from the money due or to become due the Contractor, not as a penalty but as liquidated damages.

Amount of Liquidated Damages Per Working Days = \$500.00 per working day.

SECTION B-2

EQUAL OPPORTUNITY CLAUSE

1. The Contractor will not discriminate against any employee or applicant for employment because of race, religion, color, sex or natural origin. The Contractor will take Affirmative action to insure that applicants are employed, and that employees are treated during their employment, without regard to their race, creed, color or national origin. Such action shall include, but not limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection of training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the contracting officer setting forth the provisions of the non-discrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, religion, color, sex or natural origin.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer, advising the labor union or worker's representative of the Contractor's commitments under Section 202 of Executive Order No. 11246, as amended (3CFR 169 (1974) and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The Contractor will comply with all provisions of Executive Order No. 11246, as amended, and of the rules, regulations and relevant orders of the Secretary of Labor.
5. The Contractor will furnish all information and reports required by Executive Order No. 11246, as amended, and by the rules, regulations and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records and accounts by the contracting agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this Contract or with any of such rules, regulations or orders, this Contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further Government contracts in accordance with procedures authorized in Executive Order No. 11246, as amended, and such other sanctions may be imposed and remedies invoke as provided in Executive Order No. 11246, as amended or by rule, regulation or order of the Secretary of Labor, or as otherwise provided by law.
7. The Contractor will include the Provisions of Paragraph 1 through 7 in every Subcontract or purchase order unless exempted by rules, regulations or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order No. 11246, as amended, so that such provisions will be binding upon each Subcontractor or Vendor. The Contractor will take such action with respect to any Subcontract or Purchase Order, as the contracting may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the Contractor becomes involved in, or is threatened with, litigation with the Subcontractor or Vendor as a result of such direction by the contracting agency, the Contractor may request the United States to enter into such litigation to protect the interest of the United States.

EQUAL OPPORTUNITY CLAUSE

Equal Employment Opportunity is THE LAW

Employers Holding Federal Contracts or Subcontracts

Applicants to and employees of companies with a Federal government contract or subcontract are protected under the following Federal authorities:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Executive Order 11246, as amended, prohibits job discrimination on the basis of race, color, religion, sex or national origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment.

INDIVIDUALS WITH DISABILITIES

Section 503 of the Rehabilitation Act of 1973, as amended, prohibits job discrimination because of disability and requires affirmative action to employ and advance in employment qualified individuals with disabilities who, with reasonable accommodation, can perform the essential functions of a job.

VIETNAM ERA, SPECIAL DISABLED, RECENTLY SEPARATED, AND OTHER PROTECTED VETERANS

38 U.S.C. 4212 of the Vietnam Era Veterans' Readjustment Assistance Act of 1974, as amended, prohibits job discrimination and requires affirmative action to employ and advance in employment qualified Vietnam era veterans, qualified special disabled veterans, recently separated veterans, and other protected veterans.

Any person who believes a contractor has violated its nondiscrimination or affirmative action obligations under the authorities above should contact immediately:

The Office of Federal Contract Compliance Programs (OFCCP), Employment Standards Administration, U.S. Department of Labor, 200 Constitution Avenue, N.W., Washington, D.C. 20210 or call (202) 693-0101, or an OFCCP regional or district office, listed in most telephone directories under U.S. Government, Department of Labor.

Private Employment, State and Local Governments, Educational Institutions

Applicants to and employees of most private employers, state and local governments, educational institutions, employment agencies and labor organizations are protected under the following Federal laws:

RACE, COLOR, RELIGION, SEX, NATIONAL ORIGIN

Title VII of the Civil Rights Act of 1964, as amended, prohibits discrimination in hiring, promotion, discharge, pay, fringe benefits, job training, classification, referral, and other aspects of employment, on the basis of race, color, religion, sex or national origin.

DISABILITY

The Americans with Disabilities Act of 1990, as amended, protects qualified applicants and employees with disabilities from discrimination in hiring, promotion, discharge, pay, job training, fringe benefits, classification, referral, and other aspects of employment on the basis of disability. The law also requires that covered entities provide qualified applicants and employees with disabilities with reasonable accommodations that do not impose undue hardship.

AGE

The Age Discrimination in Employment Act of 1967, as amended, protects applicants and employees 40 years of age or older from discrimination on the basis of age in hiring, promotion, discharge, compensation, terms, conditions or privileges of employment.

SEX (WAGES)

In addition to sex discrimination prohibited by Title VII of the Civil Rights Act of 1964, as amended (see above), the Equal Pay Act of 1963, as amended, prohibits sex discrimination in payment of wages to women and men performing substantially equal work in the same establishment.

Retaliation against a person who files a charge of discrimination, participates in an investigation, or opposes an unlawful employment practice is prohibited by all of these Federal laws.

If you believe that you have been discriminated against under any of the above laws, you should contact immediately:

The U.S. Equal Employment Opportunity Commission (EEOC), 1801 L Street, N.W., Washington, D.C. 20507 or an EEOC field office by calling toll free (800) 669-4000. For individuals with hearing impairments, EEOC's toll free TDD number is (800) 669-6820.

Programs or Activities Receiving Federal Financial Assistance

RACE, COLOR, RELIGION, NATIONAL ORIGIN, SEX

In addition to the protection of Title VII of the Civil Rights Act of 1964, as amended, Title VI of the Civil Rights Act prohibits discrimination on the basis of race, color or national origin in programs or activities receiving Federal financial assistance. Employment discrimination is covered by Title VI if the primary objective of the financial assistance is provision of employment, or where employment discrimination causes or may cause discrimination in providing services under such programs. Title IX of the Education Amendments of 1972 prohibits employment discrimination on the basis of sex in educational programs or activities which receive Federal assistance.

INDIVIDUALS WITH DISABILITIES

Sections 501, 504 and 505 of the Rehabilitation Act of 1973, as amended, prohibits employment discrimination on the basis of disability in any program or activity which receives Federal financial assistance in the federal government. Discrimination is prohibited in all aspects of employment against persons with disabilities who, with reasonable accommodation, can perform the essential functions of a job.

If you believe you have been discriminated against in a program of any institution which receives Federal assistance, you should contact immediately the Federal agency providing such assistance.

SECTION B-3

PROJECT SIGN – NOT APPLICABLE

SECTION B-4

ILLEGAL DUMPING

The general contractor shall not dispose of any material whatsoever taken from the project site, onto any areas not considered to be legal dump sites. Materials such as broken concrete, asphalt, rebar, trash, etc. are to be disposed of properly. Unless otherwise noted, no material, including dirt, is to be dumped or placed into an existing creek or channel.

The general contractor is hereby instructed to contact the Wilson County or the Engineer for additional information on illegal dumping.

This document has important legal consequences; consultation with an attorney is encouraged with respect to its use or modification. This document should be adapted to the particular circumstances of the contemplated Project and the controlling Laws and Regulations.

APPLICATION FOR PAYMENT

Prepared By



Endorsed By



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GUIDELINES FOR THE INTENDED USE OF EJCDC C-620, APPLICATION FOR PAYMENT

1.0 PURPOSE AND INTENDED USE OF THE DOCUMENT

The Application for Payment is used to facilitate periodic progress payments to the Contractor for Work completed and for stored materials and equipment (referred to in this document as "Stored Materials").

For additional information regarding the Application for Payment, see EJCDC® C-700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.01, and EJCDC® C-001, Commentary on the 2018 EJCDC Construction Documents (2018).

2.0 APPLICATION FOR PAYMENT OVERVIEW

This document was prepared in Microsoft Excel due to the number of calculations involved in the preparation of the Application for Payment. The application consists of a Summary worksheet, and 3 supporting worksheets: Lump Sum worksheet, Unit Price worksheet, and Stored Materials worksheet.

- 2.1 *Summary Worksheet* — calculates the amount to be paid to the Contractor at the end of each Application for Payment period. This calculation imports numbers from the supporting worksheets to determine the value of the Work completed and Stored Materials, calculate retainage, and deduct amounts previously paid to determine the amount the Contractor should be paid for the current application period. Application periods are typically one month; however these periods may be extended when Contractor's efforts do not result in the billable completion of Work or storage of materials and equipment during the payment period.

- 2.2 *Lump Sum Worksheet* — calculates the total value for completed Work for which compensation is paid on a Lump Sum basis. The schedule of values included in this worksheet reflects a breakdown of lump sum Work items to which Contractor and Engineer have agreed, pursuant to Article 2 of the General Conditions. Costs for Stored Materials associated with lump sum items are included on this worksheet to calculate the total value for completed lump sum Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for materials currently stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

- 2.3 *Unit Price Worksheet* — calculates the total value for completed Work for which compensation is paid on a Unit Price basis. The schedule of values included in this spreadsheet is typically a tabulation of Unit Price items from the Agreement. Costs for Stored Materials associated with unit price items are included in this worksheet to calculate the total value for completed Unit Price Work and associated Stored Materials. This total is exported to the Summary worksheet. Separate totals for Work Completed and for Materials Currently Stored are also exported to the Summary worksheet for use in calculating the amount of retainage to be held for each.

2.4 *Stored Materials Worksheet* — calculates the total value for materials and equipment that have been purchased and are being stored until they are incorporated into the Work. This worksheet adds materials and equipment to the worksheet as they are brought to the site and stored; such Stored Materials are then deducted from the Stored Materials worksheet total as they are incorporated into the Work, providing a running net value for the materials and equipment remaining in storage. The values of Stored Materials must be manually added to the Lump Sum or Unit Price line items. These do not automatically update when changes are made. The amount of materials remaining in storage is eligible for payment but must be tracked separately from Work completed since different retainage rates may apply to Work completed and Stored Materials.

3.0 Instructions for filling out the Payment Application form

- 3.1 Project-specific information is to be entered in the top portion (header) of the Summary worksheet. This same information will automatically be copied to the other worksheets to complete the headers on all other worksheets.
- 3.2 Outside of the header, data can be entered in non-shaded cells when the sheet is protected. Cells shaded light blue contain equations that will automatically transfer data from other cells or make calculations to complete the worksheet. Altering any of these cells can result in errors in the Application for Payment. It is recommended that the worksheets be protected at all times unless alterations are deliberately being made to the Application for Payment form other than to enter data. See Paragraph 4.0 below for information on Protection of Worksheets.
- 3.3 Enter information regarding each item in the Lump Sum and/or Unit Price worksheets. For Lump Sum projects, each item should represent an item in the schedule of values prepared by the Contractor and approved by the Engineer/Owner, breaking down the Lump Sum amount into measurable components. For Unit Price contracts, use numbers from the Agreement as the schedule of values. Specific information on the data to be entered into each column may be seen by clicking on the header description for that column. Similar comments may be seen for cells in the "Totals" row that indicates how the number is calculated and where this number is exported to another part of the spreadsheet. See the Commentary for additional information.
- 3.4 The equations in the Summary worksheet use numbers imported from both the Lump Sum and Unit Price worksheets. Projects will typically either use the Lump Sum or the Unit Price worksheet, but some projects may use both. If one of the worksheets is not used, it should be hidden and not deleted. If it is deleted, Users will need to correct the equations in the Summary worksheet by unprotecting the worksheet and editing the equations. To hide a worksheet, right click on the worksheet tab at the bottom of the worksheet and select "Hide." To unhide a worksheet, right click on any worksheet tab and select "Unhide," and then select the worksheet to unhide and click "Okay." This same process may be used to hide these Guidelines for Use.

4.0 Protection of Worksheets

- 4.1 The cells in this Workbook that create the forms or contain equations have been coded to "lock" the cells that should not be altered. It is recommended that the Workbook be Protected (cells locked) at all times unless it is necessary to add or delete rows. Directions for adding and deleting rows are provided in the next section. Passwords can be used to lock the Protect / Unprotect settings on spreadsheets, however the worksheets in this workbook do not require a password.
- 4.2 To unprotect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Unprotect Sheet." To protect a worksheet, click on the "Review" menu tab at the top of Excel, then click "Protect Sheet." This will open a dialog box in which the User is allowed to select protection options. It is recommended that only the top two checkboxes for "Select Locked Cells" and "Select Unlocked Cells" be checked. This will reset the protection for the Worksheet.

5.0 Adding and Deleting Rows

- 5.1 A limited number of blank rows are provided in the Lump Sum, Unit Price, and Stored Material worksheets. Additional rows may be added to these worksheets by the User. The first step in this process is to unprotect the worksheet as previously discussed. After the sheet is unprotected, move with caution to prevent inadvertently deleting any cells that contain equations. To insert a row, right click in the row heading at the left of the spreadsheet and select "Insert." A new row will be inserted at the location where the cursor was placed in the row heading. If more than one new row is desired, left click and drag the cursor to include the desired number of rows, right click in the selected row headings and then select "Insert." It is important that the line immediately above the "Totals" row not be included in the rows selected. Doing so will require that equations in the "Totals" row be adjusted. When rows are inserted, Excel automatically adjusts the equations to include the new rows, unless the row directly above the "Totals" row is also selected.
- 5.2 After new rows are inserted, it is important to copy a line from one of the original rows so correct formatting and equations are copied into each new row. To do this, select the row to be copied by clicking the cell in Column A and dragging the cursor to the last column in the table. Then select "Copy" from the menu or type CTRL+C to copy the cells. Excel will show that this row has been copied by showing a moving dashed line around the cells that are to be copied. Then select the new rows into which the information is to be copied as before and select Paste from the menu or type CTRL+V.
- 5.3 To delete an unused row, right click in the row heading on the left of the spreadsheet for the row to be deleted and select "Delete." The selected row will be deleted. If more than one row is to be deleted, left click and drag the cursor to the desired number of rows to be deleted and then right click to open the menu and select "Delete." Unlike the admonition on adding new rows, it is okay to delete the row just above the "Totals" row.
- 5.4 After rows have been added or deleted, it is important reset the worksheet protection.

6.0 Saving Files

This file is provided as a Microsoft[®] Excel Open XML workbook template (.xltx) to prevent this file from being inadvertently changed. When an application for payment is created for a specific project it should be saved as an Excel workbook (.xlsx) file. To do this, select Save As (F12), type in a new file name and select Excel Workbook (.xlsx) from the drop down Save As Type menu.

7.0 License Agreement

This document is subject to the terms and conditions of the License Agreement, 2018 EJCDC[®] Construction Series Documents. A copy of the License Agreement was furnished at the time of purchase of this document, and is available for review at www.ejcdc.org and the websites of EJCDC's sponsoring organizations.

Contractor's Application for Payment

Owner: _____	Owner's Project No.: _____
Engineer: _____	Engineer's Project No.: _____
Contractor: _____	Contractor's Project No.: _____
Project: _____	
Contract: _____	

Application No.: _____ **Application Date:** _____

Application Period: From _____ to _____

1. Original Contract Price	\$	-
2. Net change by Change Orders	\$	-
3. Current Contract Price (Line 1 + Line 2)	\$	-
4. Total Work completed and materials stored to date (Sum of Column G Lump Sum Total and Column J Unit Price Total)	\$	-
5. Retainage		
a. _____ X \$ _____ - Work Completed	\$	-
b. _____ X \$ _____ - Stored Materials	\$	-
c. Total Retainage (Line 5.a + Line 5.b)	\$	-
6. Amount eligible to date (Line 4 - Line 5.c)	\$	-
7. Less previous payments (Line 6 from prior application)		
8. Amount due this application	\$	-
9. Balance to finish, including retainage (Line 3 - Line 4)	\$	-

Contractor's Certification

The undersigned Contractor certifies, to the best of its knowledge, the following:

(1) All previous progress payments received from Owner on account of Work done under the Contract have been applied on account to discharge Contractor's legitimate obligations incurred in connection with the Work covered by prior Applications for Payment;

(2) Title to all Work, materials and equipment incorporated in said Work, or otherwise listed in or covered by this Application for Payment, will pass to Owner at time of payment free and clear of all liens, security interests, and encumbrances (except such as are covered by a bond acceptable to Owner indemnifying Owner against any such liens, security interest, or encumbrances); and

(3) All the Work covered by this Application for Payment is in accordance with the Contract Documents and is not defective.

Contractor: _____

Signature: _____ **Date:** _____

Recommended by Engineer	Approved by Owner
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____
Approved by Funding Agency	
By: _____	By: _____
Title: _____	Title: _____
Date: _____	Date: _____

Progress Estimate - Unit Price Work

Contractor's Application for Payment

Owner:		Owner's Project No.:	
Engineer:		Engineer's Project No.:	
Contractor:		Contractor's Project No.:	
Project:			
Contract:			

Application No.: _____ Application Period: From _____ to _____ Application Date: _____

A	B	C	D	E	F	G	H	I	J	K	L	
Bid Item No.	Description	Contract Information				Work Completed		Materials Currently Stored (not in G) (\$)	Work Completed and Materials Stored to Date (H + I) (\$)	% of Value of Item (J / F) (%)	Balance to Finish (F - J) (\$)	
		Item Quantity	Units	Unit Price (\$)	Value of Bid Item (C X E) (\$)	Estimated Quantity Incorporated in the Work	Value of Work Completed to Date (E X G) (\$)					
Original Contract												
					-		-		-		-	
					-		-		-		-	
					-		-		-		-	
					-		-		-		-	
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					-		-		-		-	
					-		-		-		-	
Original Contract Totals					\$	-	\$	-	\$	-	\$	-

SECTION C-2

AFFIDAVIT OF PAYMENT OF DEBTS AND CLAIMS AND RELEASE OF LIENS

TO: _____ PROJECT: _____
WILSON COUNTY, TEXAS

By this instrument the undersigned Contractor engaged in the construction of the above project hereby certified that on this date, or any time prior thereto, except listed below, the Contractor has paid the full or has otherwise satisfied all obligations for all materials and equipment furnished, for all work, labor, and services performed and for damages arising in any manner on or against the project, its land, improvements and equipment of every kind.

The undersigned hereby certified that he has received all payments currently due under his Contract for work on the above referred (except retainage). Therefore, the undersigned does hereby waive and/or release any and all liens against the property project an as of the _____ day of _____, 20__.

Contractor

Authorized Signature

Typed Signature and Title

STATE OF TEXAS
COUNTY OF _____

Before me, the undersigned authority, on this day personally appeared _____ known to me to be the person whose name is subscribed to the foregoing instrument, and being first duly sworn, acknowledged to me that he/she executed the same for the purpose and consideration therein expressed and declared to me that the statements contained herein are true.

SWORN AND SUBSCRIBED TO before me this _____ day of _____, 20__.

Signature – Notary Public for the State of
Texas

Notary Public’s Typed Signature

My Commission expires: _____

SECTION C-3

CHANGE ORDER NO.: [Number of Change Order]

Owner:	Wilson County	Owner's Project No.:	
		Engineer's Project	
Engineer:	KCI Technologies	No.:	00009591.000001.015
		Contractor's Project	
Contractor:		No.:	

Project: **Wilson County Creekwood Subdivision Phase 1**
 Contract Name:

Date Issued: _____ Effective Date of Change Order: _____

The Contract is modified as follows upon execution of this Change Order:

Description:

[Description of the change]

Attachments:

[List documents related to the change]

Change in Contract Price	Change in Contract Times [State Contract Times as either a specific date or a number of days]
Original Contract Price: \$ _____	Original Contract Times: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] from previously approved Change Orders No. 1 to No. [Number of previous Change Order] : \$ _____	[Increase] [Decrease] from previously approved Change Orders No.1 to No. [Number of previous Change Order] : Substantial Completion: _____ Ready for final payment: _____
Contract Price prior to this Change Order: \$ _____	Contract Times prior to this Change Order: Substantial Completion: _____ Ready for final payment: _____
[Increase] [Decrease] this Change Order: \$ _____	[Increase] [Decrease] this Change Order: Substantial Completion: _____ Ready for final payment: _____
Contract Price incorporating this Change Order: \$ _____	Contract Times with all approved Change Orders: Substantial Completion: _____ Ready for final payment: _____

Recommended by Engineer (if required)

Accepted by Contractor

By: _____

SECTION C-3

Title:	_____	_____
Date:	_____	_____
	Authorized by Owner	Approved by Funding Agency (if applicable)
By:	_____	_____
Title:	_____	_____
Date:	_____	_____

Contract Time Estimate

Road: CREEKWOOD
 CSJ: _____

District: _____
 Project: _____

Default Calendar: _____ 2

Phase	Location	TASK #	Description	Quantity	Unit	Daily Rate	Duration	Pred Task	% Complete	Relationship	Lag	Pred Task	% Complete	Relationship	Lag	Pred Task	% Complete	Relationship	Lag
1	GHOUT PF	1	Set Project barricades	1	LS	1.00	1				0				0				0
1	Section 1	2	INITIATE ONE WAY TRAFFIC CONTROL	725	LF	1500.00	1	1	50	SS	1				0				0
1	Section 1	3	PERFORM RDWY EXCAVATION	2286	SY	1200.00	2	2	50	SS	1				0				0
1	Section 1	4	Place Additional Base 7 Process base	127	CY	70.00	2	3	50	SS	1				0				0
1	Section 1	5	TREAT EXISTING & New MATERIAL	2286	SY	1500.00	2	4	50	SS	1				0				0
1	Section 1	6	GRADE BACLSLOPE	2286	SY	2000.00	2	5	100	FS	0				0				0
2	Section 2	7	REMOVE EXISTING STRUCTURE	1	EA	1.00	1	5	85	SS	1								
2	Section 2	8	INSTALL CULVERT NO 1	62.25	LF	70.00	1	5	50	SS	1								
2	Section 2	9	INSTALL RIPRAP HEADWALLS	2	EA	0.50	4	6	50	SS	1								
2	Section 2	10	INITIATE ONE WAY TRAFFIC CONTROL	700	LF	1500.00	2	6	100	FS	0				0				0
2	Section 2	11	PERFORM RDWY EXCAVATION	1738	SY	1200.00	1	7	100	FS	0				0				0
2	Section 2	12	Place Additional Base 7 Process base	97	CY	100.00	1	7	50	SS	1				0				0
2	Section 2	13	TREAT EXISTING & New MATERIAL	1738	SY	1500.00	2	6	50	SS	1				0				0
2	Section 2	14	GRADE BACLSLOPE	1738	SY	2000.00	1	10	50	SS	1				0				0
3	Section 3	15	INITIATE ONE WAY TRAFFIC CONTROL	1300	LF	1500.00	3	11	50	SS	1				0				0
3	Section 3	16	PERFORM RDWY EXCAVATION	3033	SY	1600.00	1	12	100	FS	0				0				0
3	Section 3	17	Place Additional Base 7 Process base	169	CY	7000.00	1	13	100	FS	0				0				0
3	Section 3	18	TREAT EXISTING & New MATERIAL	3033	SY	1500.00	3	14	100	FS	0				0				0
3	Section 3	19	GRADE BACLSLOPE	3033	SY	2000.00	1	15	50	SS	2				0				0
4	Section 4	20	INITIATE ONE WAY TRAFFIC CONTROL	1300	LF	1500.00	3	16	50	SS	1				0				0
4	Section 4	21	PERFORM RDWY EXCAVATION	3094	SY	1600.00	1	17	50	SS	1				0				0
4	Section 4	22	Place Additional Base 7 Process base	172	CY	200.00	1	18	50	SS	2				0				0
4	Section 4	23	TREAT EXISTING & New MATERIAL	3094	SY	1600.00	2	19	100	FS	0				0				0
4	Section 4	24	GRADE BACLSLOPE	3094	SY	2000.00	2	20	100	FS	0				0				0
5	Section 5	25	INITIATE ONE WAY TRAFFIC CONTROL	1300	LF	1500.00	1	21	100	FS	0				0				0
5	Section 5	26	PERFORM RDWY EXCAVATION	3033	SY	1600.00	2	22	50	SS	1				0				0
5	Section 5	27	Place Additional Base 7 Process base	169	CY	200.00	1	23	50	SS	1				0				0
5	Section 5	28	TREAT EXISTING & New MATERIAL	3033	SY	1500.00	3	24	50	SS	1				0				0
5	Section 5	29	GRADE BACLSLOPE	3033	SY	2000.00	2	25	50	SS	1				0				0
6	Section 6	30	INITIATE ONE WAY TRAFFIC CONTROL	1300	LF	1500.00	1	26	100	FS	0				0				0
6	Section 6	31	PERFORM RDWY EXCAVATION	1845	SY	1200.00	2	27	100	FS	0				0				0
6	Section 6	32	Place Additional Base 7 Process base	102	CY	70.00	2	28	100	FS	0				0				0
6	Section 6	33	TREAT EXISTING & New MATERIAL	1845	SY	1500.00	2	29			0				0				0
6	Section 6	34	GRADE BACLSLOPE	1845	SY	2000.00	1	30			0				0				0
7	Section 7	35	INITIATE ONE WAY TRAFFIC CONTROL	1350	LF	1500.00	1	31			0				0				0
7	Section 7	36	PERFORM RDWY EXCAVATION	3389	SY	1700.00	2	32			0				0				0
7	Section 7	37	Place Additional Base 7 Process base	188	CY	70.00	3	33			0				0				0
7	Section 7	38	TREAT EXISTING & New MATERIAL	3389	SY	1500.00	3	34			0				0				0
7	Section 7	39	GRADE BACLSLOPE	3389	SY	2000.00	2	35			0				0				0
8	GHOUT PF	40	Seal Coat 1st Course	18419	SY	20000.00	1	36			0				0				0
8	GHOUT PF	41	Seal Coat @ 2nd Course	18419	SY	20000.00	1	37			0				0				0
8	GHOUT PF	42	FINAL CLEAN UP	1	DAY	0.35	3	38			0				0				0
8	GHOUT PF	43	ACCEPT PROJECT	1	DAY	1.00	1	39			0				0				0
							1				0				0				0
							0				0				0				0
			TOTAL DAYS				54				21				0				0

Highway: Creekwood Subdivision

*****GENERAL NOTES*****
2024 Specification Book

===== **Basis of Estimate** =====

===== Cement Treated Base =====

ITEM 275

Type	Depth	Rate/Area	SY	Quantity-Tons
Cement (5%)	6"	23.6 Lbs./SY	18419	359 Tons

===== EMUL TRT(EXIST MATRL & NEW BASE)(8") =====

ITEM 290

Type	Depth	SY	CF(130)	VolAsph(4.5%)	Rate/Gal(8.4)	Quant-GAL
EMULSION (STANDARD YIELD) (4.5%)	8"	18419	110,514	14,366,820	646,507	76,963

===== **Surface Treatment Data** =====

ITEM 316

1st Course

Area	Asphalt	Aggregate
18,419 SY	6,447-Gal	167 CY
Asphalt	Type ASPH (AC-15P, HFRS-2P OR CRS-2P)	
Asphalt	Rate (Gal/SY) 0.35 Gal/SY	
Aggregate	Type/Grade TY-PB / GR-4 SAC-B	
Aggregate	Rate (CY/SY) 1 CY/110 SY	

Highway: Creekwood Subdivision

2nd Course

Area	Asphalt	Aggregate
18,419 SY	5,526-Gal	167 CY
Asphalt	Type ASPH (AC-15P, HFRS-2P OR CRS-2P)	
Asphalt	Rate (Gal/SY) 0.30 Gal/SY	
Aggregate	Type/Grade TY-PB / GR-5 SAC-B	
Aggregate	Rate (CY/SY) 1 CY/110 SY	

--General--

- G-3 Any materials removed and not reused and determined to be salvageable shall be stored within the project limits at an approved location or delivered undamaged to the storage yard as directed by Wilson County.
- G-13 In accordance with the Underground Facility Damage Prevention Act (One Call Bill) the phone number for a utility locator is 811. It is the Contractor's responsibility to plan for utility locators as needed.
- G-15 Contractor questions on this project are to be addressed to the following individual(s):
 Engineer, e-mail address:
 Frank Jaster, PE at frank.jaster@kci.com
 Gary Martin at gmartin@wilsoncounty.tx.gov
- 5-4 Provide a non-intrusive back-up alarm system on all heavy equipment used in close proximity to residential areas. This item is subsidiary to various bid items.
- 5-5 When a precast or cast-in-place concrete element is included in the plans, a precast concrete alternate may be submitted in accordance with "Standard Operating Procedure for Alternate Precast Proposal Submission" found online at <https://www.txdot.gov/inside-txdot/forms-publications/consultants-contractors/publications/bridge.html#design>. Acceptance or denial of an alternate is at the sole discretion of the Engineer. Impacts to the project schedule and any additional costs resulting from the use of alternates are the sole responsibility of the Contractor.

--Item 7--

Highway: Creekwood Subdivision

7-1B The total disturbed area within the project is anticipated at less than one (1) acre. Due to this type of construction, the project qualifies for exclusion under the Construction General Permit (CGP) issued by the Texas Commission on Environmental Quality (TCEQ). However, should the sum of the Engineer's anticipated disturbances and the Contractor's (On ROW and off ROW) PSL's equal or exceed the one (1) acre threshold; both the County and the Contractor have project responsibilities under the CGP that reverts to non-exclusion status. Obtain approval for all non-depicted areas of disturbance that increases the initial soil and vegetation disturbed area estimates before work starts at these locations.

7-2 Notify the Engineer of the disturbed acreage within one (1) mile of the project limits. Obtain authorization from the TCEQ for Contractor PSL's for construction support activities on or off ROW.

7-3A No significant traffic generators events identified.

--Item 8--

8-1 Working days will be computed and charged in accordance with Article 8.3.1.5-Day work week.

8-3 Create and maintain a Bar Chart schedule.

The contractor will have a maximum of 54 working days for Substantial Completion of Work for the project.

--Item 160--

160-1 Existing topsoil may be windrowed or stockpiled (as approved) for later use under this Item. Place erosion control measures for the stockpile and/or windrow.

--Item 164--

164-1 Drill seeding of permanent grasses requires the use of approved grass seeding equipment capable of properly storing and metering the release of small seeds (such as Bermuda grass) separately from fluffy type seeds (such as bluestems). Equipment manufactured for planting grain crops is acceptable for planting temporary cool season seeds, but not for planting the permanent seed mix.

If performing a permanent seeding in an area with established temporary grass cover and mowing is performed instead of tilling, seed and fertilizer may be distributed simultaneously during "Broadcast Seeding" operations, provided each component is applied at the specified rate.

--Item 166--

166-1 Use a fertilizer with an analysis of 13-13-13 (50% of the total N must be sulfur coated urea) to apply 60 lbs of actual N per acre. This requires 460 lbs of 13-13-13 per acre or .095 lbs per SY of area.

Highway: Creekwood Subdivision

--Item 168--

- 168-1 Apply vegetative watering as needed to supplement natural rainfall during the vegetation establishment period. Plan quantity of irrigation water is based on the application of a total of 1.3 gal of water each week for each sq. yd. of area that is sodded or seeded. Establishment time is estimated to be 12 weeks for both sod and permanent seed mixes. Temporary seeding will require less time for establishment. Provide a schedule and coordinate watering cycles and rates per cycle with the Engineer. Obtain approval if the quantity of water to be applied is expected to exceed the plan quantity. Adjust the amount of water applied with each cycle and the number of cycles each wk. according to actual site conditions. Drought or other conditions, as determined by the Engineer, may require the application of supplemental irrigation during hours other than normal working hours.

--Item 247--

- 247-1 There is no minimum PI requirement for this project.

--Item 275--

- 275-1 The Engineer has designated a target cement content @ 5.0% and optimum moisture content necessary to produce a stabilized mixture.

Microcracking will be required in accordance with Item 275.4.7.

--Item 290--

- 290-1 There is no mix design submittal requirement for this project.

--Item 316--

- 316-1 Asphalt season will be year-round but meet temperature limitations specified in the standard specifications for Item 316.

- 316-2 Ensure that the asphalt for precoating the aggregate and the asphalt used for the surface treatment will not result in a reaction that may adversely affect the bonding of the aggregate and asphalt during the surface treatment operation.

Do not add bag house fines in the production of precoated material.

- 316-3 Clean all concrete curbs, islands, medians, etc. that get coated with asphalt.

--Item 421--

- 421-1 Use an automated ticket that contains the same information as shown in the standard specification. Submit the ticket for approval prior to use. The Engineer may suspend concrete operations if ticket information is incomplete/incorrect.

- 421-2 Entrained air is allowed for Class P and Class HES concrete only. Air content testing is waived for all classes of concrete.

- 421-3 The curing facilities and strength testing equipment is not required for this project.

Highway: Creekwood Subdivision

--Item 496--

496-1 The Contractor will submit a demolition plan for all structures to be replaced and/or removed in accordance with Item 496.

--Item 500--

500-1 "Materials on Hand" payments will not be considered in determining percentages for mobilization payments.

--Item 502--

502-1 General

502-1A In addition to providing a Contractor's Responsible Person and a phone number for emergency contact, have an employee available to respond on the project for emergencies and for taking corrective measures within 2 hours or within a reasonable time frame as specified by the Engineer.

502-1C Avoid placing stockpiles, equipment, and other construction materials within the roadway's horizontal clear zone or at any location that will constitute a hazard and will endanger traffic. If a stockpile is placed within the clear zone, address in accordance with the TMUTCD & applicable standards.

502-1F Mounting and moving the mailbox as needed for the various construction phases is subsidiary to Item 502.

502-1G Access to adjoining property must be maintained at all times.

502-2 Barricades, Signs, and Traffic Control Devices

502-2D Moving an existing sign to a temporary location is subsidiary to Item 502. Installations with permanent supports at permanent locations will be paid for under the applicable bid item(s).

502-3A Notify the Engineer in writing 10 business days in advance of any temporary or permanent lane, ramp, connector, etc. closures/detours, restrictions to lane widths, alterations to vertical clearances, or modifications to radii. Any other modifications to the roadway that may adversely affect the mobility of oversized/overweight trucks also require 10 business days advance written notice to the Engineer. At least one lane must always remain open.

502-3B For closures not listed in the TCP; the lane closures are limited to between the hours of 7:30 AM 30 minutes prior to sunset. At least one lane must remain open at all times.

Highway: Creekwood Subdivision

- 502-3C At no time shall two consecutive intersecting roadways be closed at one time during construction.
- 502-3E Unless otherwise noted in the plans and/or as directed by the Engineer, daily lane closures shall be limited according to the following restrictions:
- Nighttime:
- Weekend closures when approved by the Engineer:
- No lane closures will be permitted for the following dates and/or special events:
Between December 15 and January 1
Wednesday before Thanksgiving thru the Sunday after Thanksgiving
Saturday and Sunday before Memorial Day and Labor Day
Saturday or Sunday when July 4 falls on a Friday or Monday
Friday before Easter & Easter Saturday & Sunday
- 502-5B Throughout construction operations, the Contractor will be required to conduct their hauling operations in a manner such that vehicles will not haul over previously recompacted subgrade or compacted base material, except in short sections for dumping manipulations.
- 502-5C The Contractor shall keep the roadway clean and free of dirt or other materials during hauling operations. If the Contractor does not maintain a clean roadway, they shall cease all construction operations, when directed by the Engineer, to clean the roadway to the satisfaction of the Engineer.
- Item 510--
- 510-1 The length of the one-way traffic control section is limited to 0.7 miles Utilizing Flagger Controlled Method. Payment will be subsidiary to ITEM 502 BARRICADES, SIGNS AND TRAFFIC HANDLING

Item 110

Excavation



1. DESCRIPTION

Excavate areas as shown on the plans or as directed. Remove materials encountered to the lines, grades, and typical sections shown on the plans and cross-sections.

2. MATERIALS

Accept ownership of unsuitable or excess material and dispose of material in conformance with local, state, and federal regulations, at locations outside the right of way.

3. CONSTRUCTION

Maintain drainage in the excavated area to avoid damage to the roadway section. Correct any damage to the subgrade caused by weather at no additional cost to the Department.

Shape slopes to avoid loosening material below or outside the proposed grades. Remove and dispose of slides or slope failures as directed.

Excavate to the grade and sections shown on the plans. Manipulate and compact subgrade in accordance with Section 132.3.4., "Compaction Methods," unless excavation is to clean homogenous rock at final grade.

Correct unsuitable material encountered at or below subgrade as directed.

- 3.1. **Rock Cuts.** Use approved embankment material compacted in accordance with Section 132.3.4., "Compaction Methods," to replace undercut material at no additional cost if excavation extends below the grade shown on the plans.
- 3.2. **Earth Cuts.** Scarify remaining material to a depth at least 6 in. below the grade shown on the plans in areas where pavement structure will be placed. Compact subgrade in accordance with Section 132.3.4., "Compaction Methods."
- 3.3. **Acceptance Criteria.**
- 3.3.1. **Grade Tolerances.**
- 3.3.1.1. **Staged Construction.** Grade to within 1.25 in. in the cross-section and 1.25 in. in 16 ft. measured longitudinally.
- 3.3.1.2. **Turnkey Construction.** Grade to within 0.5 in. in the cross-section and 0.5 in. in 16 ft. measured longitudinally.

4. MEASUREMENT

This Item will be measured by the cubic yard in its original position as computed by the method of average end areas or as shown on the plans.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

Limits of measurement for excavation in retaining wall areas will be as shown on the plans.

Shrinkage or swelling factors will not be considered in determining the calculated quantities.

5. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Excavation (Roadway)," "Excavation (Channel)," "Excavation (Special)," or "Excavation (Roadway and Channel)." This price is full compensation for authorized excavation; drying; undercutting subgrade in rock cuts and reworking or replacing the undercut material; hauling; disposal of material not used elsewhere on the project; scarification and compaction; and equipment, labor, materials, tools, and incidentals.

Drying subgrade deeper than 6 in. below grade as shown on the plans will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method." Excavation and replacement of unsuitable material below grade as shown on the plans will be performed and paid for in conformance with the applicable bid items. However, if Item 132, "Embankment," is not included in the Contract, payment for replacement of unsuitable material will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

Removing, reworking, reshaping, or re-laying existing pavement structure will be paid for in conformance with the appropriate item.

When a slide or slope failure not due to the Contractor's negligence or operation occurs, payment for removal and disposal of the slide material will be in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

Excavation in backfill areas of retaining walls will not be measured or paid for directly, but will be subsidiary to pertinent items.

Item 132

Embankment



1. DESCRIPTION

Furnish, place, and compact materials for construction of roadways, embankments, levees, dikes, or any designated section of the roadway where additional material is required.

2. MATERIALS

Furnish approved material capable of forming a stable embankment from required excavation in the areas shown on the plans or from sources outside the right of way. Provide one or more of the following types as shown on the plans.

- **Type A.** Granular material that is free of vegetation or other objectionable material and meets the requirements shown in Table 1.

Table 1
Testing Requirements

Property	Test Method	Specification Limit
Liquid limit	Tex-104-E	≤45
Plasticity index (PI)	Tex-106-E	≤15
Bar linear shrinkage	Tex-107-E	≥2

Perform the linear shrinkage test only as indicated in [Tex-104-E](#).

- **Type B.** Materials such as rock, loam, clay, or other approved materials.
- **Type C.** Material meeting the specification requirements shown on the plans. Type C may be further designated as Type C1, C2, etc.
- **Type D.** Material from required excavation areas shown on the plans.

Meet the requirements of the pertinent retaining wall Items for retaining wall backfill material.

3. CONSTRUCTION

Meet the requirements of Item 7, "Legal Relations and Responsibilities," when off right of way sources are used. Notify the Engineer before opening a material source to allow for required testing. Complete preparation of the right of way in accordance with Item 100, "Preparing Right of Way," for areas to receive embankment.

Backfill tree-stump holes or other minor excavations with approved material and tamp. Restore the ground surface, including any material disked loose or washed out, to its original slope. Compact the ground surface by sprinkling in accordance with Item 204, "Sprinkling," and by rolling using equipment complying with Item 210, "Rolling," when directed.

Scarify and loosen the unpaved surface areas, except rock, to a depth of at least 6 in. unless otherwise shown on the plans. Bench slopes before placing material. Begin placement of material at the toe of slopes. Do not place trees, stumps, roots, vegetation, or other objectionable material in the embankment. Simultaneously recompact scarified material with the placed embankment material. Do not exceed the layer depth specified in Section 132.3.4., "Compaction Methods."

Construct embankments to the grade and sections shown on the plans. Construct the embankment in layers approximately parallel to the finished grade for the full width of the individual roadway cross-sections unless otherwise shown on the plans. Ensure that each section of the embankment conforms to the detailed sections or slopes. Maintain the finished section, density, and grade until the project is accepted.

- 3.1. **Earth Embankments.** Earth embankment is mainly composed of material other than rock. Construct embankments in successive layers, evenly distributing materials in lengths suited for sprinkling and rolling.

Obtain approval to incorporate rock and broken concrete produced by the construction project in the lower layers of the embankment. Place the rock and concrete outside the limits of the completed roadbed when the size of approved rock or broken concrete exceeds the layer thickness requirements in Section 132.3.4., "Compaction Methods." Cut and remove all exposed reinforcing steel from the broken concrete.

Move the material dumped in piles or windrows by blading or by similar methods and incorporate it into uniform layers. Featheredge or blend abutting layers of dissimilar material for at least 100 ft. to ensure there are no abrupt changes in the material. Break down clods or lumps of material.

Apply water free of industrial wastes and other objectionable matter to achieve the uniform moisture content specified for compaction.

Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact the layer to the required density in accordance with Section 132.3.4.2., "Density and Moisture Control," when density control is specified.

- 3.2. **Rock Embankments.** Rock embankment is mainly composed of rock. Construct rock embankments in successive layers for the full width of the roadway cross-section with a depth of 18 in. or less. Increase the layer depth for large rock sizes as approved. Do not exceed a depth of 2-1/2 ft. in any case. Fill voids created by the large stone matrix with smaller stones during the placement and filling operations.

Ensure the depth of the embankment layer is greater than the maximum dimension of any rock. Do not place rock greater than 2 ft. in its maximum dimension, unless otherwise approved. Construct the final layer with graded material so that the density and uniformity are in accordance with Section 132.3.4., "Compaction Methods." Break up exposed oversized material as approved.

Roll and sprinkle each embankment layer in accordance with Section 132.3.4.1., "Ordinary Compaction," when ordinary compaction is specified. Compact each layer to the required density in accordance with Section 132.3.4.2., "Density and Moisture Control," when density control is specified. Proof-roll each rock layer as directed, where density testing is not possible, in accordance with Item 216, "Proof Rolling," to ensure proper compaction.

- 3.3. **Embankments Adjacent to Culverts and Bridges.** Compact embankments adjacent to culverts and bridges in accordance with Item 400, "Excavation and Backfill for Structures."

- 3.4. **Compaction Methods.** Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller. Begin rolling at the lower side and progress toward the high side on superelevated curves. Alternate roller trips to attain slightly different lengths. Compact embankments in accordance with Section 132.3.4.1., "Ordinary Compaction," or Section 132.3.4.2., "Density and Moisture Control," as shown on the plans.

- 3.4.1. **Ordinary Compaction.** Use approved rolling equipment complying with Item 210, "Rolling," to compact each layer. Use specific equipment when required by the Engineer or as shown on the plans. Do not allow the loose depth of any layer to exceed 8 in., unless otherwise approved. Bring each layer to the moisture content directed before and during rolling operations. Compact each layer until there is no evidence of further consolidation. Maintain a level layer to ensure uniform compaction. Recompact and refinish the subgrade at no additional expense to the Department if the required stability or finish is lost for any reason.

3.4.2. **Density and Moisture Control.** Compact each layer to the required density using equipment complying with Item 210. Determine the maximum lift thickness based on the ability of the compacting operation and equipment to meet the required density. Do not exceed layer thickness of 16 in. loose or 12 in. compacted material unless otherwise approved. Maintain a level layer to ensure uniform compaction.

The Engineer will use [Tex-114-E](#) to determine the maximum dry density (D_a) and optimum moisture content (W_{opt}). Meet the requirements for field density and moisture content shown in Table 2 unless otherwise shown on the plans.

Table 2
Field Density Control Requirements

Description	Density	Moisture Content
	Tex-115-E	
PI ≤15	≥98% D_a	–
15 <PI ≤35	≥98% D_a and ≤102% D_a	≥ W_{opt} .
PI > 35	≥ 95% D_a and ≤100% D_a	≥ W_{opt} .

Each layer is subject to testing by the Engineer for density and moisture content. Each layer must be brought to the moisture content necessary to obtain the required density and placed in a manner to ensure uniform compaction over the entire layer. The density and moisture contents for the descriptions shown in Table 2 are illustrated in the Moisture-Density Curve of [Tex-114-E](#).

Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content of completed sections in accordance with [Tex-115-E](#), Part I. The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. When the density is less than the required density shown in Table 2, the Engineer may perform additional testing to determine the extent of the area to correct.

Remove small areas of the layer to allow for density tests as required. Replace the removed material and recompact at no additional expense to the Department. Proof-roll in accordance with Item 216, when shown on the plans or as directed. Correct soft spots as directed.

3.5. **Maintenance of Moisture and Reworking.** Maintain the density and moisture content once all requirements shown in Table 2 are met. Maintain the moisture content no lower than 4% below optimum for soils with a PI greater than 15. Rework the material to obtain the specified compaction when the material loses the required stability, density, moisture, or finish. Alter the compaction methods and procedures on subsequent work to obtain specified density as directed.

3.6. **Acceptance Criteria.**

3.6.1. **Grade Tolerances.**

3.6.1.1. **Staged Construction.** Grade to within 1.25 in. in the cross-section and 1.25 in. in 16 ft. measured longitudinally.

3.6.1.2. **Turnkey Construction.** Grade to within 0.5 in. in the cross-section and 0.5 in. in 16 ft. measured longitudinally.

3.6.2. **Gradation Tolerances.** Ensure no more than one of the five most recent gradation tests is outside the specified limits on any individual sieve by more than 5% when gradation requirements are shown on the plans.

3.6.3. **Density Tolerances.** Ensure no more than one of the five most recent density tests for compaction work is outside the specified density limits and no test is outside the limits by more than 3 pcf.

- 3.6.4. **Plasticity Tolerances.** Ensure no more than one of the five most recent PI tests for material is outside the specified limit by more than 2 points.

4. MEASUREMENT

Shrinkage or swell factors are the Contractor's responsibility. When shown on the plans, factors are for informational purposes only.

Measurement of retaining wall backfill in embankment areas will be paid for as embankment unless otherwise shown on the plans. Limits of measurement for embankment in retaining wall areas are shown on the plans.

Embankment will be measured by the cubic yard. Measurement will be further defined for payment as follows.

- 4.1. **Final.** The cubic yard will be measured in its final position using the average end area method or as shown on the plans. The volume is computed between the original ground surface or the surface upon which the embankment is to be constructed and the lines, grades, and slopes of the embankment. In areas of salvaged topsoil, payment for embankment will be made in accordance with Item 160, "Topsoil." Shrinkage or swell factors will not be considered in determining the calculated quantities.

When measured by the cubic yard in its final position, this is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

- 4.2. **Original.** The cubic yard will be measured in its original and natural position using the average end area method or as shown on the plans.

- 4.3. **Vehicle.** The cubic yard will be measured in vehicles at the point of delivery.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Embankment (Final)," "Embankment (Original)," or "Embankment (Vehicle)" of the compaction method and type specified. This price is full compensation for furnishing embankment; hauling; placing, compacting, finishing, and reworking; disposal of waste material; and equipment, labor, tools, and incidentals.

When proof rolling is directed, it will be paid for in accordance with Item 216.

All sprinkling and rolling, except proof rolling, will not be paid for directly, but will be subsidiary to this Item, unless otherwise shown on the plans.

In fill sections, excavation and replacement of unsuitable material below existing elevations will be performed and paid for in conformance with the applicable bid items. However, if Item 110, "Excavation," is not included in the Contract, payment for replacement of unsuitable material will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade will be paid for in accordance with Article 9.7., "Payment for Extra Work and Force Account Method."

When rework, removal, or scarification is required for existing pavement structure that will remain, it will be measured and paid for as shown on the plans for the appropriate type.

Item 164

Seeding for Erosion Control



1. DESCRIPTION

Prepare the surface and provide and distribute temporary or permanent seeding for erosion control as shown on the plans or as directed.

2. MATERIALS

2.1. **Seed.** Provide seed from the previous season's crop meeting the requirements of the Texas Seed Law, including the testing and labeling for pure live seed (PLS = Purity × Germination). Furnish seed of the designated species in labeled unopened bags or containers to the Engineer before planting. Use within 12 mo. from the date of the analysis. When Buffalograss is specified, use seed that is treated with potassium nitrate (KNO₃) to overcome dormancy.

Use Tables 1–5 to determine the appropriate seeding mix and rates as shown on the plans. Include flower seeding mix in accordance with Table 5 with seeding mix shown in Table 1 and Table 2.

If a grass plant species is not available by the producers, the other grass plant species in the seeding mix will be increased proportionally by the percentage of the missing plant grass species. If a flower plant species is not available by the producers, the other flower species in the seeding mix will be increased proportionally by the percentage of the missing flower species. Substitute species and rates require approval of the Engineer before being incorporated into the seeding mx. The rates listed in the tables are for drill seeding. All other methods of placing seed will require a 25% increase in rate.

Table 1
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
1 (Paris)	Hooded Windmillgrass (Burnet)	15% 0.3	Hooded Windmillgrass (Burnet)	15% 0.3
	White Tridens (Guadalupe)	20% 0.4	Sand Dropseed (Taylor)	15% 0.3
	Little Bluestem (Coastal Plains)	20% 2.0	Little Bluestem (Coastal Plains)	20% 2.0
	Florida Paspalum (Harrison)	15% 2.25	Florida Paspalum (Harrison)	15% 2.25
	Sideoats Grama (Haskell)	05% 0.5	Splitbeard Bluestem (Neches)	10% 1.0
	Splitbeard Bluestem (Neches)	05% 0.5	Sand Lovegrass (Mason)	10% 0.4
	Sand Dropseed (Taylor)	05% 0.1	Green Sprangletop (Van Horn)	15% 0.6
	Canada Wildrye (Lavaca)	10% 2.0		
	Green Sprangletop (Van Horn)	05% 0.2		
2 (Fort Worth)	Hooded Windmillgrass (Burnet)	15% 0.3	Sand Dropseed (Taylor)	15% 0.3
	White Tridens (Guadalupe)	15% 0.3	Sideoats Grama (Haskell)	15% 1.5
	Sideoats Grama (Haskell)	10% 1.0	Little Bluestem (OK Select)	15% 1.05
	Little Bluestem (OK Select)	10% 0.7	Hairy Grama (Chaparral)	15% 0.6
	Buffalograss (Texoka)	10% 1.5	Green Sprangletop (Van Horn)	10% 0.2
	Silver Bluestem (Santiago)	10% 0.4	Hooded Windmillgrass (Burnet)	10% 0.2
	Green Sprangletop (Van Horn)	10% 0.4	Shortspike Windmillgrass (Welder)	10% 0.2
	Sand Dropseed (Taylor)	10% 0.2	Silver Bluestem (Santiago)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0		

Table 1 (continued)
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
3 (Wichita Falls)	Sideoats Grama (Haskell)	15% 1.5	Hooded Windmillgrass (Burnet)	10% 0.2
	Green Sprangletop (Van Horn)	10% 0.4	Sand Dropseed (Taylor)	15% 0.3
	Hooded Windmillgrass (Burnet)	10% 0.2	Green Sprangletop (Van Horn)	15% 0.6
	White Tridens (Guadalupe)	10% 0.2	Sideoats Grama (Haskell)	10% 1.0
	Little Bluestem (OK Select)	15% 1.05	Little Bluestem (OK Select)	10% 0.7
	Silver Bluestem (Santiago)	10% 0.4	Silver Bluestem (Santiago)	10% 0.4
	Buffalograss (Texoka)	10% 1.5	Hairy Grama (Chaparral)	10% 0.4
	Blue Grama (Hachita)	05% 0.2	Arizona Cottontop (La Salle)	10% 0.4
	Sand Dropseed (Taylor)	05% 0.1	Blue Grama (Hachita)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0		
4 (Amarillo)	Sideoats Grama (Haskell)	15% 1.5	Green Sprangletop (Van Horn)	15% 0.6
	Silver Bluestem (Santiago)	15% 0.6	Sideoats Grama (Haskell)	10% 1.0
	Buffalograss (Texoka)	15% 2.25	Sand Dropseed (Taylor)	10% 0.2
	Green Sprangletop (Van Horn)	10% 0.4	Silver Bluestem (Santiago)	10% 0.4
	Blue Grama (Hachita)	15% 0.6	Little Bluestem (OK Select)	15% 1.05
	Hooded Windmillgrass (Burnet)	05% 0.1	Arizona Cottontop (La Salle)	10% 0.4
	White Tridens (Guadalupe)	10% 0.2	Blue Grama (Hachita)	10% 0.4
	Western Wheatgrass (Barton)	10% 3.0	Sand Lovegrass (Mason)	10% 0.3
	Canada Wildrye (Lavaca)	05% 1.0	Hooded Windmillgrass (Burnet)	10% 0.2
5 (Lubbock)	Sideoats Grama (Haskell)	15% 1.5	Green Sprangletop (Van Horn)	15% 0.6
	Blue Grama (Hachita)	15% 0.6	Blue Grama (Hachita)	15% 0.6
	Silver Bluestem (Santiago)	15% 0.6	Sideoats Grama (Haskell)	10% 1.0
	Buffalograss (Texoka)	10% 1.5	Little Bluestem (OK Select)	10% 0.7
	White Tridens (Guadalupe)	10% 0.2	Hooded Windmillgrass (Burnet)	10% 0.2
	Green Sprangletop (Van Horn)	10% 0.4	Sand Dropseed (Taylor)	10% 0.2
	Hooded Windmillgrass (Burnet)	05% 0.1	Silver Bluestem (Santiago)	10% 0.4
	Galleta Grass (Viva)	05% 0.3	Arizona Cottontop (La Salle)	10% 0.4
	Western Wheatgrass (Barton)	10% 3.0	Sand Lovegrass (Mason)	10% 0.3
	Canada Wildrye (Lavaca)	05% 1.0		
6 (Odessa)	Whiplash Pappusgrass (Permian)	15% 0.9	Sand Dropseed (Taylor)	15% 0.3
	Green Sprangletop (Van Horn)	10% 0.4	Green Sprangletop (Van Horn)	10% 0.4
	Silver Bluestem (Santiago)	15% 0.6	Sideoats Grama (Brewster)	15% 1.5
	Sideoats Grama (Brewster)	10% 1.0	Whiplash Pappusgrass (Permian)	10% 0.6
	Sand Dropseed (Taylor)	10% 0.2	Hooded Windmillgrass (Burnet)	10% 0.2
	Alkali Sacaton (Saltalk)	10% 0.2	Blue Grama (Hachita)	10% 0.4
	Arizona Cottontop (La Salle)	10% 0.4	Hairy Grama (Chaparral)	10% 0.4
	Blue Grama (Hachita)	10% 0.4	Sand Lovegrass (Mason)	10% 0.3
	Galleta Grass (Viva)	10% 0.6	Little Bluestem (Pastura)	05% 0.5
			Galleta Grass (Viva)	05% 0.3
7 (San Angelo)	Sideoats Grama (Brewster)	15% 1.5	Sand Dropseed (Taylor)	15% 0.3
	Hooded Windmillgrass (Burnet)	10% 0.2	Green Sprangletop (Van Horn)	15% 0.6
	Silver Bluestem (Santiago)	10% 0.4	Hooded Windmillgrass (Burnet)	15% 0.3
	Sand Dropseed (Taylor)	10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	White Tridens (Guadalupe)	10% 0.2	Hairy Grama (Chaparral)	10% 0.4
	Whiplash Pappusgrass (Permian)	15% 0.9	Sand Lovegrass (Mason)	10% 0.3
	Texas Grama (Atascosa)	05% 0.5	Sideoats Grama (Brewster)	10% 1.0
	Green Sprangletop (Van Horn)	10% 0.4	Little Bluestem (OK Select)	10% 0.7
	Little Bluestem (OK Select)	05% 0.35	Whiplash Pappusgrass (Permian)	05% 0.3
	Blue Grama (Hachita)	05% 0.2		
Galleta Grass (Viva)	05% 0.3			

Table 1 (continued)
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
8 (Abilene)	Sideoats Grama (Haskell)	10% 1.0	Sand Dropseed (Taylor)	15% 0.3
	Hooded Windmillgrass (Burnet)	10% 0.2	Green Sprangletop (Van Horn)	10% 0.4
	Buffalograss (Texoka)	10% 1.5	Hooded Windmillgrass (Burnet)	15% 0.3
	Blue Grama (Hachita)	10% 0.4	Silver Bluestem (Santiago)	10% 0.4
	Silver Bluestem (Santiago)	10% 0.4	Little Bluestem (OK Select)	10% 0.7
	White Tridens (Guadalupe)	15% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	Little Bluestem (OK Select)	10% 0.7	Hairy Grama (Chaparral)	10% 0.4
	Green Sprangletop (Van Horn)	10% 0.4	Sand Lovegrass (Mason)	10% 0.3
	Whiplash Pappusgrass (Permian)	10% 0.6	Arizona Cottontop (La Salle)	10% 0.4
	Galleta Grass (Viva)	10% 0.6		
9 (Waco)	Sideoats Grama (Haskell)	15% 1.5	Hooded Windmillgrass (Burnet)	15% 0.3
	White Tridens (Guadalupe)	15% 0.3	Shortspike Windmillgrass (Welder)	10% 0.2
	Hooded Windmillgrass (Burnet)	10% 0.2	Hairy Grama (Chaparral)	10% 0.4
	Little Bluestem (OK Select)	10% 0.7	Sand Dropseed (Taylor)	15% 0.3
	Buffalograss (Texoka)	10% 1.6	Sideoats Grama (Haskell)	10% 1.0
	Halls Panicum (Oso)	05% 0.1	Little Bluestem (OK Select)	10% 0.7
	Silver Bluestem (Santiago)	10% 0.4	Green Sprangletop (Van Horn)	10% 0.4
	Sand Dropseed (Taylor)	05% 0.1	Texas Grama (Atascosa)	05% 0.15
	Green Sprangletop (Van Horn)	10% 0.4	Silver Bluestem (Santiago)	10% 0.4
	Canada Wildrye (Lavaca)	05% 1.0	Canada Wildrye (Lavaca)	05% 1.0
	Texas Grama (Atascosa)	05% 0.5		
10 (Tyler)	Hooded Windmillgrass (Burnet)	15% 0.3	Hooded Windmillgrass (Burnet)	15% 0.3
	White Tridens (Guadalupe)	15% 0.3	Sand Dropseed (Taylor)	10% 0.2
	Sand Dropseed (Taylor)	05% 0.1	Little Bluestem (Coastal Plains)	20% 2.0
	Little Bluestem (Coastal Plains)	20% 2.0	Florida Paspalum (Harrison)	15% 2.25
	Florida Paspalum (Harrison)	15% 2.25	Splitbeard Bluestem (Neches)	10% 1.0
	Splitbeard Bluestem (Neches)	10% 1.0	Green Sprangletop (Van Horn)	05% 0.2
	Green Sprangletop (Van Horn)	05% 0.2	Sand Lovegrass (Mason)	10% 0.4
	Sideoats Grama (Haskell)	05% 0.5	Red Lovegrass (Duval)	10% 0.2
	Canada Wildrye (Lavaca)	10% 2.0	Hairy Grama (Chaparral)	05% 0.2
11 (Lufkin)	Hooded Windmillgrass (Burnet)	15% 0.3	Hooded Windmillgrass (Burnet)	15% 0.3
	White Tridens (Guadalupe)	15% 0.3	Sand Dropseed (Taylor)	10% 0.2
	Little Bluestem (Coastal Plains)	20% 2.0	Little Bluestem (Coastal Plains)	20% 2.0
	Florida Paspalum (Harrison)	15% 2.25	Florida Paspalum (Harrison)	15% 2.25
	Green Sprangletop (Van Horn)	05% 0.2	Splitbeard Bluestem (Neches)	10% 1.0
	Sideoats Grama (Haskell)	05% 0.5	Green Sprangletop (Van Horn)	05% 0.2
	Splitbeard Bluestem (Neches)	10% 1.0	Red Lovegrass (Duval)	10% 0.2
	Sand Dropseed (Taylor)	05% 0.1	Sand Lovegrass (Mason)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0	Hairy Grama (Chaparral)	05% 0.2
12 (Houston)	White Tridens (Guadalupe)	10% 0.2	Hooded Windmillgrass (Mariah)	15% 0.3
	Hooded Windmillgrass (Mariah)	10% 0.2	Sand Dropseed (Nueces)	15% 0.3
	Shortspike Windmillgrass (Welder)	15% 0.3	Shortspike Windmillgrass (Welder)	10% 0.2
	Little Bluestem (Coastal Plains)	15% 1.5	Little Bluestem (Coastal Plains)	15% 1.5
	Florida Paspalum (Harrison)	15% 2.25	Red Lovegrass (Duval)	10% 0.2
	Red Lovegrass (Duval)	05% 0.1	Florida Paspalum (Harrison)	15% 2.25
	Halls Panicum (Oso)	10% 0.2	Splitbeard Bluestem (Neches)	10% 1.0
	Splitbeard Bluestem (Neches)	05% 0.5	Hairy Grama (Chaparral)	05% 0.2
	Sand Dropseed (Nueces)	05% 0.1	Green Sprangletop (Van Horn)	05% 0.2
	Canada Wildrye (Lavaca)	10% 2.0		
13 (Yoakum)	White Tridens (Guadalupe)	15% 0.3	Hairy Grama (Chaparral)	15% 0.6
	Shortspike Windmillgrass (Welder)	15% 0.3	Hooded Windmillgrass (Mariah)	15% 0.3
	Halls Panicum (Oso)	10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	Plains Bristleggrass (Catarina Blend)	10% 0.6	Sand Dropseed (Nueces)	10% 0.2
	Little Bluestem (Coastal Plains)	15% 1.5	Little Bluestem (Carrizo)	10% 1.5
	Sideoats Grama (South Texas)	05% 0.75	Red Lovegrass (Duval)	10% 0.2
	Texas Grama (Atascosa)	10% 1.0	Slender Grama (Dilley)	10% 1.0
	Hooded Windmillgrass (Mariah)	05% 0.1	Plains Bristleggrass (Catarina)	10% 0.4
	Sand Dropseed (Nueces)	05% 0.1	Green Sprangletop (Van Horn)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0		

Table 1 (continued)
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
14 (Austin)	Hooded Windmillgrass (Burnet)	20% 0.4	Hairy Grama (Chaparral)	15% 0.6
	White Tridens (Guadalupe)	10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	Sideoats Grama (South Texas)	10% 1.5	Hooded Windmillgrass (Burnet)	10% 0.2
	Shortspike Windmillgrass (Welder)	10% 0.2	Red Lovegrass (Duval)	10% 0.2
	Plains Bristlegrass (Catarina Blend)	10% 0.6	Sand Dropseed (Nueces)	10% 0.2
	Silver Bluestem (Santiago)	10% 0.4	Little Bluestem (Carrizo)	10% 1.5
	Little Bluestem (OK Select)	10% 0.7	Sideoats Grama (South Texas)	10% 1.5
	Halls Panicum (Oso)	05% 0.1	Silver Bluestem (Santiago)	10% 0.4
	Texas Grama (Atascosa)	05% 0.5	Plains Bristlegrass (Catarina)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0	Arizona Cottontop (La Salle)	05% 0.2
15 (San Antonio)	Sideoats Grama (South Texas)	15% 2.25	Slender Grama (Dilley)	15% 1.5
	White Tridens (Guadalupe)	15% 0.3	Hairy Grama (Chaparral)	15% 0.6
	Shortspike Windmillgrass (Welder)	10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	Halls Panicum (Oso)	10% 0.2	Hooded Windmillgrass (Mariah)	10% 0.2
	Plains Bristlegrass (Catarina Blend)	10% 0.6	Red Lovegrass (Duval)	10% 0.2
	False Rhodes Grass (Kinney)	05% 0.1	Sand Dropseed (Nueces)	10% 0.2
	Hooded Windmillgrass (Mariah)	05% 0.1	Pink Pappusgrass (Maverick)	05% 0.3
	Pink Pappusgrass (Maverick)	10% 0.6	Little Bluestem (Carrizo)	10% 1.5
	Texas Grama (Atascosa)	05% 0.5	Arizona Cottontop (La Salle)	05% 0.2
	Multiflower False Rhodes Grass (Hidalgo)	10% 0.2	Multiflower False Rhodes Grass (Hidalgo)	05% 0.1
Arizona Cottontop (La Salle)	05% 0.2	Plains Bristlegrass (Catarina)	05% 0.2	
16 (Corpus Christi)	Shortspike Windmillgrass (Welder)	15% 0.3	Slender Grama (Dilley)	15% 1.5
	Pink Pappusgrass (Maverick)	10% 0.6	Hairy Grama (Chaparral)	15% 0.6
	Halls Panicum (Oso)	10% 0.2	Hooded Windmillgrass (Mariah)	10% 0.2
	Plains Bristlegrass (Catarina Blend)	10% 0.6	Red Lovegrass (Duval)	10% 0.2
	White Tridens (Guadalupe)	10% 0.2	Sand Dropseed (Nueces)	10% 0.2
	Multiflower False Rhodes Grass (Hidalgo)	10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
	Hooded Windmillgrass (Mariah)	10% 0.2	Pink Pappusgrass (Maverick)	10% 0.6
	Arizona Cottontop (La Salle)	05% 0.2	Multiflower False Rhodes Grass (Hidalgo)	10% 0.2
	Sand Dropseed (Nueces)	05% 0.1	Arizona Cottontop (La Salle)	05% 0.2
	Sideoats Grama (South Texas)	10% 1.5	Little Bluestem (Carrizo)	05% 0.75
Texas Grama (Atascosa)	05% 0.5			
17 (Bryan)	White Tridens (Guadalupe)	15% 0.3	Sand Dropseed (Taylor)	10% 0.2
	Hooded Windmillgrass (Burnet)	15% 0.3	Shortspike Windmillgrass (Welder)	10% 0.2
	Little Bluestem (Coastal Plains)	15% 1.5	Little Bluestem (Coastal Plains)	15% 1.5
	Florida Paspalum (Harrison)	15% 2.25	Green Sprangletop (Van Horn)	05% 0.2
	Shortspike Windmillgrass (Welder)	10% 0.2	Florida Paspalum (Harrison)	15% 2.25
	Splitbeard Bluestem (Neches)	05% 0.5	Splitbeard Bluestem (Neches)	10% 1.0
	Green Sprangletop (Van Horn)	05% 0.2	Hooded Windmillgrass (Burnet)	15% 0.3
	Halls Panicum (Oso)	05% 0.1	Red Lovegrass (Duval)	10% 0.2
	Sand Dropseed (Taylor)	05% 0.1	Hairy Grama (Chaparral)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0		
18 (Dallas)	Sideoats Grama (Haskell)	15% 1.5	Shortspike Windmillgrass (Welder)	10% 0.2
	Hooded Windmillgrass (Burnet)	15% 0.3	Hairy Grama (Chaparral)	15% 0.6
	White Tridens (Guadalupe)	15% 0.3	Sand Dropseed (Taylor)	10% 0.2
	Little Bluestem (OK Select)	15% 1.05	Little Bluestem (OK Select)	15% 1.05
	Buffalograss (Texoka)	10% 1.5	Sideoats Grama (Haskell)	10% 1.0
	Silver Bluestem (Santiago)	05% 0.2	Green Sprangletop (Van Horn)	10% 0.4
	Green Sprangletop (Van Horn)	05% 0.2	Hooded Windmillgrass (Burnet)	10% 0.2
	Shortspike Windmillgrass (Welder)	05% 0.1	Sand Lovegrass (Mason)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0	Silver Bluestem (Santiago)	10% 0.4
	Sand Dropseed (Taylor)	05% 0.1		

Table 1 (continued)
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
19 (Atlanta)	White Tridens (Guadalupe)	15% 0.3	Hooded Windmillgrass (Burnet)	15% 0.3
	Hooded Windmillgrass (Burnet)	15% 0.3	Sand Dropseed (Taylor)	10% 0.2
	Little Bluestem (Coastal Plains)	20% 2.0	Little Bluestem (Coastal Plains)	20% 2.0
	Florida Paspalum (Harrison)	15% 2.25	Florida Paspalum (Harrison)	15% 2.25
	Sideoats Grama (Haskell)	10% 1.0	Splitbeard Bluestem (Neches)	10% 1.0
	Splitbeard Bluestem (Neches)	05% 0.5	Sand Lovegrass (Mason)	10% 0.4
	Green Sprangletop (Van Horn)	05% 0.2	Red Lovegrass (Duval)	10% 0.2
	Sand Dropseed (Taylor)	05% 0.1	Hairy Grama (Chaparral)	10% 0.4
	Canada Wildrye (Lavaca)	10% 2.0		
20 (Beaumont)	White Tridens (Guadalupe)	10% 0.2	Hooded Windmillgrass (Mariah)	15% 0.3
	Hooded Windmillgrass (Mariah)	10% 0.2	Sand Dropseed (Nueces)	15% 0.3
	Shortspike Windmillgrass (Welder)	15% 0.3	Shortspike Windmillgrass (Welder)	10% 0.2
	Little Bluestem (Coastal Plains)	15% 1.5	Little Bluestem (Coastal Plains)	15% 1.5
	Florida Paspalum (Harrison)	15% 2.25	Red Lovegrass (Duval)	10% 0.2
	Red Lovegrass (Duval)	05% 0.1	Florida Paspalum (Harrison)	15% 2.25
	Halls Panicum (Oso)	10% 0.2	Splitbeard Bluestem (Neches)	10% 1.0
	Splitbeard Bluestem (Neches)	05% 0.5	Hairy Grama (Chaparral)	05% 0.2
	Sand Dropseed (Nueces)	05% 0.1	Green Sprangletop (Van Horn)	05% 0.2
	Canada Wildrye (Lavaca)	10% 2.0		
	21 (Pharr)	Shortspike Windmillgrass (Welder)	10% 0.2	Slender Grama (Dille)
Halls Panicum (Oso)		10% 0.2	Hairy Grama (Chaparral)	10% 0.4
White Tridens (Guadalupe)		10% 0.2	Shortspike Windmillgrass (Welder)	10% 0.2
Plains Bristlegrass (Catarina Blend)		10% 0.6	Red Lovegrass (Duval)	10% 0.2
Pink Pappusgrass (Maverick)		10% 0.6	Sand Dropseed (Nueces)	10% 0.2
Texas Grama (Atascosa)		10% 1.0	Hooded Windmillgrass (Mariah)	10% 0.2
Multiflower False Rhodes Grass (Hidalgo)		05% 0.1	Pink Pappusgrass (Maverick)	10% 0.6
Hooded Windmillgrass (Mariah)		10% 0.2	Whiplash Pappusgrass (Webb)	10% 0.6
Arizona Cottontop (La Salle)		10% 0.4	Multiflower False Rhodes Grass (Hidalgo)	10% 0.2
Sand Dropseed (Nueces)		05% 0.1	Arizona Cottontop (La Salle)	10% 0.4
Whiplash Pappusgrass (Webb)		10% 0.6		
22 (Laredo)		Sideoats Grama (South Texas)	15% 2.25	Slender Grama (Dille)
	Pink Pappusgrass (Maverick)	10% 0.6	Hairy Grama (Chaparral)	15% 0.6
	Halls Panicum (Oso)	10% 0.2	Hooded Windmillgrass (Mariah)	10% 0.2
	Plains Bristlegrass (Catarina Blend)	10% 0.6	Red Lovegrass (Duval)	10% 0.2
	White Tridens (Guadalupe)	10% 0.2	Sand Dropseed (Nueces)	10% 0.2
	Whiplash Pappusgrass (Webb)	10% 0.6	Pink Pappusgrass (Maverick)	10% 0.6
	Shortspike Windmillgrass (Welder)	05% 0.1	Arizona Cottontop (La Salle)	10% 0.4
	Texas Grama (Atascosa)	10% 1.0	Little Bluestem (Carrizo)	05% 0.75
	False Rhodes Grass (Kinney)	10% 0.2	Sideoats Grama (South Texas)	10% 1.5
	Hooded Windmillgrass (Mariah)	10% 0.2	Shortspike Windmillgrass (Welder)	05% 0.1
23 (Brownwood)	Sideoats Grama (Haskell)	15% 1.5	Green Sprangletop (Van Horn)	15% 0.6
	Hooded Windmillgrass (Burnet)	15% 0.3	Sand Dropseed (Taylor)	15% 0.3
	White Tridens (Guadalupe)	15% 0.3	Sideoats Grama (Haskell)	10% 1.0
	Texas Grama (Atascosa)	10% 1.0	Little Bluestem (OK Select)	15% 1.05
	Little Bluestem (OK Select)	10% 0.7	Silver Bluestem (Santiago)	10% 0.4
	Buffalograss (Texoka)	10% 1.5	Hooded Windmillgrass (Burnet)	10% 0.2
	Silver Bluestem (Santiago)	10% 0.4	Shortspike Windmillgrass (Welder)	10% 0.2
	Shortspike Windmillgrass (Welder)	05% 0.1	Hairy Grama (Chaparral)	10% 0.4
	Sand Dropseed (Taylor)	05% 0.1	Sand Lovegrass (Mason)	05% 0.2
	Green Sprangletop (Van Horn)	05% 0.2		

Table 1 (continued)
Permanent Rural Seeding Mix

District	Clay Soils		Sandy Soils	
	Species, Percent, and Rate (lb. PLS per acre)		Species, Percent, and Rate (lb. PLS per acre)	
24 (El Paso)	Green Sprangletop (Van Horn)	10% 0.4	Sand Dropseed (Taylor)	20% 0.4
	Sideoats Grama (Brewster)	10% 1.0	Sideoats Grama (Brewster)	15% 1.5
	Whiplash Pappusgrass (Permian)	10% 0.6	Green Sprangletop (Van Horn)	15% 0.6
	Silver Bluestem (Santiago)	10% 0.4	Hooded Windmillgrass (Burnet)	10% 0.2
	Blue Grama (Hachita)	10% 0.4	Blue Grama (Hachita)	10% 0.4
	Galleta Grass (Viva)	10% 0.6	Hairy Grama (Chaparral)	05% 0.2
	Alkali Sacaton (Saltalk)	10% 0.2	Spike Dropseed (Potter)	10% 0.1
	Arizona Cottontop (La Salle)	10% 0.4	Little Bluestem (Pastura)	05% 0.5
	Plains Bristlegrass (Catarina Blend)	10% 0.4	Galleta grass (Viva)	10% 0.6
	False Rhodes Grass (Kinney)	10% 0.2		
25 (Childress)	Sideoats Grama (Haskell)	15% 1.5	Sideoats Grama (Haskell)	15% 1.5
	Hooded Windmillgrass (Burnet)	15% 0.3	Green Sprangletop (Van Horn)	10% 0.4
	Blue Grama (Hachita)	10% 0.4	Sand Dropseed (Taylor)	10% 0.2
	Buffalograss (Texoka)	10% 1.5	Hooded Windmillgrass (Burnet)	10% 0.2
	Galleta Grass (Viva)	10% 0.6	Arizona Cottontop (La Salle)	10% 0.4
	Silver Bluestem (Santiago)	15% 0.6	Blue Grama (Hachita)	10% 0.4
	White Tridens (Guadalupe)	10% 0.2	Little Bluestem (OK select)	10% 1.0
	Green Sprangletop (Van Horn)	05% 0.2	Galleta Grass (Viva)	10% 0.6
	Western Wheatgrass (Barton)	05% 1.5	Sand Lovegrass (Mason)	05% 0.15
	Canada Wildrye (Lavaca)	05% 1.0	Canada Wildrye (Lavaca)	10% 2.0

Table 2
Permanent Urban Seeding Mix

District	Clay Soils		Sandy Soils	
	Species and Rates (lb. PLS per acre)		Species and Rates (lb. PLS per acre)	
1 (Paris)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
2 (Fort Worth)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	3.6	Sideoats Grama (El Reno)	3.6
	Bermudagrass	2.4	Bermudagrass	2.1
	Buffalograss (Texoka)	1.6	Sand Dropseed (Borden Co.)	0.3
3 (Wichita Falls)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	4.5	Sideoats Grama (El Reno)	3.6
	Bermudagrass	1.8	Bermudagrass	1.8
	Buffalograss (Texoka)	1.6	Sand Dropseed (Borden Co.)	0.4
4 (Amarillo)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	3.6	Sideoats Grama (El Reno)	2.7
	Blue Grama (Hachita)	1.2	Blue Grama (Hachita)	0.9
	Buffalograss (Texoka)	1.6	Sand Dropseed (Borden Co.)	0.4
			Buffalograss (Texoka)	1.6
5 (Lubbock)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	3.6	Sideoats Grama (El Reno)	2.7
	Blue Grama (Hachita)	1.2	Blue Grama (Hachita)	0.9
	Buffalograss (Texoka)	1.6	Sand Dropseed (Borden Co.)	0.4
			Buffalograss (Texoka)	1.6
6 (Odessa)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (Haskell)	3.6	Sideoats Grama (Haskell)	2.7
	Blue Grama (Hachita)	1.2	Sand Dropseed (Borden Co.)	0.4
	Buffalograss (Texoka)	1.6	Blue Grama (Hachita)	0.9
			Buffalograss (Texoka)	1.6
7 (San Angelo)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (Haskell)	7.2	Sideoats Grama (Haskell)	3.2
	Buffalograss (Texoka)	1.6	Sand Dropseed (Borden Co.)	0.3
			Blue Grama (Hachita)	0.9
		Buffalograss (Texoka)	1.6	

Table 2 (continued)
Permanent Urban Seeding Mix

District	Clay Soils Species and Rates (lb. PLS per acre)		Sandy Soils Species and Rates (lb. PLS per acre)	
8 (Abilene)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (Haskell)	3.6	Sand Dropseed (Borden Co.)	0.3
	Blue Grama (Hachita)	1.2	Sideoats Grama (Haskell)	3.6
	Buffalograss (Texoka)	1.6	Blue Grama (Hachita)	0.8
			Buffalograss (Texoka)	1.6
9 (Waco)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	1.8	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6	Bermudagrass	3.6
	Sideoats Grama (Haskell)	4.5	Sand Dropseed (Borden Co.)	0.4
10 (Tyler)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
11 (Lufkin)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
12 (Houston)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (Haskell)	4.5	Bermudagrass	5.4
	Bermudagrass	2.4		
13 (Yoakum)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	4.5	Bermudagrass	5.4
	Bermudagrass	2.4		
14 (Austin)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	4.8
	Sideoats Grama (South Texas)	3.6	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6		
15 (San Antonio)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	3.6	Bermudagrass	4.8
	Bermudagrass	2.4	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6		
16 (Corpus Christi)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	3.6	Bermudagrass	4.8
	Bermudagrass	2.4	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6		
17 (Bryan)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
18 (Dallas)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	3.6	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6	Bermudagrass	3.6
	Bermudagrass	2.4	Sand Dropseed (Borden Co.)	0.4
19 (Atlanta)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
20 (Beaumont)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Bermudagrass	2.4	Bermudagrass	5.4
	Sideoats Grama (Haskell)	4.5		
21 (Pharr)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	3.6	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6	Bermudagrass	3.6
	Bermudagrass	2.4	Sand Dropseed (Borden Co.)	0.4
22 (Laredo)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	4.5	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6	Bermudagrass	3.6
	Bermudagrass	1.8	Sand Dropseed	0.4
23 (Brownwood)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (Haskell)	3.6	Buffalograss (Texoka)	1.6
	Bermudagrass	1.2	Bermudagrass	3.6
	Blue Grama (Hachita)	0.9	Sand Dropseed (Borden Co.)	0.4

Table 2 (continued)
Permanent Urban Seeding Mix

District	Clay Soils		Sandy Soils	
	Species and Rates (lb. PLS per acre)		Species and Rates (lb. PLS per acre)	
24 (El Paso)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (South Texas)	3.6	Buffalograss (Texoka)	1.6
	Blue Grama (Hachita)	1.2	Sand Dropseed (Borden Co.)	0.4
	Buffalograss (Texoka)	1.6	Blue Grama (Hachita)	1.8
25 (Childress)	Green Sprangletop	0.3	Green Sprangletop	0.3
	Sideoats Grama (El Reno)	3.6	Sand Dropseed (Borden Co.)	0.4
	Blue Grama (Hachita)	1.2	Buffalograss (Texoka)	1.6
	Buffalograss (Texoka)	1.6	Bermudagrass	1.8

Table 3
Temporary Cool Seeding Mix

District	All Soils Species and Rates (lb. PLS per acre)
1 (Paris), 2 (Fort Worth), 3 (Wichita Falls), 4 (Amarillo), 5 (Lubbock), 6 (Odessa), 7 (San Angelo), 8 (Abilene), 18 (Dallas), 19 (Atlanta), 23 (Brownwood), 24 (El Paso), 25 (Childress)	Oats 30.0 Wheat 30.0 Little Barley 5.0 Western Wheatgrass 5.0
9 (Waco), 10 (Tyler), 11 (Lufkin), 12 (Houston), 13 (Yoakum), 14 (Austin), 15 (San Antonio), 16 (Corpus Christi), 17 (Bryan), 20 (Beaumont), 21 (Pharr), 22 (Laredo)	Oats 40.0 Little Barley 5.0

Table 4
Temporary Warm Seeding Mix

District	All Soils Species and Rates (lb. PLS per acre)
All	Brownton Millet 20.0

Table 5
Flower Seeding Mix

District	All Soils Species and Rates (lb. PLS per acre)
1 (Paris), 10 (Tyler), 11 (Lufkin), 12 (Houston), 17 (Bryan), 19 (Atlanta), 20 (Beaumont)	Herbaceous Mimosa (Crockett) 1.5 Illinois Bundleflower (Sabine) 1.5 Thickspike Gayfeather (Pineywoods) 1.5 Purple Prairie Clover (Kaneb) 0.6 Rio Grange Clammyweed (Zapata) 2.0
2 (Fort Worth), 3 (Wichita Falls), 4 (Amarillo), 5 (Lubbock), 6 (Odessa), 7 (San Angelo), 8 (Abilene), 9 (Waco), 18 (Dallas), 23 (Brownwood), 25 (Childress)	Engelmann Daisy (Eldorado) 1.5 Awnless Bushsunflower (Plateau) 1.5 Partridge Pea 1.5 Illinois Bundleflower (Sabine) 1.5 Rio Grande Clammyweed (Zapata) 2.0
13 (Yoakum), 14 (Austin), 15 (San Antonio), 16 (Corpus Christi), 21 (Pharr), 22 (Laredo), 24 (El Paso)	Indian Blanket (Fuego) 1.0 Awnless Bushsunflower (Venado) 0.4 Prostrate Bundleflower (Balli) 1.5 Orange Zexmenia (Goliad) 0.4 Rio Grande Clammyweed (Zapata) 2.0

- 2.2. **Fertilizer.** Use fertilizer in accordance with Article 166.2., "Materials."
- 2.3. **Water.** Use water in accordance with Article 168.2, "Materials."
- 2.4. **Highly Erodible Land (HEL).** Add Bermudagrass to the mix shown in Table 1 at 1.0 PLS per acre if shown on the plans.

- 2.5. **Mulch.**
- 2.5.1. **Straw or Hay Mulch.** Use straw or hay mulch in accordance with Section 162.2.5., “Mulch.”
- 2.5.2. **Hydro Mulch.** Use mulches that are on the Approved Products List. Submit one full set of manufacturer’s literature for the selected material. Keep mulch dry until applied. Do not use molded or rotted material.
- 2.6. **Tacking Methods.** Use a tacking agent applied in conformance with the manufacturer’s recommendations or by a crimping method on all straw or hay mulch operations. Use tacking agents as approved or as shown on the plans.

3. CONSTRUCTION

Scarify the area to a depth of 4 in. before placing the seed, unless otherwise directed. Use approved equipment to vertically track the seedbed as shown on the plans or as directed. Scarify the seedbed to a depth of 4 in. or mow the area before placement of the permanent seed mix when performing permanent seeding after an established temporary seeding. Plant the seed mix specified and mulch, if required, after the area has been completed to lines and grades as shown on the plans.

Apply fertilizer in accordance with Article 166.3., “Construction.” Grass seed, flower seed, and fertilizer may be distributed simultaneously during dry seeding operations, provided each component is applied at the specified rate. Do not combine fertilizer and seed in the same slurry during hydro mulch seeding operations. Apply half of the required fertilizer during the temporary seeding operation and the other half during the permanent seeding operation when temporary and permanent seeding are both specified for the same area.

Water the seeded areas at the rates and frequencies as shown on the plans or as directed.

Distribute the seed or seed mixture uniformly over the areas shown on the plans. Provide equipment with an agitator or method to maintain a uniform seed mixture during distribution.

- 3.1. **Planting Season.**
- 3.1.1. **Temporary Seed.** Plant cool seeding mix September 1–January 31. Plant warm seeding mix February 1–August 30.
- 3.1.2. **Permanent Seed.** End planting season for all Districts by May 15. Begin planting season for each District based on the following.
- **January 15.** 1 (Paris), 10 (Tyler), 11 (Lufkin), 12 (Houston), 13 (Yoakum), 15 (San Antonio), 16 (Corpus Christi), 17 (Bryan), 19 (Atlanta), 20 (Beaumont), 21 (Pharr), and 22 (Laredo).
 - **February 1.** 2 (Fort Worth), 3 (Wichita Falls), 6 (Odessa), 7 (San Angelo), 8 (Abilene), 9 (Waco), 14 (Austin), 18 (Dallas), 23 (Brownwood), 24 (El Paso), and 25 (Childress).
 - **February 15.** 4 (Amarillo) and 5 (Lubbock).
- 3.2. **Broadcast Seeding.** Use hand or mechanical distribution or hydro-seeding on top of the soil unless otherwise directed. Apply the mixture to the area to be seeded within 30 min. of placement of components in the equipment when seed and water are to be distributed as a slurry during hydro-seeding. Roll the planted area using a light roller or other suitable equipment. Roll sloped areas along the contour of the slopes.
- 3.3. **Straw or Hay Mulch Seeding.** Plant seed in accordance with Section 164.3.2., “Broadcast Seeding.” Apply straw or hay mulch uniformly over the seeded area immediately after planting the seed or seed mixture. Apply straw or hay mulch in accordance with Section 164.3.6., “Straw or Hay Mulching.” Apply tack in accordance with Section 164.2.6., “Tacking Methods.”

- 3.4. **Hydro Mulch Seeding.** Plant seed in accordance with Section 164.3.2, "Broadcast Seeding," before placing mulch. Apply mulch uniformly over the seeded area immediately after planting the seed or seed mixture at the following rates.
- **Sandy Soils with Slopes of 3:1 or Less.** 2,500 lb. per acre.
 - **Sandy Soils with Slopes Greater than 3:1.** 3,000 lb. per acre.
 - **Clay Soils with Slopes of 3:1 or Less.** 2,000 lb. per acre.
 - **Clay Soils with Slopes Greater than 3:1.** 2,300 lb. per acre.
- Mulch rates are based on dry weight of mulch per acre. Mix mulch and water to make a slurry and apply uniformly over the seeded area using suitable equipment.
- 3.5. **Drill Seeding.** Plant at a depth of 1/4–1/3 in. using a pasture- or rangeland-type drill unless otherwise directed. Plant seed along the contour of the slopes.
- 3.6. **Straw or Hay Mulching.** Apply straw or hay mulch uniformly over the area as shown on the plans. Apply straw mulch at 2–2.5 ton per acre. Apply hay mulch at 1.5–2 ton per acre. Use a tacking method over the mulched area in accordance with Section 164.2.6., "Tacking Methods."

4. MEASUREMENT

This Item will be measured by the square yard or by the acre.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Broadcast Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Broadcast Seeding (Temp)" of warm or cool season specified, "Straw or Hay Mulch Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Straw or Hay Mulch Seeding (Temp)" of warm or cool season specified, "Hydro Mulch Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Hydro Mulch Seeding (Temp)" of warm or cool season specified, "Drill Seeding (Perm)" of the rural or urban seed mixture and sandy or clay soil specified, "Drill Seeding (Temp)" of warm or cool season specified, and "Straw or Hay Mulching." This price is full compensation for furnishing materials, seeding mix, flower seeding mix, HEL seeding mix, water for hydro-seeding and hydro-mulching operations, mowing, tacking, labor, equipment, tools, supplies, and incidentals.

Fertilizer will not be paid for directly, but will be subsidiary to this Item.

Water for irrigating the seeded area, when specified, will be paid for under Item 168, "Vegetative Watering."

Item 168

Vegetative Watering



1. DESCRIPTION

Provide and distribute water to promote growth of vegetation as directed.

2. MATERIALS

Use water that is clean and free of industrial wastes and other substances harmful to the growth of vegetation.

3. CONSTRUCTION

Apply water when directed. Furnish and operate equipment to distribute water at a uniform and controllable rate. Ensure that watering does not erode soil or plantings. Apply water in the required quantity where shown on the plans or as directed.

4. MEASUREMENT

This Item will be measured by the 1,000 gal. (TGL) of water as applied.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Vegetative Watering." This price is full compensation for furnishing and operating watering equipment and measuring devices and for furnishing and applying water, including hauling, equipment, labor, and incidentals.

Item 247

Flexible Base



1. DESCRIPTION

Construct a foundation course composed of flexible base.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and of changes to material sources. The Engineer may sample and test project materials at any time before compaction throughout the duration of the project to assure specification compliance.

- 2.1. **Aggregate.** Furnish aggregate of the type and grade shown on the plans and meeting the requirements shown in Table 1. Each source must meet Table 1 requirements for liquid limit, plasticity index, and wet ball mill for the grade specified. Do not use additives, such as but not limited to lime, cement, or fly ash to modify aggregates to meet the requirements of Table 1, unless shown on the plans.

Unless otherwise shown on the plans, the unconfined compressive strength is waived when the flexible base material meets the #200 sieve requirement. When the #200 sieve requirement does not meet the specification in Table 1, the unconfined compressive strength is required.

Table 1
Material Requirements

Property	Test Method	Grade 1-2 ³	Grade 3	Grade 4	Grade 5
Master gradation sieve size (cumulative % retained)	Tex-110-E			As shown on the plans	
2-1/2"		0	0		0
1-3/4"		0-10	0-10		0-5
7/8"		10-35	-		10-35
3/8"		30-65	-		35-65
#4		45-75	45-75		45-75
#40		65-90	50-85		70-90
#200 ^{1, 2}		85-95	-		-
Liquid limit, % Max	Tex-104-E	40	40	35	
Plasticity index, Max	Tex-106-E	10	12	10	
Plasticity index, Min		As shown on the plans	As shown on the plans	As shown on the plans	
Wet ball mill, % Max	Tex-116-E	40	-	40	
Wet ball mill, % Max increase passing the #40 sieve		20	-	20	
Min compressive strength ² , psi	Tex-117-E				
lateral pressure 0 psi		35	-	-	
lateral pressure 3 psi		-	-	90	
lateral pressure 15 psi		175	-	175	

- The #200 sieve test is only required to meet the waiver of the unconfined compressive strength requirement. The #200 sieve test requirement is only applicable to stockpile samples from Section 247.2.4.
- Compressive strength and #200 sieve requirements are waived when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, unless otherwise shown on the plans.
- Grade 3 may be substituted for Grade 1-2 or Grade 5 when the flexible base is mixed with or without existing material and treated with cement, emulsion, foamed asphalt, or lime, as approved. The Grade 3 flexible base must meet the wet ball mill requirements of Grade 1-2 or Grade 5 as applicable.

- 2.1.1. **Material Tolerances.** The Engineer may accept material if no more than one of the five most recent gradation tests has an individual sieve outside the specified limits of the gradation. This allowance does not apply to the #200 sieve requirement.
- The Engineer may accept material if no more than one of the five most recent liquid limit or plasticity index tests is outside the specified limit. No single failing liquid limit or plasticity index test may exceed the allowable limit by more than 2 percentage points.
- 2.1.2. **Material Types.** Do not use fillers or binders unless approved. Furnish the type shown on the plans in accordance with the following.
- 2.1.2.1. **Type A.** Crushed stone produced and graded from oversize quarried aggregate that originates from a single, naturally occurring source. Do not use gravel or multiple sources.
- 2.1.2.2. **Type B.** Crushed or uncrushed gravel. Blending of two or more sources is allowed.
- 2.1.2.3. **Type C.** Crushed gravel with a minimum of 60% of the particles retained on a No. 4 sieve with two or more crushed faces as determined in accordance with [Tex-460-A](#), Part I. Blending of two or more sources is allowed.
- 2.1.2.4. **Type D.** Type A material or crushed concrete. Crushed concrete containing gravel will be considered Type D material. Crushed concrete must meet the requirements of Section 247.2.1.2.6., "Recycled Material," and be managed in a way to provide for uniform quality. The Engineer may require separate dedicated stockpiles to verify compliance.
- 2.1.2.5. **Type E.** Caliche, iron ore, or as otherwise shown on the plans.
- 2.1.2.6. **Recycled Material.** Reclaimed asphalt pavement (RAP) and other recycled materials may be used when shown on the plans. Request approval to blend two or more sources of recycled materials. When RAP is allowed, do not exceed 20% RAP by weight, unless otherwise shown on the plans. The percentage limitations for other recycled materials will be as shown on the plans.
- Provide recycled materials, other than RAP, that have a maximum sulfate content of 3,000 ppm when tested in accordance with [Tex-145-E](#). Certify compliance with [DMS-11000](#), "Evaluating and Using Nonhazardous Recyclable Materials Guidelines." In addition, recycled materials must be free of reinforcing steel and other objectionable material and have at most 1.5% deleterious material when tested in accordance with [Tex-413-A](#). The liquid limit, plasticity index, wet ball mill, and compressive strength for all recycled materials are waived. When using RAP, crush RAP so that 100% passes the 2-in. sieve and does not exceed a maximum percent loss from decantation of 5.0% when tested in accordance with [Tex-406-A](#). Test RAP without removing the asphalt. The final product must meet the requirements shown in Table 1 for the grade specified except when the Department requires a specific amount of Department-furnished RAP be added to the blend, unless otherwise shown on the plans.
- The Contractor is responsible for uniformly blending the recycled material with the flexible base material to build a stockpile to meet the percentages required. Any Contractor-furnished surplus of recycled materials will remain the property of the Contractor. Remove Contractor-owned recycled materials from the project and dispose of them in accordance with federal, state, and local regulations before project acceptance.
- 2.2. **Water.** Furnish water free of industrial wastes and other objectionable matter.
- 2.3. **Material Sources.** Expose the vertical faces of all strata of material proposed for use when non-commercial sources are used. Secure and process the material by successive vertical cuts extending through all exposed strata, when directed.
- 2.4. **Stockpile Approval.** Stockpile is approved when the Engineer's test results meet the material requirements shown in Table 1.

- 2.4.1. **Sampling.** The Contractor and the Engineer will sample flexible base from completed stockpiles in accordance with [Tex-100-E](#). Personnel conducting sampling must be certified by the Department-approved soils and base certification program.

Sampling stockpiles may be located at the production site or at the project location. The Contractor will witness the Engineer's sampling and sample the stockpile for their own testing, and label as deemed necessary.

Sample the stockpile for the Engineer when shown on the plans. When the Contractor samples the stockpile for the Engineer, the Engineer must witness the sampling of material designated for the Engineer and the Materials and Tests Division (MTD). The Engineer will label their sampling containers as "Engineer" and "MTD," or as deemed necessary.

The Engineer will take immediate possession of the sample containers for the Engineer and MTD. The Engineer will maintain custody of the samples until all testing and reporting are completed.

- 2.4.2. **Referee Testing.** Referee testing is applicable for stockpile testing only. MTD is the referee laboratory. MTD may designate a laboratory from the Department's MPL for Commercial Laboratories Approved for Flexible Base Referee Requests as the referee laboratory as deemed necessary. The designated laboratory cannot be performing any testing under this Item for the Engineer or Contractor.

The Contractor may request referee testing when the Engineer's test results fail to meet any of the material requirements shown in Table 1 and the Contractor's sample from Section 2.4.1., "Sampling," for the same failing Department test, passes. The tests must be performed by a laboratory listed on the Department's MPL for Commercial Laboratories Approved for Flexible Base Referee Requests. Submit the request by email within 5 working days after receiving failing test results from the Engineer. Include completed test reports passing the applicable requirements shown in Table 1 in the email.

Record and submit completed test reports electronically on Department-provided templates in their original format meeting the applicable material requirements shown in Table 1. Use Department-provided templates to record and calculate all test data. The Engineer and the Contractor will provide any available test results to the other party when requested.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work.

- 3.1. **Rollers.** Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.
- 3.2. **Inertial Profiler.** When ride quality measurement is required, provide a high-speed or lightweight inertial profiler certified at the Texas A&M Transportation Institute. Provide equipment certification documentation. Display a current decal on the equipment indicating the certification expiration date.

4. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans or as directed.

Stockpile base material temporarily at an approved location before delivery to the roadway. Build stockpiles in layers no greater than 2 ft. thick. Stockpiles must have a total height between 10 and 16 ft. unless otherwise approved. After construction and acceptance of the stockpile in accordance with Section 247.2.4., "Stockpile Approval," loading from the stockpile for delivery is allowed. Load by making successive vertical cuts through the entire depth of the stockpile.

Do not add or remove material from temporary stockpiles that require sampling and testing before delivery, unless otherwise approved. Charges for additional sampling and testing required as a result of adding or removing material will be deducted from the Contractor's estimates.

Haul approved flexible base in clean trucks. Deliver the required quantity to each 100-ft. station or designated stockpile site as shown on the plans. Prepare stockpile sites as directed. When delivery is to the 100-ft. station, manipulate in conformance with the applicable Items.

- 4.1. **Preparation of Subgrade or Existing Base.** Remove or scarify existing asphalt concrete pavement in accordance with Item 105, "Removing Treated and Untreated Base and Asphalt Pavement," when shown on the plans or as directed. Shape the subgrade or existing base to conform to the typical sections shown on the plans or as directed.

When new base is required to be mixed with existing base, deliver, place, and spread the new flexible base in the required amount per station. Manipulate and thoroughly mix the new base with existing material to provide a uniform mixture to the specified depth before shaping.

Proof roll the roadbed in accordance with Item 216 before pulverizing or scarifying when shown on the plans or directed. Correct soft spots as directed.

- 4.2. **Placing.** Spread and shape flexible base into a uniform layer using an approved spreader the same day as delivered unless otherwise approved. Construct layers to the thickness shown on the plans. Maintain the shape of the course. Control dust by sprinkling, as directed. Correct or replace segregated areas as directed at no additional expense to the Department.

Place successive base courses and finish courses using the same construction methods required for the first course.

- 4.3. **Compaction.** Compact using density control unless otherwise shown on the plans. Multiple lifts are permitted when shown on the plans or approved. Bring each layer to the moisture content directed. When necessary, sprinkle the material in accordance with Item 204, "Sprinkling." Maintain moisture during compaction within $\pm 2.0\%$ of the optimum moisture content as determined in accordance with [Tex-113-E](#).

Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least 1/2 the width of the roller unit. Begin rolling at the low side and progress toward the high side on superelevated curves. Offset alternating trips of the roller. Operate rollers at a speed between 2 and 6 mph as directed.

Rework, recompact, and refinish material that fails to meet or that loses required moisture, density, stability, or finish requirements before the next course is placed or the project is accepted. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.

Before final acceptance, the Engineer will select the locations of tests and measure the flexible base depth in accordance with [Tex-140-E](#). Correct areas deficient by more than 1/2 in. in thickness by scarifying, adding material as required, reshaping, recompacting, and refinishing at the Contractor's expense.

- 4.3.1. **Ordinary Compaction.** Roll using approved compaction equipment as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing approved material as required, reshaping, and recompacting.

- 4.3.2. **Density and Moisture Control.** Compact to a minimum of 100% of the maximum dry density and within $\pm 2.0\%$ of the optimum moisture content as determined in accordance with [Tex-113-E](#), unless otherwise shown on the plans. Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content of completed sections in accordance with [Tex-115-E](#), Part I. The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. Do not achieve density by drying the material after compaction.

When the density is less than 100% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

- 4.3.3. **Miscellaneous and Small Areas.** Miscellaneous areas are those that typically involve handwork or discontinuous paving operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, spot level-up areas, and other similar areas. Miscellaneous and small areas are not subject to density testing but may be tested as directed.
- 4.4. **Finishing.** After completing compaction, clip, skin, or tight-blade the surface using a maintainer or subgrade trimmer to a depth of approximately 1/4 in. Remove loosened material and dispose of it at an approved location. Seal the clipped surface immediately by rolling using a pneumatic tire roller until a smooth surface is attained. Add small increments of water as needed during rolling. Shape and maintain the course and surface in conformity with the typical sections, lines, and grades as shown on the plans or as directed.

Correct grade deviations greater than 1/4 in. in 16 ft. measured longitudinally. Correct grade deviations greater than 1/4 in. over the entire width of the cross-section in areas where surfacing is to be placed. Correct by loosening and adding or removing material. Reshape and recompact in accordance with Section 247.4.3., "Compaction."

- 4.5. **Curing.** Cure the finished section until the moisture content is at least 2 percentage points below optimum or as directed before applying the next successive course or prime coat.
- 4.6. **Ride Quality.** Measurement of ride quality only applies to the final travel lanes that receive a one- or two-course surface treatment for the final riding surface, unless otherwise shown on the plans. Measure the ride quality of the base course either before or after the application of the prime coat, as directed, and before placement of the surface treatment. Use a certified profiler operator listed on the Department's MPL. When requested, furnish the Engineer with documentation for the person certified to operate the profiler.

Provide all profile data to the Engineer in electronic data files within 3 days of measuring the ride quality using the format specified in [Tex-1001-S](#). The Engineer will use Department software to evaluate longitudinal profiles to determine areas requiring corrective action. Correct 0.1-mi. sections with an average international roughness index (IRI) value greater than 100 in. per mile to an IRI value of 100 in. per mile or less, unless otherwise shown on the plans. Reprofile and correct sections that fail to maintain ride quality before the placement of the surface treatment, as directed. Unless ride deterioration is due to environmental impact, traffic, or other incidents outside the Contractor's control, perform this work at no additional expense to the Department, as approved.

5. MEASUREMENT

Flexible base will be measured as follows.

- **Flexible Base (Complete in Place).** The ton, square yard, or any cubic yard method.
- **Flexible Base (Roadway Delivery).** The ton or any cubic yard method.
- **Flexible Base (Stockpile Delivery).** The ton, cubic yard in vehicle, or cubic yard in stockpile.

Measurement by the cubic yard in final position and square yard is a plans quantity measurement. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

Measurement is further defined for payment as follows.

- 5.1. **Cubic Yard in Vehicle.** By the cubic yard in vehicles of uniform capacity at the point of delivery.

- 5.2. **Cubic Yard in Stockpile.** By the cubic yard in the final stockpile position, by the method of average end areas, or as shown on the plans.
- 5.3. **Cubic Yard in Final Position.** By the cubic yard in the completed and accepted final position. The volume of base course is computed in place by the method of average end areas between the original subgrade or existing base surfaces and the lines, grades, and slopes of the accepted base course, or as shown on the plans.
- 5.4. **Square Yard.** By the square yard of surface area in the completed and accepted final position. The surface area of the base course is based on the width of flexible base, or as shown on the plans.
- 5.5. **Ton.** By the ton of dry weight in vehicles as delivered. The dry weight is determined by deducting the weight of the moisture in the material at the time of weighing from the gross weight of the material. The Engineer will determine the moisture content in the material in accordance with [Tex-103-E](#) from samples taken at the time of weighing.

When material is measured in trucks, the weight of the material will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at an approved location. Scales must meet the requirements of Item 520, "Weighing and Measuring Equipment."

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for the types of work described below. No additional payment will be made for thickness or width exceeding that shown on the typical section or provided on the plans for cubic yard in the final position or square yard measurement.

Sprinkling and rolling, except proof rolling, will not be paid for directly, but will be subsidiary to this Item unless otherwise shown on the plans. When proof rolling is shown on the plans or directed, it will be paid for in accordance with Item 216.

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade will be paid in conformance with pertinent Items or in accordance with Article 4.4., "Changes in the Work."

- 6.1. **Flexible Base (Complete in Place).** Payment will be made for the type and grade specified. For cubic yard measurement, "In Vehicle," "In Stockpile," or "In Final Position" will be specified. For square yard measurement, a depth will be specified. This price is full compensation for furnishing materials, temporary stockpiling, assistance provided in stockpile sampling and operations to level stockpiles for measurement, loading, hauling, delivery of materials, spreading, blading, mixing, shaping, placing, compacting, reworking, finishing, correcting locations where thickness is deficient, curing, furnishing scales and labor for weighing and measuring, equipment, labor, tools, and incidentals.
- 6.2. **Flexible Base (Roadway Delivery).** Payment will be made for the type and grade specified. For cubic yard measurement, "In Vehicle," "In Stockpile," or "In Final Position" will be specified. The unit price bid will not include processing at the roadway. This price is full compensation for furnishing materials, temporary stockpiling, assistance provided in stockpile sampling and operations to level stockpiles for measurement, loading, hauling, delivery of materials, furnishing scales and labor for weighing and measuring, equipment, labor, tools, and incidentals.
- 6.3. **Flexible Base (Stockpile Delivery).** Payment will be made for the type and grade specified. For cubic yard measurement, "In Vehicle" or "In Stockpile" will be specified. The unit price bid will not include processing at the roadway. This price is full compensation for furnishing and disposing of materials, preparing the stockpile area, temporary or permanent stockpiling, assistance provided in stockpile sampling and operations to level

stockpiles for measurement, loading, hauling, delivery of materials to the stockpile, furnishing scales and labor for weighing and measuring, equipment, labor, tools, and incidentals.

Item 275

Cement Treatment (Road-Mixed)



1. DESCRIPTION

Mix and compact cement, water, and subgrade or base (with or without asphalt concrete pavement) in the roadway.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and of changes to material sources. Obtain verification from the Engineer that the specification requirements are met before using the sources. The Engineer may sample and test project materials at any time before compaction. Use material definitions in accordance with [Tex-100-E](#).

2.1. **Cement.** Furnish hydraulic cement that meets the requirements of [DMS-4600](#), "Hydraulic Cement," and the Department's *Hydraulic Cement Quality Monitoring Program* (HCQMP). Sources not in the HCQMP will require testing and approval before use.

2.2. **Subgrade.** The Engineer will determine the sulfate content in accordance with [Tex-145-E](#) and organic content in accordance with [Tex-148-E](#) before cement treatment begins. Suspend operations when material to be treated has a sulfate content greater than 7,000 ppm or an organic content greater than 2.0% and proceed as directed.

2.3. **Flexible Base.** Unless otherwise shown on the plans, furnish base material that meets the requirements of Item 247, "Flexible Base," for the type and grade shown on the plans, before the addition of cement. Unless otherwise shown on the plans, the compressive strength of the flexible base is waived.

2.4. **Water.** Furnish water free of industrial waste and other objectionable material.

2.5. **Asphalt.** When asphalt or emulsion is permitted for curing purposes, furnish materials that meet the requirements of Item 300, "Asphalts, Oils, and Emulsions," as shown on the plans or directed.

2.6. **Mix Design.** The Engineer will determine the target cement content and optimum moisture content to produce a stabilized mixture that meets the strength requirements shown on the plans. The mix will be designed in accordance with [Tex-120-E](#) or will be based on prior experience with the project materials. The Contractor may propose a mix design developed in accordance with [Tex-120-E](#). Meet strength requirements when shown on the plans. The Engineer will use [Tex-120-E](#) to verify the Contractor's proposed mix design before acceptance. Reimburse the Department for subsequent mix designs or partial designs necessitated by changes in the material or requests by the Contractor. Limit the amount of recycled asphalt pavement to no more than 50% of the mix unless otherwise shown on the plans or directed.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work. Provide rollers in accordance with Item 210, "Rolling." Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.

3.1. **Cement Storage Facility.** Store cement in closed, weatherproof containers.

- 3.2. **Cement Slurry Equipment.** Use slurry tanks equipped with agitation devices to slurry cement on the project or other approved location. The Engineer may approve other slurring methods.
- Provide a pump for agitating the slurry when the distributor truck is not equipped with an agitator. Equip the distributor truck with an approved sampling device.
- 3.3. **Dry Cement Distribution Equipment.** Provide equipment to spread cement evenly across the area to be treated. Provide equipment with a rotary vane feeder to spread cement, when shown on the plans.
- 3.4. **Pulverization Equipment.** Provide pulverization equipment that:
- cuts and pulverizes material uniformly to the proper depth using cutters that plane to a uniform surface over the entire width of the cut,
 - provides a visible indication of the depth of cut at all times, and
 - uniformly mixes the materials.

4. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the required density and moisture content. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans or as directed.

- 4.1. **Preparation of Subgrade or Existing Base for Treatment.** Before treating, remove existing asphalt concrete pavement in conformance with pertinent Items and the plans or as directed. Shape existing material in conformance with applicable bid items to conform to the typical sections shown on the plans and as directed.

When shown on the plans or directed, proof roll the roadbed in accordance with Item 216 before pulverizing or scarifying existing material. Correct soft spots as directed.

When material is imported from a borrow source, notify the Engineer of the location of the borrow source well in advance to allow time for testing and approval to avoid delay to the project. Stockpile as directed. The Engineer will test the borrow source and determine the sulfate and organic contents. When the borrow source has a sulfate content greater than 3,000 ppm or an organic content greater than 2.0%, proceed as directed.

When new base material is required to be mixed with existing base, deliver, place, and spread the new material in the required amount per station. Manipulate and thoroughly mix new base with existing material to provide a uniform mixture to the specified depth before shaping.

- 4.2. **Pulverization.** Pulverize or scarify existing material after shaping. If the material cannot be uniformly processed to the required depth in a single pass, excavate and windrow the material to expose a secondary grade to achieve processing to plan depth.
- 4.3. **Application of Cement.** Uniformly apply cement using dry placement unless otherwise shown on the plans. Add cement at the percentage determined in accordance with Section 275.2.6., "Mix Design." Apply cement only on an area where mixing, compacting, and finishing can be completed during the same working day.

Start cement application only when the air temperature is at least 35°F and rising or is at least 40°F. The temperature will be taken in the shade and away from artificial heat. Suspend application when the Engineer determines that weather conditions are unsuitable.

- 4.3.1. **Dry Placement.** Before applying cement, bring the prepared roadway to approximately optimum moisture content. When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of dry cement using approved equipment. Minimize dust and scattering of cement by wind. Do not apply

cement when wind conditions, in the opinion of the Engineer, cause blowing cement to become dangerous to traffic or objectionable to adjacent property owners.

4.3.2. **Slurry Placement.** Mix the required quantity of cement with water, as approved. Provide slurry free of objectionable materials and with a uniform consistency that can be easily applied. Agitate the slurry continuously. Apply slurry within 2 hr. of adding water and when the roadway is at a moisture content drier than optimum. Distribute slurry uniformly by making successive passes over a measured section of roadway until the specified cement content is reached.

4.4. **Mixing.** Thoroughly mix the material and cement using approved equipment. Mix until a homogeneous mixture is obtained. Sprinkle the treated materials during the mixing operation, as directed, to maintain optimum mixing moisture. Spread and shape the completed mixture in a uniform layer.

After mixing, the Engineer may sample the mixture at roadway moisture and test in accordance with [Tex-101-E](#), Part III, to determine compliance with the gradation requirements shown in Table 1. When strength requirements are shown on the plans, the Engineer may sample the mixture to verify strength in accordance with [Tex-120-E](#) and adjust cement content to achieve the target strength for work going forward.

Table 1
Gradation Requirements (Min % Passing)

Sieve Size	Base	Subgrade
1-3/4"	100	100
3/4"	85	85
#4	–	60

4.5. **Strength Testing.** The Engineer will sample and test the cement-treated mixture for unconfined compressive strength in accordance with [Tex-117-E](#), Part II. The unconfined compressive strength must be greater than 150 psi, unless otherwise shown on the plans.

4.6. **Compaction.** Compact the mixture in one lift using density control, unless otherwise shown on the plans. Complete compaction within 2 hr. after the application of water to the mixture of material and cement.

Sprinkle the treated material in accordance with Item 204, or aerate the treated material to adjust the moisture content during compaction so that it is within 2.0% of optimum as determined in accordance with [Tex-120-E](#). Adjust operations as required.

Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least one-half the width of the roller unit. On superelevated curves, begin rolling at the low side and progress toward the high side. Offset alternating trips of the roller. Operate rollers at a speed between 2 and 6 mph, as directed.

Before final acceptance, the Engineer will select the locations of tests in each unit and measure the treated depth in accordance with [Tex-140-E](#). Correct areas deficient by more than 1/2 in. in thickness or more than 1/2% in target cement content by adding cement as required, reshaping, recompacting, and refinishing at the Contractor's expense.

Remove or rework areas that lose required stability, compaction, or finish, as directed. When a section is reworked more than 4 hr. after completion of compaction, add additional cement as directed. Perform the work at no additional cost to the Department.

4.6.1. **Ordinary Compaction.** Roll using approved compaction equipment, as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing treated material as required, reshaping, and recompacting.

4.6.2. **Density and Moisture Control.** Compact to at least 95% of the maximum density and within $\pm 2.0\%$ of the optimum moisture content as determined in accordance with [Tex-120-E](#). Provide the Engineer with the

beginning and ending station numbers of the area completed for testing. The Engineer will determine roadway density and moisture content in accordance with [Tex-115-E](#), Part I within 4 hr. from the time compaction is completed. The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. The Engineer may verify strength in accordance with [Tex-120-E](#) and adjust cement content to achieve the target strength for work going forward. Remove material that does not meet density requirements, or rework by adding the target cement content, reshaping, recompacting, and refinishing, at the Contractor's expense.

When the density is less than 95% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

4.7. **Miscellaneous and Small Areas.** Miscellaneous areas are those that typically involve handwork or discontinuous paving operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, spot level-up areas, and other similar areas. Miscellaneous and small areas are not subject to density testing but may be tested as directed.

4.8. **Finishing.** Immediately after completing compaction of the final course, clip, skin, or tight-blade the surface of the cement treated material using a maintainer or subgrade trimmer to a depth of approximately 1/4 in. Remove loosened material and dispose of at an approved location. Roll the clipped surface immediately using a pneumatic tire roller until a smooth surface is attained. Add small amounts of water as needed during rolling. Shape and maintain the course and surface in conformity with the typical sections, lines, and grades shown on the plans or as directed.

Finish grade of constructed subgrade to within 0.1 ft. in the cross-section and 0.1 ft. in 16 ft. measured longitudinally.

Correct grade deviations of constructed base greater than 1/4 in. in 16 ft. measured longitudinally or greater than 1/4 in. over the entire width of the cross-section in areas where surfacing is to be placed. Remove excess material, reshape, and roll using a pneumatic tire roller. Correct as directed if material is more than 1/4 in. low. Do not surface patch.

4.9. **Microcracking.** When shown on the plans, maintain moisture content of the finished cement-treated base for a period of 24–48 hr. During this time, but no sooner than 24 hr., roll the finished course using a vibratory roller to induce microcracking. The vibratory roller must be in accordance with Item 210, with a static weight equal to or more than 12 ton, and the vibratory drum must be no less than 20 in. wide. The roller must travel at a speed of 2 mph, vibrating at maximum amplitude, and make two–four passes with 100% coverage excluding the outside 1 ft. of the surface crown, unless otherwise directed by the Engineer. Additional passes may be required to achieve the desired crack pattern as directed. Notify the Engineer 24 hr. before the microcracking begins.

4.10. **Curing.** Cure for at least 3 days by sprinkling in accordance with Item 204 or by applying an asphalt material at the rate of 0.05–0.20 gal. per square yard, as shown on the plans or as directed. When a section is microcracked, cure section for an additional 2 days after microcracking. Maintain the moisture content during curing at no lower than 2 percentage points below optimum. Continue curing until placing another course.

4.11. **Ride Quality.** When shown on the plans, measurement of ride quality only applies to the final travel lanes that receive a one- or two-course surface treatment for the final riding surface. Measure the ride quality of the base course either before or after the application of the prime coat, as directed, and before placement of the surface treatment. Use a certified profiler operator on the Department's MPL. When requested, furnish the Engineer with documentation for the person certified to operate the profiler.

Provide all profile data to the Engineer in electronic data files within 3 days of measuring the ride quality using the format specified in [Tex-1001-S](#). The Engineer will use Department software to evaluate longitudinal profiles to determine areas requiring corrective action. Correct 0.1-mi. sections with an average international

roughness index (IRI) value greater than 100 in. per mile to an IRI value of 100 in. per mile or less, unless otherwise shown on the plans. Reprofile and correct sections that fail to maintain ride quality before the placement of the surface treatment, as directed and approved. Unless ride deterioration is due to environmental impact, traffic, or other incidents outside the Contractor's control, perform this work at no additional expense to the Department, as approved.

5. MEASUREMENT

- 5.1. **Cement.** Cement will be measured by the ton (dry weight). When cement is furnished in trucks, the weight of cement will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at an approved location. Scales must meet the requirements of Item 520, "Weighing and Measuring Equipment."

When cement is furnished in bags, indicate the manufacturer's certified weight. Bags varying more than 5% from that weight may be rejected. The average weight of bags in any shipment, as determined by weighing 10 bags taken at random, must be at least the manufacturer's certified weight.

- 5.1.1. **Slurry.** Cement slurry will be measured by the ton (dry weight) of the cement used to prepare the slurry at the jobsite or from the minimum percent dry solids content of the slurry, multiplied by the weight of the slurry in tons delivered.
- 5.2. **Cement Treatment.** Cement treatment will be measured by the square yard of surface area. The dimensions for determining the surface areas are established by the widths shown on the plans and lengths measured at placement.

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for in accordance with Section 275.5.1., "Cement," and Section 275.5.2., "Cement Treatment."

Furnishing and delivering new base will be paid for in accordance with Section 247.6.2., "Flexible Base (Roadway Delivery)." Mixing, spreading, blading, shaping, compacting, and finishing new or existing base material will be paid for under Section 275.6.2., "Cement Treatment." Removal and disposal of existing asphalt concrete pavement will be paid for in conformance with pertinent Items or in accordance with Article 4.4., "Changes in the Work."

Sprinkling and rolling, except proof rolling, will not be paid for directly, but will be subsidiary to this Item, unless otherwise shown on the plans. When proof rolling is shown on the plans or directed by the Engineer, it will be paid for in accordance with Item 216.

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade or existing base will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade or existing base will be in conformance with pertinent Items or in accordance with Article 4.4., "Changes in the Work."

Where subgrade to be treated under this Contract has sulfates greater than 7,000 ppm, work will be paid for in accordance with Article 4.4., "Changes in the Work."

Asphalt used solely for curing will not be paid for directly, but will be subsidiary to this Item. Asphalt placed for curing and priming will be paid for under Item 310, "Prime Coat."

- 6.1. **Cement.** Cement will be paid for at the unit price bid for "Cement." This price is full compensation for materials, delivery, equipment, labor, tools, and incidentals.

- 6.2. **Cement Treatment.** Cement treatment will be paid for at the unit price bid for “Cement Treatment (Existing Material),” “Cement Treatment (New Base),” or “Cement Treatment (Mixing Existing Material and New Base),” for the depth specified. No payment will be made for thickness or width exceeding that shown on the plans. This price is full compensation for shaping existing material, loosening, mixing, pulverizing, spreading, applying cement, compacting, microcracking, finishing, curing, curing materials, blading, shaping and maintaining shape, replacing mixture, disposing of loosened materials, processing, hauling, preparing secondary subgrade, water, equipment, labor, tools, and incidentals.

Item 290

Emulsified Asphalt Treatment (Road-Mixed)



1. DESCRIPTION

Perform full-depth reclamation (FDR) using an in-place mixing process to obtain a homogenous mixture of the existing surface and the underlying base material (with or without new material and additive added) using an emulsified asphalt.

2. MATERIALS

Furnish uncontaminated materials of uniform quality that meet the requirements of the plans and specifications. Notify the Engineer of the proposed material sources and, when necessary, changes to material sources. Obtain verification from the Engineer that the specification requirements are met before using the sources. The Engineer may sample and test project materials at any time during the project to verify specification compliance in accordance with Item 6, "Control of Materials."

- 2.1. **Emulsion.** Furnish cationic standard yield emulsified asphalt that meets the requirements of Item 300, "Asphalts, Oils, and Emulsions," unless otherwise shown on the plans.
- 2.2. **Additional Material.** When shown on the plans, required by the mixture design, or directed, furnish base or reclaimed asphalt pavement (RAP) material that meets the requirements of Item 247, "Flexible Base," for the type and grade required. Unless otherwise shown on the plans, the compressive strength of the flexible base is waived.
- 2.3. **Additive.** When shown on the plans, required by the mixture design, or directed, use the type and amount of additive required. Do not exceed 1.0% by weight of material, unless otherwise shown on the plans.
- 2.3.1. **Lime.** When shown on the plans, required by the mixture design, or directed, furnish lime in accordance with [DMS-6350](#), "Lime and Lime Slurry." When dry lime is required, provide dry quicklime. When lime slurry is required, provide commercial lime slurry or quicklime slurry.
- 2.3.2. **Cement.** When shown on the plans, required by the mixture design, or directed, furnish hydraulic cement in accordance with [DMS-4600](#), "Hydraulic Cement," and the Department's Hydraulic Cement Quality Monitoring Program (HCQMP). Sources not in the HCQMP will require testing and approval before use.
- 2.4. **Mixture Design.** Provide a mixture design in accordance with [Tex-122-E](#), unless otherwise directed, before the start of any work pertinent to this Item. The Engineer will determine the location or locations to sample and witness the sampling to obtain materials. Design the mixture from each sampling location selected by the Engineer to meet the requirements shown in Table 1. Report the mixture design using the test template in accordance with Section 290.6.1., "Reporting and Responsibilities."

Table 1
Laboratory Mixture Design Properties

Mixture Property	Min Requirement
Indirect tensile strength (IDT), psi	50
Moisture-conditioned IDT, psi	30

- 2.5. **Mixture Design Verification.** Provide the Engineer with representative samples of all materials that will be included in the treatment process at least 4 weeks before the start of production, unless otherwise directed. The Engineer will verify the target emulsion content that produces a mixture to meet the requirements shown in Table 1. When the mixture fails to meet the requirements of Table 1, provide a new mixture design.

- 2.6. **Water.** Furnish water free of industrial waste and other objectionable material.

3. EQUIPMENT

Provide machinery, tools, and equipment necessary for proper execution of the work.

- 3.1. **Storage Facility.** Store cement, quicklime, and dry hydrated lime in closed, weatherproof containers.
- 3.2. **Slurry Equipment.** Use slurry tanks equipped with agitation devices to slurry cement, hydrated lime, or quicklime at the project or another approved location. The Engineer may approve other slurry methods. Provide a pump for agitating the slurry when the distributor truck is not equipped with an agitator. Equip the distributor truck with a sampling device in accordance with [Tex-600-J](#), Part I.
- 3.3. **Dry Distribution Equipment.** Provide equipment to spread the cement or lime evenly across the area to be treated. Provide equipment with a rotary vane feeder to spread the cement or lime, when shown on the plans.
- 3.4. **Rollers.** Provide rollers in accordance with Item 210, "Rolling," and Section 290.6.6., "Compaction."
- 3.5. **Proof Rollers.** Provide proof rollers in accordance with Item 216, "Proof Rolling," when required.
- 3.6. **Asphalt Transports.** Provide asphalt transports with a pintle hitch on the rear bumper to allow the reclaimer to connect and push the transport during mixing.
- 3.7. **Reclaimer for Emulsion Treatment.** Use a reclaimer with the following equipment and capabilities:
- self-propelled mixer capable of fully mixing the existing road to the depth shown on the plans with emulsion, water, and when applicable, additives and additional material to produce a homogeneous material;
 - minimum power capability of 400 horsepower;
 - a pintle hitch on the rear bumper to allow the reclaimer to connect and push the transport during mixing;
 - ability to mix the roadway with the additive and additional materials, when applicable, in a single pass for the width and depth shown on the plans;
 - ability to add emulsion using a full-width spray bar consisting of a positive displacement pump interlocked to the machine speed such that the amount of emulsion added is automatically adjusted with changes of machine speed;
 - an emulsion injection system capable of accurately adding up to 8 gal. per square yard of emulsified asphalt; and
 - emulsion injection system spray bar equipped with individual valves that can be turned off to minimize emulsion overlap on subsequent passes.

4. STAFFING REQUIREMENTS

Provide at least one staff member with at least 2 years' experience in supervising FDR projects using emulsion onsite to oversee the startup operations, unless otherwise approved. This staff member must be onsite for the first 3 days of production of the FDR process or as deemed necessary by the Engineer.

Provide Soils & Base 102 (SB102) Field Specialists certified by the Department-approved soils and base certification program to conduct daily sampling and testing for the duration of the project, in accordance with this Specification. Supply the Engineer with a list of certified personnel and copies of their current certifications, either hardcopy or electronic files, before beginning production and when personnel changes are made.

5. CONTROL SECTION

Construct a control section at an approved location. Process material in the control section for an area within the typical section, minimum 300 ft. in length, and to the depth shown on the plans. Meet the requirements of Article 290.7., "Process Control," with the Engineer witnessing the sampling and testing, and provide test results and any pertinent information to the Engineer upon completion of the control section. Compact the control section in accordance with Section 290.6.6., "Compaction," and Section 290.6.6.2., "Density and Moisture Control," unless otherwise directed.

The Engineer will determine the moisture content of the reclaimed and treated material in accordance with [Tex-103-E](#). The Engineer will use this moisture content to determine a correction factor in accordance with Section 290.6.6.2., "Density and Moisture Control."

When directed, proof roll the control section in accordance with Item 216. Proceed to full construction when approved.

6. CONSTRUCTION

Construct each layer uniformly, free of loose or segregated areas, and with the materials, density, and moisture content as required by the approved mixture design. Provide a smooth surface that conforms to the typical sections, lines, and grades shown on the plans, or as directed.

- 6.1. **Reporting and Responsibilities.** Use Department-provided templates to record and calculate all test data and pertinent information for the mixture design and process control testing. Obtain the current version of the templates from the Department's website or from the Engineer. The Engineer and the Contractor will provide any available test results to the other party when requested. Record and electronically submit all test results and pertinent information on Department-provided templates.
- 6.2. **Preparation of Existing Pavement for Treatment.** Before treating, remove existing asphalt pavement in accordance with Item 105, "Removing Treated and Untreated Base and Asphalt Pavement," when shown on the plans or as directed. Shape existing material in conformance with applicable bid items to conform to typical sections shown on the plans and as directed.
- 6.3. **Application of Additive.** Apply the required additive uniformly across the roadway in advance of the mixer, when required. Minimize dust and scattering of additives by wind. Do not apply additives when, in the opinion of the Engineer, wind conditions cause blowing additive to become dangerous to traffic or objectionable to adjacent property owners.
- 6.3.1. **Lime.** Uniformly apply lime using dry or slurry placement as shown on the plans or as directed. Add lime at the percentage determined in the mixture design. Apply lime only to the area to be reclaimed during the same working day.
- 6.3.1.1. **Dry Placement.** When necessary, sprinkle in accordance with Item 204, "Sprinkling." Distribute the required quantity of hydrated lime using approved equipment. Do not use a motor grader to spread hydrated lime.
- 6.3.1.2. **Slurry Placement.** Provide slurry free of objectionable materials, at or above the approved minimum dry solids content, and with a uniform consistency that will allow ease of handling and uniform application. Inject slurry directly into mixing chamber using an independent metered spray system. Alternatively, distribute slurry uniformly by making successive passes over a measured section of roadway until the specified lime content is reached.

Deliver commercial lime slurry to the jobsite or prepare lime slurry at the jobsite or other approved location by using hydrated lime, as specified.

- 6.3.2. **Cement.** Uniformly apply cement as shown on the plans or as directed. Add cement at the percentage determined in the mixture design. Apply cement only on an area where mixing the cement and emulsion, compacting, and finishing can be completed during the same working day.
- 6.3.2.1. **Dry Placement.** Distribute the required quantity of dry cement using approved equipment. Minimize dust and scattering of cement by wind.
- 6.4. **Weather Restrictions.** Suspend additive and emulsion application when:
 - the surface temperature is below 50°F,
 - the weather forecast calls for freezing temperatures within 3 days after incorporation of the emulsion, or
 - the Engineer determines the weather condition is unsuitable.
- 6.5. **Mixing.** Thoroughly mix the material using approved equipment. Mix until a homogenous mixture is obtained.
- 6.5.1. **Moisture.** Do not start mixing the material being treated if the moisture content determined in accordance with Section 290.7.4., “Moisture Content,” is greater than 70% of the optimum moisture content from the mixture design, unless otherwise directed. Sprinkle when necessary, in accordance with Item 204, or aerate the treated material to adjust the moisture content.
- 6.5.2. **Lime.** When applicable, begin mixing within 6 hr. of application of lime. Hydrated lime exposed to the open air for 6 hr. or more between application and mixing, or that experiences excessive loss due to washing or blowing, will not be accepted for payment. Thoroughly mix the material and lime using approved equipment. Allow the mixture to mellow for a minimum of 24 hr., or as directed, before mixing with emulsion.
- 6.5.3. **Emulsion.** Apply the emulsion to obtain the optimum emulsion content determined in accordance with Section 290.2.4., “Mixture Design.” Apply emulsion only to areas where mixing and compaction can be completed during the same working day. Do not dilute the emulsion at the jobsite. Monitor the required depth of mixing and meet the gradation requirements shown in Table 2.

Complete the entire operation of mixing the existing road and incorporating additional flexible base and cement when applicable, water, and emulsion in one pass. Overlap each adjacent pass of the mixer with the previous pass by a minimum of 6 in. and apply emulsion to the overlapped material. Use multiple passes if the process control requirements specified in Article 290.7., “Process Control,” are not met.

After mixing, the Engineer will sample the mixture at roadway moisture for a minimum of one per 3,000 cu. yd. or one per day at roadway moisture and test in accordance with [Tex-101-E](#), Part III, to determine compliance with the gradation requirements shown in Table 2. When test results fail to meet the requirements shown in Table 2, modify operations until the Engineer’s test results meet the gradation requirements.

**Table 2
Gradation Requirements**

Sieve Size	Min Percent Passing
1-3/4 in.	100
3/4 in.	85

- 6.5.4. **Emulsion Sampling.** Obtain a 1-qt. sample of the emulsion witnessed by the Engineer for each day of production. The Contractor will notify the Engineer when the sampling will occur. Sample in accordance with [Tex-500-C](#), Part III. Label the container with the corresponding producer name, producer facility location, grade, district, date sampled, all applicable bills of lading (if available), and project information including highway and control number. The Engineer will retain these samples for 1 yr. The Engineer may also obtain independent samples. If obtaining an independent emulsion sample and upon request of the Contractor, the Engineer will split a sample of the emulsion with the Contractor.

At least once per project, the Engineer will collect split samples of the emulsion grade and source used. The Engineer will submit one split sample to the Materials and Tests Division to verify compliance with Item 300 and will retain the other split sample for 60 days.

- 6.5.5. **Irregularities.** Avoid spilling water or emulsion onto the surface of the existing or reclaimed surface when connecting or disconnecting transports from the reclaimer or when filling water trucks. When excess water is spilled onto the existing or reclaimed surface, identify the location and rework material that fails to meet or loses the required density, stability, or finish within 24 hr. of completion of compaction. Reworking includes loosening, adding material, or removing unacceptable material if necessary; mixing; compacting; and finishing as directed. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.
- 6.6. **Compaction.** Compact the emulsified asphalt base mixture in one lift using density control, unless otherwise shown on the plans. Use a minimum 18-ton vibratory, heavy tamping roller, and a heavy pneumatic tire roller to meet density, unless otherwise directed.
- Begin rolling and perform initial compaction using a vibratory, heavy tamping roller applying high amplitude and low frequency. Begin rolling longitudinally at the sides and proceed toward the center, overlapping on successive trips by at least half the width of the roller unit. Begin rolling at the low side and progress toward the high side on superelevated curves. Offset alternating trips of the roller.
- Continue rolling until the heavy tamping roller “walks out” of the material. Walking out for the heavy tamping roller is defined as light being evident between all the pads at the material and heavy tamping roller drum interface.
- After the completion of tamping rolling, remove remaining tamping marks. Cut slightly below the depth of the tamping marks and ensure material being cut is kept moist at all times. Achieve the desired slope and shape to the lines and grades as shown on the plans. Perform final surface shaping on the same day emulsion is incorporated. Clip, skin, or tight-blade the surface to remove and waste accumulated fines. Do not use fines to fill surface irregularities.
- Use a vibratory roller and pneumatic roller to compact the bladed material. Do not finish-roll in vibratory mode. If necessary, use a light spray of water to aid in final compaction density and appearance.
- Rework material that fails to meet or loses the required density, stability, or finish after completion of compaction. Add additional emulsified asphalt and additives at the percentages determined in accordance with Section 290.2.4., “Mixture Design,” unless otherwise directed. Reworking includes loosening, adding material, or removing unacceptable material if necessary; mixing; compacting; and finishing as directed. Continue work until specification requirements are met. Perform the work at no additional expense to the Department.
- Suspend field operations when significant changes of materials being treated occur. Provide the Engineer with recommendations to modify operations based on the changes of materials. This may include changes in additives or percentages of emulsion or verification of the maximum dry density and optimum moisture content. Provide the Engineer with an emulsion treatment proposal for all areas requiring full-depth repair.
- Notify the Engineer when significant changes of materials being treated occur. The Engineer may suspend field operations and investigate the areas of concern.
- Before final acceptance, the Engineer will select the locations of tests and measure the depth of the emulsion treatment in accordance with [Tex-140-E](#) at a minimum of one per 3,000 cu. yd. or one per day. Correct areas deficient by more than 1/2 in. in thickness by reshaping, recompacting, and refinishing at the Contractor’s expense, unless otherwise directed.
- 6.6.1. **Ordinary Compaction.** Roll using approved compaction equipment, as directed. Correct irregularities, depressions, and weak spots immediately by scarifying the areas affected, adding or removing treated material as required, reshaping, and recompacting.
- 6.6.2. **Density and Moisture Control.** Compact to at least 97.0% of the maximum dry density, and moisture within 2.0 percentage points below the optimum moisture content and no more than 0.5 percentage point above the

optimum moisture content as determined, in accordance with [Tex-122-E](#), unless otherwise shown on the plans. Do not achieve density by drying the material after compaction. Unless otherwise directed:

- perform additional compaction or rework using the reclaimer unless otherwise directed, and recompact when the material does not meet the density but meets the moisture content,
- aerate and recompact when the moisture content is more than 0.5% above the optimum moisture content, and
- rework, add moisture, and recompact when the moisture content is more than 2.0% below the optimum moisture content.

Provide the Engineer with the beginning and ending station numbers of the area completed for testing. The Engineer will determine the roadway density and moisture content of completed sections in accordance with [Tex-115-E](#), Part I using the correction factor determined in accordance with Article 290.5., "Control Section." The Engineer will determine random locations for testing in accordance with [Tex-115-E](#), Part IV. The Engineer will perform testing for each day of production at a minimum of one per 3,000 cu. yd. or one per day.

When the density is less than 97.0% of the maximum dry density, the Engineer may perform additional testing to determine the extent of the area to correct. The Engineer may accept the section if no more than one of the five most recent density tests is below the specified density and the failing test is no more than 3 pcf below the specified density.

6.6.3. **Miscellaneous and Small Areas.** Miscellaneous areas are those that typically involve discontinuous operations, such as temporary detours, driveways, mailbox turnouts, crossovers, gores, and other similar areas. Miscellaneous and small areas are not subject to density testing but may be tested as directed by the Engineer.

6.7. **Curing.** Cure the finished section until the moisture content is a minimum of 2% below the optimum moisture content, or as directed, before applying the next successive course or prime coat. The Engineer may allow traffic on the finished section during curing when proof rolling indicates adequate stability. Apply fog seal daily at a rate between 0.05 and 0.10 gal. per square yard in accordance with Item 315, "Fog Seal," when traffic is allowed on the finished section during curing, unless otherwise directed.

Proof roll the roadbed in accordance with Item 216. If deformation occurs, do not allow traffic to return to the finished section until the mixed material is firm enough to accommodate traffic without deformation. Apply prime coat and seal coat or additional courses within 14 calendar days of final compaction.

When no specific detour is required, provide one-way traffic control until proof rolling permits the return of normal traffic to the compacted material.

7. PROCESS CONTROL

Perform process control testing during the treatment process and for the completed base in accordance with Table 3 at locations independent of the Engineer's testing locations, unless otherwise directed. Test results from process control will not be used for acceptance. The Contractor may perform additional testing as they deem necessary for process control.

Report test results and all pertinent information in accordance with Section 290.6.1., "Reporting and Responsibilities." When test results do not meet specification requirements, modify operations and perform the test methods shown in Table 3. Suspend operations when any of the test results performed after the modifications do not meet specification requirements.

Table 3
Min Testing Frequency

Description	Test Method	Min Frequency
Depth of pulverization	Tex-140-E	One per 350 cu. yd. (Min one per day of production)
Gradation	Tex-101-E , Part III	
Emulsion content	Meter readings or truck weight tickets	
Moisture content ¹	Tex-103-E	One per 350 cu. yd. (Min two per day of production)

1. Measure the moisture content in accordance with [Tex-103-E](#) before adding the emulsion.

- 7.1. **Depth of Pulverization.** Determine the depth of pulverization in accordance with [Tex-140-E](#).
- 7.2. **Gradation.** Sample the roadway mixture after mixing with the moisture and measure the gradation in accordance with [Tex-101-E](#), Part III.
- 7.3. **Emulsion Content.** Verify the percentage of emulsion added to the pulverized material using meter readings or truck weight tickets as approved; the quantity of material treated (depth, width, and length); and estimated in-place density. Changes in the emulsion content, type, or supplier must be approved before the start of production. Notify the Engineer when adjustments to the emulsion content are made during any day's production.
- 7.4. **Moisture Content.** Measure the moisture content in accordance with [Tex-103-E](#) before adding the emulsion. Verify the moisture content when precipitation occurs after testing and before the emulsion is added.

8. MEASUREMENT

- 8.1. **Emulsion.** Emulsified asphalt material will be measured by one of the following methods.
- 8.1.1. **Weight.** Emulsion will be measured in tons using certified scales meeting the requirements of Item 520, "Weighing and Measuring Equipment," unless otherwise approved. The transporting truck must have a seal attached to the draining device and other openings. Random checking on public scales at the Contractor's expense may be required to verify weight accuracy.
- Upon work completion or temporary suspension, any remaining asphalt material will be weighed by a certified public weigher. The quantity to be measured will be the number of tons received minus the number of tons remaining after all directed work is complete.
- 8.1.2. **Volume.** Emulsion will be measured by the gallon of emulsified asphalt used in the emulsified asphalt and water mixture.
- 8.2. **Additive.**
- 8.2.1. **Lime.** When lime is furnished in trucks, the weight of lime will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at an approved location. Scales must meet the requirements of Item 520.
- 8.2.1.1. **Commercial Lime Slurry.** Lime slurry will be measured by the ton (dry weight) as calculated from the minimum percent dry solids content of the slurry, multiplied by the weight of the slurry in tons delivered.
- 8.2.1.2. **Quicklime.**
- 8.2.1.2.1. **Dry.** Lime will be measured by the ton (dry weight) of the quicklime.

- 8.2.1.2.2. **Slurry.** Lime slurry will be measured by the ton (dry weight) of the quicklime used to prepare the slurry multiplied by a conversion factor of 1.28 to give the quantity of equivalent hydrated lime, which will be the basis of payment.
- 8.2.2. **Cement.** Cement will be measured by the ton (dry weight). When cement is furnished in trucks, the weight of cement will be determined on certified scales, or the Contractor must provide a set of standard platform truck scales at an approved location. Scales must meet the requirements of Item 520.
- 8.3. **Emulsion Treatment.** Emulsion treatment will be measured by the square yard of surface area. The dimensions for determining the surface area are established by the widths shown on the plans and lengths measured at placement.

9. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for in accordance with Section 290.8.1., "Emulsion"; Section 290.8.2.1., "Lime"; Section 290.8.2.2., "Cement"; and Section 290.8.3., "Emulsion Treatment."

Furnishing and delivering new base will be paid for in accordance with Item 247, unless otherwise shown on the plans.

Furnishing and delivering fog seal will be paid for in accordance with Item 315, unless otherwise shown on the plans.

Removal and disposal of existing asphalt concrete pavement will be paid for in accordance with pertinent Items or Article 4.4., "Changes in the Work."

Additives and emulsion used for reworking a section will not be paid for directly, but will be subsidiary to this Item.

Sprinkling and rolling, including proof rolling, will not be paid for directly, but will be subsidiary to this Item, unless otherwise shown on the plans.

Where subgrade is constructed under this Contract, correction of soft spots in the subgrade or existing base will be at the Contractor's expense. Where subgrade is not constructed under this Contract, correction of soft spots in the subgrade or existing base will be in accordance with pertinent Items or Article 4.4., "Changes in the Work."

When an additional additive is required by the mixture design or required by the Engineer and not shown on the plans, it will be paid for in accordance with Article 4.4., "Changes in the Work."

- 9.1. **Emulsion.** Emulsion will be paid for at the unit price bid. This price is full compensation for materials, delivery, equipment, labor, tools, and incidentals.
- 9.2. **Lime.** Lime will be paid for at the unit price bid for one of the following types: "Hydrated (Dry)," "Hydrated (Slurry)," or "Commercial Lime Slurry." This price is full compensation for furnishing lime.
- 9.3. **Cement.** Cement will be paid for at the unit price bid. This price is full compensation for furnishing cement.
- 9.4. **Emulsion Treatment.** Emulsion treatment will be paid for at the unit price bid for the depth specified. No payment will be made for thickness or width exceeding those shown on the plans.

This price is full compensation for shaping existing material, loosening, mixing, pulverizing, spreading, applying additives and emulsified asphalt, compacting, finishing, curing, curing materials, blading, shaping and maintaining shape, replacing mixture, disposing of loosened materials, processing, hauling, preparing secondary subgrade, water, equipment, labor, tools, and incidentals.

Item 316

Seal Coat



1. DESCRIPTION

Construct a surface treatment consisting of one or more applications of a single layer of asphalt material covered with a single layer of aggregate.

2. MATERIALS

Furnish materials of the type and grade shown on the plans in conformance with the following.

2.1. **Asphalt.** Furnish asphalt materials meeting the requirements of Item 300, "Asphalts, Oils, and Emulsions."

Furnish Type II or Type III asphalt-rubber (A-R) binder in accordance with Section 300.2.10., "Asphalt-Rubber Binders," as shown on the plans. Furnish a blend design for approval. Include in the design, at a minimum, the following:

- manufacturer and grade of asphalt cement;
- manufacturer and grade of crumb rubber;
- manufacturer, type, and percentage of extender oil, if used;
- test report pertinent to crumb rubber gradation in accordance with [Tex-200-F](#), Part I;
- design percentage of crumb rubber versus asphalt content;
- blending temperature; and
- test results pertinent to the properties at reaction times of 60, 90, 240, 360, and 1,440 min. in accordance with Section 300.2.10., "Asphalt-Rubber Binders."

Furnish a new A-R blend design if the grade or source for any of the components changes.

If a tack coat is specified when using A-R, unless otherwise shown on the plans or approved, furnish CSS-1H, SS-1H, or a performance-grade (PG) binder with a minimum high-temperature grade of PG 58 for tack coat binder. Do not dilute emulsified asphalts at the terminal, in the field, or at any other location before use. If required, verify that emulsified asphalt proposed for use meets the minimum residual asphalt percentage specified in Item 300.

2.2. **Aggregate.** Furnish aggregate meeting Item 302, "Aggregates for Surface Treatments," of the type and grade shown on the plans. Unless otherwise shown on the plans, furnish aggregate with a minimum Surface Aggregate Classification B.

2.3. **Materials Selections.** Furnish asphalt and aggregate as shown on the plans.

3. EQUIPMENT

3.1. **Distributor.** Furnish a distributor that will apply the asphalt material uniformly at the specified rate or as directed.

3.1.1. **Transverse Variable Rate.** When a transverse variable rate is shown on the plans, ensure that the nozzles outside the wheel paths will output a predetermined percentage more asphalt material by volume than the nozzles over the wheel paths. Use a dual spray bar distributor as desired to provide for a transverse variable rate.

- 3.1.2. **Agitation for Asphalt-Rubber.** If using A-R, furnish a distributor capable of keeping the rubber in uniform suspension and adequately mixing the asphalt, rubber, and any additional additives.
- 3.1.3. **Calibration.**
- 3.1.3.1. **Transverse Distribution.** Furnish a distributor test report, less than 1 yr. old, when tested in accordance with [Tex-922-K](#), Part III. The Department reserves the right to witness the calibration testing. Notify the Engineer 3 days before calibration testing.
- Include the following documentation in the test report:
- the serial number of the distributor,
 - a method that identifies the actual nozzle set used in the test, and
 - the fan width of the nozzle set at a 12-in. bar height.
- When a transverse variable rate is required, and a single spray bar is to be used, perform the test using the type and grade of asphalt material to be used on the project. The Engineer may verify the transverse rate and distribution at any time. If verification does not meet the requirements, correct deficiencies and furnish a new test report.
- 3.1.3.2. **Tank Volume.** Furnish a volumetric calibration and strap stick for the distributor tank in accordance with [Tex-922-K](#), Part I.
- Provide documentation of distributor calibration performed no more than 5 yr. before the date first used on the project. The Engineer may verify calibration accuracy in accordance with [Tex-922-K](#), Part II.
- 3.1.4. **Computerized Distributor.** When paying for asphalt material by weight, the Engineer may allow use of the computerized distributor display to verify application rates. Verify application rate accuracy at a frequency acceptable to the Engineer.
- 3.2. **Aggregate Spreader.** Use a continuous-feed, self-propelled spreader to apply aggregate uniformly at the specified rate or as directed. If racked-in aggregate is shown on the plans, furnish a second aggregate spreader for the racked-in aggregate to apply aggregate uniformly at the specified rate.
- 3.3. **Rollers.** Unless otherwise shown on the plans, furnish light pneumatic-tire rollers in accordance with Item 210, "Rolling."
- 3.4. **Broom.** Furnish rotary, self-propelled brooms.
- 3.5. **Asphalt Storage and Handling Equipment.** When the plan or the Engineer allows storage tanks, furnish a thermometer in each tank to indicate the asphalt temperature continuously. Keep equipment clean and free of leaks. Keep asphalt material free of contamination.
- 3.6. **Aggregate Haul Trucks.** Unless otherwise approved, use trucks of uniform capacity to deliver the aggregate. Provide documentation showing measurements and calculation in cubic yards. Clearly mark the calibrated level. Truck size may be limited when shown on the plans.
- 3.7. **Digital Distance-Measuring Instrument.** Furnish a vehicle with a calibrated digital distance-measuring instrument accurate to ± 6 ft. per mile.

4. CONSTRUCTION

- 4.1. **General.** Comply with the seal coat season as shown on the plans. Asphalt and aggregate rates shown on the plans are for estimating purposes only. Adjust the rates for existing conditions as directed.

- 4.2. **Temporary Aggregate Stockpiles.** The Engineer will approve the location of temporary aggregate stockpiles on the right of way before delivery. Place stockpiles in a manner that will not:
- obstruct traffic or sight distance,
 - interfere with the access from abutting property, or
 - interfere with roadway drainage.
- Locate stockpiles at least 30 ft. from roadway when possible. Sign and barricade as shown on the plans.
- 4.3. **Aggregate Furnished by the Department.** When shown on the plans, the Department will furnish aggregate to the Contractor without cost. Stockpile locations are shown on the plans.
- 4.4. **Adverse Weather Conditions.** Do not place surface treatments when, in the Engineer's opinion, general weather conditions are unsuitable. Meet the requirements for air and surface temperature shown below.
- 4.4.1. **Standard Temperature Limitations.** Apply seal coat when air temperature is above 50°F and rising. Do not apply seal coat when air temperature is 60°F and falling. In all cases, do not apply seal coat when surface temperature is below 60°F.
- 4.4.2. **Polymer-Modified Asphalt Cement Temperature Limitations.** When using materials described in Section 300.2.2., "Polymer-Modified Asphalt Cement," apply seal coat when air temperature is above 70°F and rising. Do not apply seal coat when air temperature is 80°F and falling. In all cases, do not apply seal coat when surface temperature is below 70°F.
- 4.4.3. **Asphalt-Rubber Temperature Limitations.** Do not place hot A-R seal coat when, in the Engineer's opinion, general weather conditions are unsuitable. Apply seal coat when the air temperature is 80°F and above, or above 70°F and rising. In all cases, do not apply seal coat when surface temperature is below 70°F.
- 4.4.4. **Cool Weather Night Air Temperature.** The Engineer reserves the right to review the National Oceanic and Atmospheric Administration (NOAA) weather forecast and determine whether the nightly air temperature is suitable for asphalt placement to prevent aggregate loss.
- 4.4.5. **Cold Weather Application.** When asphalt application is allowed outside the above temperature restrictions, the Engineer will approve the binder grade and the air and surface temperatures for asphalt material application. Apply seal coat at air and surface temperatures as directed.
- 4.5. **Mixing Hot A-R Binder.** If using A-R, mix in accordance with the approved blend design required in Section 316.2.1., "Asphalt."
- At the end of each shift, provide the Engineer with production documentation that includes the following:
- amount and temperature of asphalt cement before addition of rubber,
 - amount of rubber and any extender added,
 - viscosity of each hot A-R batch just before roadway placement, and
 - time of the rubber additions and viscosity tests.
- 4.6. **Surface Preparation.** Remove existing raised pavement markers. Repair any damage incurred by removal as directed. Remove dirt, dust, or other harmful material before sealing. When shown on the plans, remove vegetation and blade pavement edges. When directed, apply a tack coat before applying the hot A-R treatment on an existing wearing surface in accordance with Section 341.4.7.2., "Tack Coat."

4.7. **Rock Land and Shot.**

4.7.1. **Definitions.**

- **Rock Land.** The area covered at the aggregate rate directed with one truckload of aggregate.
- **Shot.** The area covered by one distributor load of asphalt material.

4.7.2. **Setting Lengths.** Calculate the lengths of both rock land and shot. Adjust shot length to be an even multiple of the rock land. Verify that the distributor has enough asphalt material to complete the entire shot length. Mark shot length before applying asphalt. When directed, mark length of each rock land to verify the aggregate rate.

4.8. **Asphalt Placement.**

4.8.1. **General.** The maximum shot width is the width of the current transverse distribution test required under Section 316.3.1.3.1., "Transverse Distribution," or the width of the aggregate spreader box, whichever is less. Adjust the shot width so operations do not encroach on traffic or interfere with the traffic control plan, as directed. Use paper or other approved material at the beginning and end of each shot to construct a straight transverse joint and to prevent overlapping of the asphalt. Unless otherwise approved, match longitudinal joints with the lane lines. The Engineer may require a string line if necessary to keep joints straight with no overlapping. Use enough pressure to flare the nozzles fully.

Select an application temperature, as approved, in accordance with Item 300. Uniformly apply the asphalt material at the rate directed, within 15°F of the approved temperature, and not above the maximum allowable temperature.

4.8.2. **Limitations.** Do not apply asphalt to the roadway until:

- traffic control methods and devices are in place as shown on the plans or as directed,
- the loaded aggregate spreader is in position and ready to begin,
- haul trucks are loaded with enough aggregate to cover the shot area and are in place behind the spreader box, and
- rollers are in place behind the haul trucks.

4.8.3. **Nonuniform Application.** Stop application if it is not uniform due to streaking, ridging, puddling, or flowing off the roadway surface. Verify equipment condition, operating procedures, application temperature, and material properties. Determine and correct the cause of nonuniform application. If the cause is high- or low-emulsion viscosity, replace emulsion with material that corrects the problem.

4.8.4. **Test Strips.** The Engineer may stop asphalt application and require construction of test strips at the Contractor's expense if any of the following occurs:

- nonuniformity of application continues after corrective action;
- on three consecutive shots, application rate differs by more than 0.03 gal. per square yard from the rate directed; or
- any shot differs by more than 0.05 gal. per square yard from the rate directed.

The Engineer will approve the test strip location. The Engineer may require additional test strips until surface treatment application meets specification requirements.

4.8.5. **Sampling.** Collect all samples in accordance with [Tex-500-C](#) from the distributor and with witness by the Engineer.

At least once per project, collect split samples of each binder grade and source used. The Engineer will submit one split sample to the Materials and Tests Division (MTD) for testing and retain the other split sample.

In addition, collect one sample of each binder grade and source used on the project for each production day. The Engineer will retain these samples.

The Engineer will keep all retained samples for 1 yr. for hot-applied binders and cutback asphalts, or for 2 mo. for emulsified asphalts. The Engineer may submit retained samples to MTD for testing as necessary or as requested by MTD.

The Department will furnish sampling containers in accordance with [Tex-500-C](#).

- 4.9. **Aggregate Placement.** As soon as possible, apply aggregate uniformly at the rate directed without causing the rock to roll over.
- 4.9.1. **Nonuniform Application.** Stop application if it is not uniform in the transverse direction. Verify equipment condition, operating procedures, and transverse application rate. The transverse application rate should be within 1 lb. Determine and correct the cause of nonuniform application.
- 4.10. **Rolling.** Start rolling operation on each shot as soon as aggregate is applied. Use enough rollers to cover the entire mat width in one pass; i.e., one direction. Roll in a staggered pattern. Unless otherwise shown on the plans, make at least:
- five passes or
 - three passes when the asphalt material is an emulsion.
- If rollers are unable to keep up with the spreader box, stop application until rollers have caught up, or furnish additional rollers. Keep roller tires asphalt-free.
- 4.11. **Patching.** Before rolling, repair spots where coverage is incomplete. Repair can be made by hand spotting or other approved method. When necessary, apply additional asphalt material to embed aggregate.
- 4.12. **Racked-In Aggregate.** If specified on the plans, apply racked-in aggregate after patching, uniformly at the rate directed. The racked-in aggregate must be applied before opening the roadway or intersection to traffic.
- 4.13. **Brooming.** After rolling, sweep as soon as aggregate has sufficiently bonded to remove excess. In areas of racked-in aggregate, sweep as directed.
- 4.14. **Final Acceptance.** Maintain seal coat until the Engineer accepts the work. Repair any surface failures. Before final project acceptance, remove all temporary stockpiles and restore the area to the original contour and grade.

5. MEASUREMENT

- 5.1. **Asphalt Material.** Unless otherwise shown on the plans, asphalt material will be measured by one of the following methods.
- 5.1.1. **Volume.** Asphalt material, including all components, will be measured at the applied temperature by strapping the tank before and after road application. The distributor calibrated strap stick will be used for measuring the asphalt level in the distributor asphalt tank. The certified tank chart will be used to determine the beginning gallons and the final gallons in the distributor tank. The quantity to be measured for payment will be the difference between the beginning gallons and the final gallons.
- 5.1.2. **Weight.** Asphalt material will be measured in tons using certified scales meeting the requirements of Item 520, "Weighing and Measuring Equipment," unless otherwise approved. The transporting truck must have a seal attached to the draining device and other openings. Random checking on public scales at the Contractor's expense may be required to verify weight accuracy.

Upon work completion or temporary suspension, any remaining asphalt material will be weighed by a certified public weigher or measured by volume in a calibrated distributor or tank, and the quantity converted to tons at the measured temperature. The quantity to be measured will be the number of tons received minus the number of tons remaining after all directed work is complete and minus the amount used for other items.

- 5.1.3. **Quantity Adjustments.** When shown on the plans, the measured quantity will be adjusted to compensate for variation in required application or residual rates for different types of asphalt.
- 5.1.4. **Aggregate.** Unless otherwise shown on the plans, aggregate will be measured by the cubic yard in the trucks as applied on the road. Strike off the loaded aggregate for accurate measurement when directed.
- 5.2. **Loading, Hauling, and Distributing Aggregate.** When the Department furnishes the aggregate, the loading, hauling, and distributing will be measured by the cubic yard in the trucks as applied on the road.

6. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Asphalt"; "Aggregate"; and "Loading, Hauling, and Distributing Aggregate" of the types and grades shown on the plans. These prices are full compensation for surface preparation; furnishing, preparing, hauling, and placing materials; removing existing pavement markers and excess aggregate; rolling; cleaning up stockpiles; and equipment, labor, tools, and incidentals.

Hauling of any aggregate to consolidate stockpiles at the end of the project when directed by the Engineer will be paid by force account work.

Item 401

Flowable Backfill



1. DESCRIPTION

Furnish and place flowable backfill for trench, hole, or other void.

2. MATERIALS

Use materials from prequalified sources listed on the Department website. Use materials from non-listed sources only when tested and approved before use. Allow 30 calendar days for the Engineer to sample, test, and report results for non-listed sources. Do not combine approved material with unapproved material.

2.1. **Cement.** Furnish cement in accordance with [DMS-4600](#), "Hydraulic Cement."

2.2. **Fly Ash.** Furnish fly ash in accordance with [DMS-4610](#), "Coal Ash."

2.3. **Chemical Admixtures.** Furnish chemical admixtures in accordance with [DMS-4640](#), "Chemical Admixtures for Concrete." Use specialty type admixtures to enhance the flowability, reduce shrinkage, and reduce segregation by maintaining solids in suspension when necessary. Use and proportion all admixtures in conformance with the manufacturer's recommendations.

2.4. **Fine Aggregate.** Provide fine aggregate that will stay in suspension in the mortar to the extent required for proper flow and that meets the gradation requirements shown in Table 1.

Table 1
Aggregate Gradation Chart

Sieve Size	Percent Passing
3/4"	100
#200	0-30

Test fine aggregate gradation in accordance with [Tex-401-A](#).

Plasticity index must not exceed six when tested in accordance with [Tex-106-E](#).

2.5. **Mixing Water.** Use mixing water in accordance with Item 421, "Hydraulic Cement Concrete."

3. CONSTRUCTION

Submit a construction method and plan, including mix design, for approval. Provide a means of filling the entire void area and be able to demonstrate this has been accomplished. Prevent the movement of any inserted structure from its designated location. Remove and replace or correct the problem if voids are found in the fill or any of the requirements are not met as shown on the plans, without additional cost to the Department.

Furnish a mix meeting the requirements shown in Table 2, unless otherwise shown on the plans.

Table 2
Flowable Fill Mix Design Requirements

Property	Excavatable	Non-Excavatable	Test Method
28-day compressive strength ¹ , psi	80–200	> 200	ASTM D4832
Consistency ² , Min diameter, in.		8	ASTM D6103
Unit weight, pcf	90–125	100 to 145	ASTM D6023
Air content, %	10–30	5 to 15	ASTM D6023

1. Average of two specimens.
2. Mixture must not segregate.

Mix the flowable fill using a central-mixed concrete plant, ready-mix concrete truck, pug mill, or other approved method.

Furnish all labor, equipment, tools, containers, and molds required for sampling, making, transporting, curing, removing, and disposing of test specimens. Furnish test molds meeting the requirements of [Tex-447-A](#). Transport, strip, and cure the test specimens as scheduled at the designated location. Cure test specimens in accordance with [Tex-447-A](#). The Engineer will sample, make, and test all specimens. Dispose of used, broken specimens in an approved location and manner. The frequency of job-control testing will be at the direction of the Engineer.

4. MEASUREMENT

This Item will be measured by the cubic yard of material placed. Measurement will not include additional volume caused by slips, slides, or cave-ins resulting from the Contractor's operations.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Flowable Backfill." This price is full compensation for furnishing, hauling, and placing materials and for equipment, tools, labor, and incidentals.

Item 432

Riprap



1. DESCRIPTION

Furnish and place concrete, stone, cement-stabilized, or special riprap.

2. MATERIALS

Furnish materials in accordance with the following.

- Item 420, "Concrete Substructures"
- Item 421, "Hydraulic Cement Concrete"
- Item 431, "Pneumatically Placed Concrete"
- Item 440, "Reinforcement for Concrete"
- [DMS-6200](#), "Filter Fabric"

2.1. **Concrete Riprap.** Use Class B concrete unless otherwise shown on the plans.

2.2. **Pneumatically Placed Concrete Riprap.** Use Class II concrete that meets the requirements of Item 431, unless otherwise shown on the plans.

2.3. **Stone Riprap.** Use durable natural stone with a bulk specific gravity of at least 2.50 as determined in accordance with [Tex-403-A](#), unless otherwise shown on the plans. Provide stone that, when tested in accordance with [Tex-411-A](#), has weight loss of no more than 18% after five cycles of magnesium sulfate solution.

Perform a size verification test on the first 5,000 sq. yd. of finished riprap stone for all types of stone riprap at a location determined by the Engineer. Test the riprap stone in accordance with ASTM D5519, Test Method D, unless otherwise directed. Additional tests may be required. Do not place additional riprap until the initial 5,000 sq. yd. of riprap has been approved.

Provide grout or mortar in accordance with Item 421 when specified. Provide grout with a consistency that will flow into and fill all voids.

Provide filter fabric in accordance with [DMS-6200](#). Provide Type 2 filter fabric for protection stone riprap, unless otherwise shown on the plans. Provide Type 2 filter fabric for Type R, F, or Common stone riprap when shown on the plans.

2.3.1. **Type R.** Use stones between 50 and 250 lb., with at least 50% of the stones heavier than 100 lb.

2.3.2. **Type F.** Use stones between 50 and 250 lb., with at least 40% of the stones heavier than 100 lb. Use stones with at least one broad flat surface.

2.3.3. **Common.** Use stones between 50 and 250 lb. Use stones that are at least 3 in. in their least dimension. Use stones that are at least twice as wide as they are thick. When shown on the plans or approved, material may consist of broken concrete removed under the Contract or from other approved sources. Cut exposed reinforcement flush with all surfaces before placement of each piece of broken concrete.

2.3.4. **Protection.** Use boulders or quarried rock that meets the gradation requirements shown in Table 1. Both the width and the thickness of each piece of riprap must be at least 1/3 of the length. When shown on the plans or as approved, material may consist of broken concrete removed under the Contract or from other approved

sources. Cut exposed reinforcement flush with all surfaces before placement of each piece of broken concrete. Determine gradation of the finished, in-place, riprap stone under the direct supervision of the Engineer in accordance with ASTM D5519, Test Method D, unless otherwise directed.

Table 1
In-Place Protection Riprap Gradation Requirements

Nominal Size	Maximum Weight (lb.)	90% Weight ¹ (lb.)	50% Weight ² (lb.)	Minimum 8% Weight ³ (lb.)
12 in.	200	80–180	30–75	3
15 in.	320	170–300	60–165	20
18 in.	530	290–475	105–220	22
21 in.	800	460–720	175–300	25
24 in.	1,000	550–850	200–325	30
30 in.	2,600	1,150–2,250	400–900	40
36 in.	4,400	2,200–3,900	800–1,700	140

1. The 90% weight is the stone weight heavier than 90% of the individual riprap stones, and lighter than 10% of individual riprap stones.
2. The 50% weight is the stone weight heavier than 50% of individual riprap stones, and lighter than 50% of individual riprap stones.
3. The 8% weight is the stone weight heavier than 8% of individual riprap stones, and lighter than 92% of individual riprap stones.

The Engineer may require in-place verification of the stone gradation. Determine the in-place gradation of the riprap stone by taking linear transects along the riprap and measuring the intermediate axis of the stone at select intervals. Place a tape measure along the riprap and determine the intermediate axis size of the stone at 2-ft. intervals. Measure at least 100 stones, either in a single transect or in multiple transects, then follow ASTM D5519, Test Method D to determine the gradation, unless otherwise directed. Table 2 is a guide for comparing the stone size in inches to the stone weight shown in Table 1.

Table 2
Protection Riprap Stone Size¹

Nominal Size	Dmax (in.)	D90 (in.)	D50 (in.)	D8 (in.)
12 in.	13.76	10.14–13.29	7.31–9.92	3.39
15 in.	16.10	13.04–15.75	9.21–12.91	6.39
18 in.	19.04	15.58–18.36	11.10–14.21	6.59
21 in.	21.85	18.17–21.09	13.16–15.75	6.88
24 in.	23.53	19.28–22.29	13.76–16.18	7.31
30 in.	32.36	24.65–30.84	17.34–22.72	8.05
36 in.	38.56	30.61–37.04	21.85–28.09	12.22

1. Based on a specific gravity of 2.5 and using the following equation for the intermediate axis diameter: $D = (12 \text{ in./ft.}) * \{(W)/(Gs * 62.4 * 0.85)\}^{1/3}$

where:

D = intermediate axis diameter (in.)

W = weight of stone (lb.)

Gs = Specific gravity of stone

Note—If the specific gravity of the stone is greater than 2.5, then the above equation can be used to determine the appropriate size using the actual specific gravity.

When bedding is required, provide bedding stone that, in place, meets the gradation requirements shown in Table 3 or as otherwise shown on the plans. If the nominal size of the protection riprap is less than or equal to 30 in., verify the gradation of the bedding material in accordance with [Tex-401-A](#) unless otherwise directed. If the nominal size of the protection riprap is equal to 36 in., verify the gradation of the bedding material in accordance with ASTM D5519, Test Method D, unless otherwise directed.

**Table 3
Protection Riprap Bedding Material Gradation Requirements**

Nominal Size <36 in.		Nominal Size = 36 in.	
Sieve Size (Sq. Mesh)	% by Weight Passing	Sieve Size (Sq. Mesh)	% by Weight Passing
3"	100	6"	100
1-1/2"	50-80	4"	35-75
3/4"	20-60	3"	45-60
#4	0-15	2"	0-15
#10	0-5	-	-

- 2.4. **Cement-Stabilized Riprap.** Provide aggregate that meets the requirements of Item 247, "Flexible Base," for the type and grade shown on the plans. Use cement-stabilized riprap with 7% hydraulic cement by dry weight of the aggregate unless otherwise directed.
- 2.5. **Special Riprap.** Furnish materials for special riprap as shown on the plans.

3. CONSTRUCTION

Dress slopes and protected areas to the line and grade shown on the plans before the placement of riprap. Place riprap and toe walls as shown on the plans or as directed.

- 3.1. **Concrete Riprap.** Reinforce concrete riprap with 6 × 6 – W2.9 × W2.9 welded wire fabric or with No. 3 or No. 4 reinforcing bars spaced at a maximum of 18 in. in each direction unless otherwise shown on the plans. Alternative styles of welded wire fabric that provide at least 0.058 sq. in. of steel per foot in both directions may be used if approved. A combination of welded wire fabric and reinforcing bars may be provided when both are permitted. Provide a minimum 6-in. lap at all splices. Provide horizontal cover of at least 1 in. and no more than 3 in. at the edge of the riprap. Place the first parallel bar no more than 6 in. from the edge of concrete. Use approved supports to hold the reinforcement approximately equidistant from the top and bottom surface of the slab. Adjust reinforcement during concrete placement to maintain correct position.

Sprinkle or sprinkle and consolidate the subgrade before the concrete is placed as directed. All surfaces must be moist when concrete is placed.

Compact and shape the concrete once it has been placed to conform to the dimensions shown on the plans. Finish the surface with a wood float after it has set sufficiently to avoid slumping to secure a smooth surface or broom finish as approved.

Cure the riprap immediately after the finishing operation in accordance with Item 420.

- 3.2. **Stone Riprap.** Provide the following types of stone riprap when shown on the plans.
- **Dry Riprap.** Stone riprap with voids filled with only spalls or small stones.
 - **Grouted Riprap.** Type R, F, or Common stone riprap with voids grouted after all the stones are in place.
 - **Mortared Riprap.** Type F stone riprap laid and mortared as each stone is placed.

Use spalls and small stones lighter than 25 lb. to fill open joints and voids in stone riprap, and place to a tight fit.

Place mortar or grout only when the air temperature is above 35°F. Protect work from rapid drying for at least 3 days after placement.

For slope or wave protection, if filter fabric is required, place filter fabric with its long axis running up and down the slope unless otherwise approved. For stream bank protection, if filter fabric is required, place the filter fabric with its long axis parallel to the centerline of the channel unless otherwise approved. Overlap the uphill or upstream sheet over the downhill or downstream sheet. For above water applications, ensure

adjacent sheets of filter fabric have a minimum overlap of 2 ft. in each direction. Secure filter fabric in place with nails or pins. Use 12-in. long, 3/16-in. diameter nails with 1.5-in. washers, or U-shaped steel pins with each leg at least 9 in. long. Space nails or pins at a maximum of 10 ft. in each direction and 5 ft. along the seams. Along the seams, place nails or pins through both strips of filter fabric at approximately the midpoint of the overlap. Place additional nails or pins as necessary to hold the filter fabric in position. Alternative anchorage and spacing may be used when approved. Keep the fabric material free of tension, stress, folds, wrinkles, or creases.

Methods for underwater filter placement must be approved before installation. For underwater placement, filter fabric should be unrolled in the direction of flow, overlapped at least 3 ft., and secured with sandbags, rocks, nails, or pins to prevent distortion. To prevent segregation and transport, underwater installation of a granular filter must be by clamshell bucket or tremie, with the granular material released on or very near the bed, unless otherwise approved. Underwater placement of a granular filter is permitted only if the water velocity is less than 5 ft. per second unless otherwise approved.

Any defects, tears, holes, flaws, or damage to filter fabric may be cause for rejection. Repair torn or punctured filter fabric by placing an additional layer of filter fabric over the damaged area, ensuring a minimum overlap of 3 ft. beyond the damaged area in all directions, and securing the filter fabric in place with pins or nails. Store filter fabric out of direct sunlight and cover the filter fabric as soon as possible after placement, but within 3 days.

- 3.2.1. **Type R.** Construct riprap as shown in Figure 1 on the *Stone Riprap Standard* and as shown on the plans. Place stones in a single layer with close joints so most of their weight is carried by the earth and not the adjacent stones. Place the upright axis of the stones at an angle of approximately 90° to the embankment slope. Place each course from the bottom of the embankment upward with the larger stones in the lower courses.

Fill open joints between stones with spalls. Place stones to create a uniform finished top surface. Do not exceed a 6-in. variation between the tops of adjacent stones. Replace, embed deeper, or chip away stones that project more than the allowable amount above the finished surface.

Prevent earth, sand, or foreign material from filling the spaces between the stones when the plans require Type R stone riprap to be grouted. Wet the stones thoroughly after they are in place, fill the spaces between the stones with grout, and pack. Sweep the surface of the riprap using a stiff broom after grouting.

- 3.2.2. **Type F.**

- 3.2.2.1. **Dry Placement.** Construct riprap as shown in Figure 2 on the *Stone Riprap Standard*. Set the flat surface on a prepared horizontal earth bed and overlap the underlying course to secure a lapped surface. Place the large stones first, roughly arranged in close contact. Fill the spaces between the large stones with suitably sized stones placed to leave the surface evenly stepped and conforming to the contour required. Place stone to drain water down the face of the slope.

- 3.2.2.2. **Grouting.** Construct riprap as shown in Figure 3 on the *Stone Riprap Standard*. Size, shape, and lay large flat-surfaced stones to produce an even surface with minimal voids. Place stones with the flat surface facing upward parallel to the slope. Place the largest stones near the base of the slope. Fill spaces between the larger stones with stones of suitable size, leaving the surface smooth, tight, and conforming to the contour required. Place the stones to create a plane surface with a variation no more than 6 in. in 10 ft. from true plane. Provide the same degree of accuracy for warped and curved surfaces. Prevent earth, sand, or foreign material from filling the spaces between the stones. Wet the stones thoroughly after they are in place, fill the spaces between them with grout, and pack. Sweep the surface using a stiff broom after grouting.

- 3.2.2.3. **Mortaring.** Construct riprap as shown in Figure 2 on the *Stone Riprap Standard*. Lap courses as described for dry placement. Wet the stones thoroughly before placing mortar. Bed the larger stones in fresh mortar as they are being placed and shove adjacent stones into contact with one another. Spread excess mortar forced out during placement of the stones uniformly over them to fill all voids completely. Point up all joints roughly either with flush joints or shallow, smooth-raked joints as directed.

- 3.2.3. **Common.** Construct riprap as shown in Figure 4 on the *Stone Riprap Standard*. Place stones on a bed excavated for the base course. Bed the base course of stone well into the ground with the edges in contact. Bed and place each succeeding course in even contact with the preceding course. Use spalls and small stones to fill any open joints and voids in the riprap. Ensure the finished surface presents an even, tight surface, true to the line and grades of the typical sections.

Prevent earth, sand, or foreign material from filling the spaces between the stones when the plans require grouting common stone riprap. Wet the stones thoroughly after they are in place, fill the spaces between them with grout, and pack. Sweep the surface using a stiff broom after grouting.

- 3.2.4. **Protection.** Construct riprap as shown in Figure 5 on the *Stone Riprap Standard*. Place riprap stone on the slopes within the limits shown on the plans. Place stone for riprap on the filter fabric to produce a reasonably well-graded mass of riprap with the minimum practicable percentage of voids. Place riprap stone on top of the filter fabric, always starting at the bottom and working toward the top of any slope. Construct the riprap to the lines and grades shown on the plans or staked in the field. A tolerance of +6 in. and -0 in. from the slope line and grades shown on the plans is allowed in the finished surface of the riprap. Place riprap to its full thickness in a single operation. Avoid displacing the filter fabric. Ensure the entire mass of stones in its final position is free of objectionable pockets of small stones and clusters of larger stones. Do not place riprap in layers, and do not place it by dumping it into chutes, dumping it from the top of the slope, pushing it from the top of the slope, or any method likely to cause segregation of the various sizes. Obtain the desired distribution of the various sizes of stones throughout the mass by selective loading of material at the quarry or other source, or by other approved methods of placement that will produce the specified results. Rearrange individual stones using mechanical equipment or by hand if necessary to obtain a reasonably well-graded distribution of stone sizes. If required, use the bedding thickness shown on the plans and place stone for riprap on the bedding material to produce a reasonably well-graded mass of riprap with the minimum practicable percentage of voids.

- 3.3. **Pneumatically Placed Concrete Riprap, Class II.** Meet the requirements of Item 431. Provide reinforcement as shown on the plans and in accordance with Item 440. Support reinforcement with approved supports throughout placement of concrete.

Give the surface a wood-float finish or a gun finish as directed. Cure the riprap with membrane-curing compound immediately after the finishing operation in accordance with Item 420.

- 3.4. **Cement-Stabilized Riprap.** Follow the requirements of the plans and the provisions for concrete riprap except when reinforcement is not required. The Engineer will approve the design and mixing of the cement-stabilized riprap.

- 3.5. **Special Riprap.** Construct special riprap as shown on the plans.

4. MEASUREMENT

This Item will be measured by the cubic yard of material complete in place. Volume will be computed based on the measured area in place and the thickness and toe wall width shown on the plans.

If required on the plans, the pay quantity of the bedding material for stone riprap for protection to be paid for will be measured by the cubic yard as computed from the measured area in place and the bedding thickness shown on the plans.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Riprap" of the type, nominal size, and void-filling technique (dry, grout, or mortar) specified, as applicable. This price is full compensation for furnishing, hauling, and placing riprap and for filter fabric, expansion joint material, concrete and reinforcing steel, grout and mortar, scales, test weights, equipment, labor, tools, and incidentals.

Payment for excavation of toe wall trenches, for all necessary excavation below natural ground or bottom of excavated channel, and for shaping of slopes for riprap will be included in the unit price bid per cubic yard of riprap.

When bedding is required for protection stone riprap, payment will be made at the unit price bid for "Bedding Material" of the thickness specified. This price is full compensation for furnishing, hauling, placing, and maintaining the stone bedding material until placement of the riprap cover is completed and accepted; excavation required for placement of bedding material; and equipment, scales, test weights, labor, tools, and incidentals. No payment will be made for excess thickness of bedding or for material required to replace embankment material lost by rain wash, wind erosion, or otherwise.

Item 460

Corrugated Metal Pipe



1. DESCRIPTION

Furnish and install corrugated metal pipes, materials for constructing corrugated metal pipe culverts, or corrugated metal storm drain mains, laterals, stubs, and inlet leads.

2. MATERIALS

2.1. **Fabrication.** Furnish corrugated metal pipe in accordance with Table 1.

Table 1
Specifications for Corrugated Metal Pipe

Pipe Type	AASHTO Specification
Galvanized steel and aluminized steel	M 36
Aluminized Type 2	M 36
Polymer coated	M 245
Asphalt coated	M 190
Aluminum	M 196

The pipe types and corresponding AASHTO designations are shown in Table 2.

Table 2
Corrugated Metal Pipe Types

Pipe Type	AASHTO Classification
Circular	Type I
Circular, smooth-lined	Type IA
Circular, spiral rib	Type IR
Arch	Type II
Arch, smooth-lined	Type IIA
Arch, spiral rib	Type IIR

Provide corrugated metal pipe of all types with annular corrugations, helical corrugations, or spiral ribs (corrugations) projecting outward. Provide pipe with helical end corrugations only when necessary to join new pipe to existing pipe with helical end corrugations.

Provide a minimum polymer coating thickness of 10 mils on each side for pre-coated galvanized steel pipe. Galvanized metal sheets and coils used for galvanized corrugated metal pipe may be sampled and tested in accordance with [Tex-708-I](#).

Repair damaged galvanized coating in accordance with Section 445.3.4., "Repairs." Repair damaged aluminized or polymer coating in accordance with AASHTO M 36 and AASHTO M 245, respectively.

2.2. **Protective Coating.** Furnish bituminous coating, when required, that meets AASHTO M 190, that tightly adheres to the metal, does not chip off in handling, and protects the pipe from deterioration.

Coat the pipe uniformly inside and out to a minimum thickness of 0.05 in. measured on the crests of the corrugations. Coat the pipe with additional material applied to the full inner circumference to form a smooth inside lining with a minimum thickness of 1/8 in. above the crest of the corrugations when smooth lining is specified.

2.3. **Design.** The diameter, permissible corrugations, and required gauges for full-circle pipe must be shown. The design size and permissible corrugations for pipe arch must be shown. The required gauges of the shell and

the liner for smooth lined pipe must also be shown. Furnish the shape and minimum gauge for steel pipe arch in accordance with Tables 3, 4, 5, or 6 for the specified design size and corrugation. Use Table 7 or Table 8 for aluminum pipe arch. Refer to U.S. Standard Gauge for uncoated sheets where reference is made to gauge of metal.

Measure dimensions from the inside crests of the corrugations. A tolerance of ±1 in. or 2% of the equivalent circular diameter, whichever is greater, is allowed for span and rise.

Table 3
Steel Pipe Arch
2-2/3 × 1/2-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
1	17	13	12	16	0.064	15
2	21	15	12	16	0.064	18
2A	23	19	12	16	0.064	21
3	28	20	12	16	0.064	24
4	35	24	12	16	0.064	30
5	42	29	12	14	0.079	36
6	49	33	12	14	0.079	42
7	57	38	12	12	0.109	48
8	64	43	12	12	0.109	54
9	71	47	12	10	0.138	60

Table 4
Steel Pipe Arch
3 × 1-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
7	53	41	12	14	0.079	48
8	60	46	12	14	0.079	54
9	66	51	12	14	0.079	60
10	73	55	12	14	0.079	66
11	81	59	12	14	0.079	72
12	87	63	12	14	0.079	78
13	95	67	12	12	0.109	84
14	103	71	18	12	0.109	90
15	112	75	18	12	0.109	96
16	117	79	18	12	0.109	102
17	128	83	24	10	0.138	108
18	137	87	24	10	0.138	114
19	142	91	24	10	0.138	120

Table 5
Steel Pipe Arch
5 × 1-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
11	81	59	12	12	0.109	72
12	87	63	12	12	0.109	78
13	95	67	12	12	0.109	84
14	103	71	18	12	0.109	90
15	112	75	18	12	0.109	96
16	117	79	18	12	0.109	102
17	128	83	24	10	0.138	108
18	137	87	24	10	0.138	114
19	142	91	24	10	0.138	120

Table 6
Steel Pipe Arch, Spiral Rib
7-1/2 × 3/4 × 3/4-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
2	20	16	12	16	0.064	18
2A	23	19	12	16	0.064	21
3	27	21	12	16	0.064	24
4	33	26	12	16	0.064	30
5	40	31	12	14	0.064	36
6	46	36	12	12	0.064	42
7	53	41	12	12	0.079	48
8	60	46	12	12	0.079	54
9	66	51	15	12	0.079	60

Table 7
Aluminum Pipe Arch
2-2/3 × 1/2-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
1	17	13	12	16	0.060	15
2	21	15	12	16	0.060	18
2A	23	19	12	16	0.060	21
3	28	20	12	14	0.075	24
4	35	24	12	14	0.075	30
5	42	29	18	12	0.105	36
6	49	33	18	12	0.105	42
7	57	38	18	10	0.135	48
8	64	43	18	10	0.135	54
9	71	47	18	8	0.164	60

Table 8
Aluminum Pipe Arch, Spiral Rib
7-1/2 × 3/4 × 3/4-in. Corrugations

Design Size	Span (in.)	Rise (in.)	Min Cover (in.)	Min Gauge Required	Coated Thickness (in.)	Equivalent Diameter Full-Circle Pipe (in.)
2	20	16	12	16	0.064	18
2A	23	19	12	16	0.064	21
3	27	21	15	16	0.064	24
4	33	26	18	16	0.064	30
5	40	31	18	14	0.075	36
6	46	36	18	12	0.105	42
7	53	41	21	12	0.105	48
8	60	46	18	10	0.135	54
9	66	51	21	10	0.135	60

- 2.4. **Coupling Bands.** Furnish coupling bands and other hardware for galvanized or aluminized steel pipe in accordance with AASHTO M 36 and AASHTO M 196 for aluminum pipe. Use coupling bands that are no more than three nominal sheet thicknesses lighter than the thickness of the pipe to be connected or no lighter than 0.052 in. for steel or 0.048 in. for aluminum. Provide coupling bands made of the same base metal and coating as the pipe.

3. CONSTRUCTION

- 3.1. **Designation of Type.** The types of pipes will be shown on the plans by the following descriptions:
- Pipe type: Corrugated metal pipe (CMP), corrugated metal pipe arch (CMP ARCH), spiral rib corrugated metal pipe (SRCMP), or spiral rib corrugated metal pipe arch (SRCMP ARCH);
 - Type of material: Galvanized steel, aluminum-coated (Type 2), or aluminum;
 - Pipe coating: Bituminous coated or polymer coated;
 - Special requirements: Paved invert or smooth lining; and
 - Pipe size: Diameter or design number.

Furnish any of the material types specified above when pipe is designated as "Corrugated Metal Pipe" without a type of material or pipe coating designation.

- 3.2. **Excavation, Shaping, Bedding, and Backfill.** Excavate, shape, bed, and backfill in accordance with Item 400, "Excavation and Backfill for Structures," except where jacking, boring, or tunneling methods are shown on the plans or permitted. Jack, bore, or tunnel in accordance with Item 476, "Jacking, Boring, or Tunneling Pipe or Box."

Provide uniform backfill material and uniformly compacted density throughout the length of the structure so equal pressure is provided. Allow no heavy earth-moving equipment over the structure until at least 4 ft. of compacted fill (permanent or temporary) has been placed over the top of the structure, unless otherwise shown on the plans or permitted in writing. Inspect the inside periphery of the structure for local or unequal deformation caused by improper construction methods before adding each new layer of loose backfill material. Continue inspections until at least 24 in. of cover is obtained. Evidence of such deformation will be reason for corrective measures as directed. Remove and replace pipe damaged by the Contractor at no additional cost to the Department.

- 3.3. **Laying Pipe.** Lay pipes on the bedding from the outlet end and join the separate sections firmly together with outside laps of annular joints pointing upstream and longitudinal laps on the sides unless otherwise authorized. Coat any metal in joints not protected by galvanizing or aluminizing with a suitable asphalt paint. Lower sections of pipe into the trench without damaging the pipe or disturbing the bedding and the sides of the trench. Remove and re-lay, without extra compensation, pipe that is not in alignment or shows excessive settlement after laying.

Lay multiple installations of corrugated metal pipe and pipe arches with the centerlines of individual barrels parallel. Maintain the clear distances between outer surfaces of adjacent pipes shown in Table 9, unless otherwise shown on the plans.

**Table 9
Required Pipe Clear Distances**

Diameter Full-Circle Pipe (in.)	Pipe Arch Design Size	Clear Distance Between Pipes (Full-Circle Pipe and Pipe Arch)
18	2	1 ft. 2 in.
21	2A	1 ft. 3 in.
24	3	1 ft. 5 in.
30	4	1 ft. 8 in.
36	5	1 ft. 11 in.
42	6	2 ft. 2 in.
48	7	2 ft. 5 in.
54	8	2 ft. 10 in.
60 to 84	9	3 ft. 2 in.
90 to 120	10 and above	3 ft. 5 in.

3.4. **Jointing.** Provide field joints that maintain pipe alignment during construction and prevent infiltration of side material during the life of the installation. Provide one of the following jointing systems unless otherwise shown on the plans.

3.4.1. **Coupling Bands.** Use coupling bands with annular corrugations only with pipe with annular corrugations or with helical pipe or spiral rib pipe on which the ends have been rerolled to form annular corrugations. Provide bands with corrugations that have the same dimensions as the corrugations on the pipe end or are designed to engage the first or second corrugation from the end of each pipe. The band may also include a U-shaped channel to accommodate upturned flanges on the pipe.

Field-join pipe with helically corrugated bands or bands with projections (dimples) when helical end corrugations are allowed.

Coupling bands with projections may be used with pipe that has annular or helical end corrugations or spiral ribs. Provide bands formed with the projections in annular rows with one projection for each corrugation of helical pipe or spiral rib pipe. Provide two annular rows for bands 10-1/2 in. or 12 in. wide and four annular rows of projections for bands 16-1/2 in. or 22 in. wide.

Use a coupling band width that conforms to Table 10. Connect the bands using suitable galvanized devices in accordance with AASHTO M 36. Lap coupling bands equally on each of the pipes to form a tightly closed joint after installation. Provide at least the minimum coupling band width recommended by the manufacturer for corrugations not shown in Table 10.

Table 10
Coupling Band Width Requirements

Nominal Corrugation Size ¹ (in.)	Nominal Pipe Inside Diameter ² (in.)	Min Coupling Band Width (in.)		
		Annular Corrugated Bands	Helically Corrugated Bands	Bands with Projections
2-2/3 × 1/2	12–36	7	12	10-1/2
	42–72	10-1/2	12	10-1/2
	78–84 ³	10-1/2	12	16-1/4
3 × 1	36–72	12	14	10-1/2
	78–120	12	14	16-1/4
5 × 1	36–72	20	22	12
	78–120	20	22	22
7-1/2 × 3/4 × 3/4	18–60	10-1/2	12	10-1/2
	66–102	10-1/2	12	16-1/4

1. For helically corrugated pipe or spiral rib pipe with rolled ends, the nominal size refers to the dimensions of the end corrugations in the pipe.
2. Equivalent circular diameter for Type II pipe.
3. Diameter through 120 in. for annular corrugated bands used on rerolled ends of helically corrugated pipe or spiral rib pipe.

The minimum diameter of bolts for coupling bands is 3/8 in. for pipe diameters 18 in. and less and 1/2 in. for pipe diameters 21 in. and greater. Provide at least two bolts for bands 12 in. wide or less. Provide at least three bolts for bands wider than 12 in.

Provide galvanized hardware in accordance with Item 445, "Galvanizing."

- 3.4.2. **Bell and Spigot.** Attach the bell to one end of the corrugated metal pipe at the manufacturing plant before shipment. Provide a bell with a minimum 6-in. stab depth. Install the gasket on the spigot end and apply lubricant in accordance with the manufacturer's recommendations. Provide gaskets that meet ASTM F477 with Type A Shore durometer hardness of 45 ±5. Do not use thermoplastic elastomer as the basic polymer. Push the spigot end of the pipe into the bell end of the previously laid pipe during laying of the pipe.

- 3.4.3. **Pipe Connections and Stub Ends.** Make connections of pipe to existing pipe or appurtenances as shown on the plans or as directed. Mortar or concrete the bottom of the existing structure, if necessary, to eliminate any drainage pockets created by the new connection.

Insulate portions of aluminum pipe that are to be in contact with metal other than aluminum with a coating of bituminous material meeting the requirements of Section 460.2.2., "Protective Coating." Extend the coating at least 1 ft. beyond the area of contact.

Restore any damage that results from making the connection when connecting pipe into existing structures that will remain in service. Seal stub ends for connections to future work not shown on the plans by installing watertight plugs into the free end of the pipe.

4. MEASUREMENT

This Item will be measured by the foot. Pipe will be measured between the ends of the barrel along the flow line, not including safety end treatments. Safety end treatments will be measured in accordance with Item 467, "Safety End Treatment." Pipe that is required to be jacked, bored, or tunneled will be measured in accordance with Item 476. Where spurs, branches, or connections to existing pipe lines are involved, measurement of the spur or new connecting pipe will be made from the intersection of the flow line with the outside surface of the pipe into which it connects. Where inlets, headwalls, catch basins, manholes, junction chambers, or other structures are included in lines of pipe, the length of pipe tying into the structure wall will be included for measurement but no other portion of the structure length or width will be included.

For multiple pipes, the measured length will be the sum of the lengths of the barrels.

This is a plans quantity measurement Item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Corrugated Metal Pipe," "Corrugated Metal Pipe Arch," "Spiral Rib Corrugated Metal Pipe," or "Spiral Rib Corrugated Metal Pipe Arch" of the type, size, and coating specified. This price is full compensation for furnishing, hauling, placing, and joining of pipes; jointing materials; all connections to new or existing structures; breaking back, removing, and disposing of portions of the existing structure; replacing portions of the existing structure; cutting pipe ends on skew or slope; and equipment, labor, tools, and incidentals.

Protection methods for excavations greater than 5 ft. deep will be measured and paid for as required in accordance with Item 402, "Trench Excavation Protection," or Item 403, "Temporary Special Shoring." Excavation, shaping, bedding, and backfill will be paid for in accordance with Item 400. When jacking, boring, or tunneling is used at the Contractor's option, payment will be made under this Item. When jacking, boring, or tunneling is required, payment will be made under Item 476.

Item 496

Removing Structures



1. DESCRIPTION

Remove and either dispose of or salvage structures.

2. CONSTRUCTION

- 2.1. **Demolition Plans.** Follow the demolition sequence shown on the plans for bridge structures to be removed or submit a demolition plan if shown on the plans. Include in the required demolition plan the type and location of equipment to be used, the method and sequence of removal of the structural elements, and a narrative indicating the stability of the partially demolished structure is maintained throughout the demolition process. Have these plans signed and sealed by a licensed professional engineer when demolished structure intersects active roadways and as otherwise shown on the plans. Submit required demolition plans at least 14 days before starting work unless otherwise directed. Department approval of these plans is not required, but the Department reserves the right to request modifications to the plans when work could affect the safety of the traveling public and when around other transportation facilities to remain in place. Notify the Department 30 days before starting any bridge demolition work to allow for required notifications to other agencies.
- 2.2. **Removal.**
- 2.2.1. **Pipes.** Avoid damaging appurtenances determined by the Engineer to be salvageable.
- 2.2.2. **Concrete, Brick, or Stone Structures.** Portions of structures that will not interfere with the proposed construction may remain in place 2 ft. or more below the permanent ground line. Square off remaining structures and cut reinforcement flush with the surface of the concrete.
- 2.2.3. **Steel Structures.** Dismantle steel to be retained by the Department or re-erected by cold-cutting fastener heads and punching or drilling the remaining portion of the fastener, air-arc gouging welded connections, and flame-cutting beams along a straight line. The Engineer may approve other methods of cutting. Cut beams at the locations shown on the plans. Match-mark steel to be re-erected with paint in conformance with the erection drawings. Remove steel piles or cut off 2 ft. or more below the permanent ground line.
- 2.2.4. **Timber Structures.** Remove all fasteners from timber determined by the Engineer to be salvageable. Remove timber piles or cut off 2 ft. or more below the permanent ground line.
- 2.3. **Salvage.** Avoid damage to materials shown on the plans to be salvaged. Deliver materials to be retained by the Department to the location shown on the plans. Block up salvaged steel materials off the ground.
- 2.4. **Disposal.** Material removed that is not deemed to be salvageable is the property of the Contractor. Dispose of removed material off the right of way in conformance with federal, state, and local regulations.
- 2.5. **Backfill.** Backfill excavation and voids to the original ground line if resulting from the removal of structures. Place backfill that will support any portion of the roadbed or embankment to the same requirements for placing embankment. Backfill other areas in 10-in. layers, loose measurement, and compact to the density of adjacent undisturbed material.

3. MEASUREMENT

This Item will be measured by each structure or by the foot.

4. PAYMENT

The work performed in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Removing Structures" of the type of structure specified. This price is full compensation for demolition plan preparation, loading, hauling, disposal, stockpiling, removal of appurtenances, excavation and backfill, equipment, labor, tools, and incidentals.

Item 500

Mobilization



1. DESCRIPTION

Establish and remove offices, plants, and facilities. Move personnel, equipment, and supplies to and from the project or the vicinity of the project site to begin work or complete work on Contract Items. Bonds and insurance are required for performing mobilization.

For Contracts with emergency mobilization, provide a person and method of contact available 24 hr. per day, 7 days per week, unless otherwise shown on the plans. The time of notice will be the transmission time of the written notice or notice provided orally by the Department's representative.

2. MEASUREMENT

This Item will be measured by the lump sum or each as the work progresses. Mobilization is calculated on the base bid only and will not be paid for separately on any additive alternate items added to the Contract.

3. PAYMENT

For this Item, the adjusted Contract amount will be calculated as the total Contract amount less the lump sum for mobilization. Material on hand will not be considered as a construction item earned when calculating mobilization payment. Except for Contracts with callout or emergency work, mobilization will be paid in partial payments as follows.

- Payment will be made upon presentation of a paid invoice for the payment or performance bonds and required insurance.
- Payment will be made upon verification of documented expenditures for plant and facility setup. The combined amount for all these facilities will be no more than 10% of the mobilization lump sum or 1% of the total Contract amount, whichever is less.
- When 1% of the adjusted Contract amount for construction Items is earned, 50% of the mobilization lump sum bid or 5% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- When 5% of the adjusted Contract amount for construction Items is earned, 75% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under the Item will be deducted from this amount.
- When 10% of the adjusted Contract amount for construction Items is earned, 90% of the mobilization lump sum bid or 10% of the total Contract amount, whichever is less, will be paid. Previous payments under this Item will be deducted from this amount.
- Upon final acceptance, 97% of the mobilization lump sum bid will be paid. Previous payments under this Item will be deducted from this amount.
- Payment for the remainder of the lump sum bid for "Mobilization" will be made after all submittals are received, after final quantities have been determined, and when any separate vegetative establishment and maintenance, test, and performance periods provided for in the Contract have been successfully completed.

For projects with extended maintenance or performance periods, payment for the remainder of the lump sum bid for "Mobilization" will be made 6 mo. after final acceptance.

For Contracts with callout or emergency work, "Mobilization" will be paid as follows.

- Payment will be made upon presentation of a paid invoice for the payment of performance bonds and required insurance.
- Mobilization for callout work will be paid for each callout work request.
- Mobilization for emergency work will be paid for each emergency work request.

Item 502

Barricades, Signs, and Traffic Handling



1. DESCRIPTION

Provide, install, move, replace, maintain, clean, and remove all traffic control devices shown on the plans and as directed.

Temporary work zone (TWZ) traffic control devices manufactured after December 31, 2019, must have been successfully tested to the crashworthiness requirements of the 2016 edition of the AASHTO *Manual for Assessing Safety Hardware* (MASH). An exception to the manufacture date applies when, based on the project's date of letting, a category of MASH-2016 compliant TWZ traffic control devices was not approved, or was not self-certified. In such case, devices that meet NCHRP-350 or MASH-2009 may be used.

Temporary work zone (TWZ) traffic control devices manufactured on or before December 31, 2019, must at a minimum have been successfully tested to the crashworthiness requirements of NCHRP-350 or MASH-2009. These devices may continue to be used throughout their normal service lives.

Such TWZ traffic control devices include:

- portable sign supports,
- barricades,
- portable traffic barriers designated exclusively for use in TWZs,
- crash cushions designated exclusively for use in TWZs,
- longitudinal channelizers, and
- truck-mounted attenuators (TMAs) and trailer attenuators (TAs).

Category I devices (i.e., lightweight devices), such as cones, tubular markers, and drums without lights or signs attached, may be self-certified by the vendor or provider, with documentation provided to the Department, or as shown on Department's Compliant Work Zone Traffic Control Device List.

2. CONSTRUCTION

Comply with the requirements of Article 7.2., "Safety."

Implement the traffic control plan (TCP) shown on the plans.

Install traffic control devices straight and plumb. Make changes to the TCP only as approved. Minor adjustments to meet field conditions are allowed.

Submit Contractor-proposed TCP changes, signed and sealed by a licensed professional engineer, for approval. The Engineer may develop, sign, and seal Contractor-proposed changes. Changes must conform to guidelines established in the TMUTCD using approved products from the Department's Compliant Work Zone Traffic Control Device List.

Maintain traffic control devices by taking corrective action when notified. Corrective actions include, but are not limited to, cleaning, replacing, straightening, covering, and removing devices. Maintain the devices such that they are properly positioned and spaced, are legible, and have retroreflective characteristics that meet requirements day or night and in all weather conditions.

The Engineer may authorize or direct in writing the removal or relocation of project limit advance warning signs. When project limit advance warning signs are removed before final acceptance, provide traffic control in accordance with the TMUTCD for minor operations as approved.

Remove all traffic control devices upon completion of the work as shown on the plans or as directed.

3. MEASUREMENT

“Barricades, Signs, and Traffic Handling” will be measured by the month. Law enforcement personnel with patrol vehicles will be measured by the hour for each person.

4. PAYMENT

- 4.1. **Barricades, Signs, and Traffic Handling.** Except for Contracts with callout work and work orders, the work performed and materials furnished in accordance with this Item and measured as provided under “Measurement” will be paid for at the unit price bid for “Barricades, Signs, and Traffic Handling.” This price is full compensation for installation, maintenance, adjustments, replacements, removal, materials, equipment, labor, tools, and incidentals.

When the plans establish pay items for particular work in the TCP, that work will be measured and paid for under pertinent Items.

TMA and TA will be paid for under Item 505, “Truck-Mounted Attenuator (TMA) and Trailer Attenuator (TA).” Portable changeable message signs will be paid for under Item 503, “Portable Changeable Message Sign.” Portable traffic signals will be paid for under Item 510, “One-Way Traffic Control,” unless otherwise shown on the plans.

In accordance with Section 7.2.3., “Safety Contingency,” funds have been included in the project budget to improve the effectiveness of traffic handling and enhance safety during the course of this project.

- 4.1.1. **Initiation of Payment.** Payment for this Item will begin on the first estimate after barricades, signs, and traffic handling devices have been installed in accordance with the TCP.
- 4.1.2. **Paid Months.** Monthly payment will be made each succeeding month for this Item provided the barricades, signs, and traffic handling devices have been installed and maintained in accordance with the TCP until the Contract amount has been paid.
- If, within the timeframe established by the Engineer, the Contractor fails to provide or properly maintain signs and barricades in compliance with the Contract requirements, as determined by the Engineer, the Contractor will be considered in noncompliance with this Item. No payment will be made for the months in question, and the total final payment quantity will be reduced by the number of months the Contractor was in noncompliance.
- 4.1.3. **Maximum Total Payment Before Acceptance.** The total payment for this Item will not exceed 10% of the total Contract amount before final acceptance in accordance with Article 5.12., “Final Acceptance.” The remaining balance will be paid in accordance with Section 502.4.1.5., “Balance Due.”
- 4.1.4. **Total Payment Quantity.** The quantity paid under this Item will not exceed the total quantity shown on the plans, except as modified by change order and as adjusted in accordance with Section 502.4.1.2., “Paid Months.” An overrun of the plans quantity for this Item will not be allowed for approving designs; testing; material shortages; closed construction seasons; curing periods; establishment, performance, test, and maintenance periods; failure to complete the work in the number of months allotted; or delays caused directly or indirectly by Contract requirements.

- 4.1.5. **Balance Due.** The remaining unpaid months of barricades less non-compliance months will be paid on final acceptance of the project, if all work is complete and accepted in accordance with Article 5.12., "Final Acceptance."
- 4.1.6. **Contracts with Callout Work and Work Orders.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be subsidiary to pertinent Items, except for federally funded Contracts.
- 4.2. **Law Enforcement Personnel.** The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid by Contractor force account for "Law Enforcement Personnel." This price is full compensation for furnishing all labor, materials, supplies, equipment, patrol vehicles, fees, and incidentals necessary to complete the work as directed.

Item 530

Intersections, Driveways, and Turnouts



1. DESCRIPTION

Construct and pave intersections, driveways, and turnouts. Pave existing intersections, driveways, and turnouts.

Intersections are considered areas off the travel lanes and shoulders of the Contract highway on the intersecting highway on the state system. The intersecting on-system highway work will be paid for under this Item only when shown on the plans.

Driveways are defined as private (residential or commercial) and public (county road and city street) access areas off the travel lanes and shoulders.

Turnouts include but are not limited to mailbox and litter barrel widenings.

2. MATERIALS

Furnish materials that meet the following.

- Item 247, "Flexible Base"
- Item 260, "Lime Treatment (Road-Mixed)"
- Item 275, "Cement Treatment (Road-Mixed)"
- Item 276, "Cement Treatment (Plant-Mixed)"
- Item 292, "Asphalt Treatment (Plant-Mixed)"
- Item 316, "Seal Coat"
- Item 330, "Limestone Rock Asphalt Pavement"
- Item 334, "Hot-Mix Cold-Laid Asphalt Concrete Pavement"
- Item 341, "Dense-Graded Hot-Mix Asphalt"
- Item 360, "Concrete Pavement"
- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"

3. CONSTRUCTION

Construct and pave intersections, driveways, and turnouts, and pave existing intersections, driveways, and turnouts as shown on the plans or as directed. Place materials in conformance with construction Articles of pertinent Items. Provide uninterrupted access to adjacent property unless otherwise directed. Ensure that abrupt elevation changes in driveway or turnout areas that serve as sidewalks do not exceed 1/4 in. and that the sidewalk area cross slope does not exceed 2%. Ready-mix concrete and hand finishing will be permitted when concrete pavement is specified unless otherwise shown on the plans for intersections.

4. MEASUREMENT

This Item will be measured by the square yard of the final pavement surface, as placed in the field, including radii and turnout.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Intersections," "Driveways," "Turnouts," "Intersections, Driveways, and Turnouts," or "Driveways and Turnouts" of the surface specified.

This price is full compensation for furnishing and operating equipment; excavation and embankment; base and pavement materials; and labor, materials, tools, and incidentals. Drainage structures will be measured and paid for in conformance with the pertinent bid Items.

Item 644

Small Roadside Sign Assemblies



1. DESCRIPTION

- 1.1. **Installation.** Furnish, fabricate, and erect small roadside sign assemblies or bridge-mounted clearance sign assemblies consisting of the signs, sign supports, foundations (when required), and associated mounting hardware.
- 1.2. **Relocation.** Relocate existing small roadside sign assemblies or bridge-mounted clearance sign assemblies and furnish and fabricate material as required.
- 1.3. **Removal.** Remove existing small roadside sign assemblies or bridge-mounted clearance sign assemblies.

2. MATERIALS

Furnish all materials unless otherwise shown on the plans. Furnish only new materials. Furnish and fabricate materials in accordance with the following Items and as shown on the plans.

- Item 421, "Hydraulic Cement Concrete"
- Item 440, "Reinforcement for Concrete"
- Item 441, "Steel Structures"
- Item 442, "Metal for Structures"
- Item 445, "Galvanizing"
- Item 636, "Signs"
- Item 656, "Foundations for Traffic Control Devices"

Use galvanized steel, stainless steel, dichromate sealed aluminum, or other materials shown on the plans for pipe, bolts, nuts, washers, lock washers, screws, and other sign assembly hardware. When dissimilar metals are used, select or insulate metals to prevent corrosion.

3. CONSTRUCTION

Construct foundations in accordance with Item 656. Plumb sign supports. Do not spring or rake posts to secure proper alignment. Use established safety practices when working near underground or overhead utilities. Consult the appropriate utility company before beginning work.

- 3.1. **Fabrication.** Fabricate sign supports in accordance with Item 441. Ensure all components fit properly.

Verify the length of each post for each sign before fabrication to meet field conditions and sign-mounting heights shown on the plans.

Hot-dip galvanize fabricated parts in accordance with Item 445. Punch or drill any holes in steel parts or members before galvanizing. Repair galvanizing for any steel part or member damaged during assembly, transit, or erection, or for any steel part or member welded, when permitted, after galvanizing. Perform all galvanizing repairs in accordance with Section 445.3.4., "Repairs."

- 3.2. **Installation.** Locate and install sign supports as shown on the plans, unless directed to shift the sign supports within design guidelines to secure a more desirable location or avoid conflict with utilities and underground appurtenances. Stake sign support locations for verification by the Engineer.

Install stub posts of the type, spacing, orientation, and projection shown on the plans. Remove and replace posts damaged during installation at the Contractor's expense.

Connect the upper post sections to the stub post sections as shown on the plans. Torque connection bolts as shown on the plans.

Attach signs to supports in conformance with the plans and pertinent Items.

- 3.3. **Relocation.** Reuse the existing signs as required unless otherwise shown on the plans. Furnish and install new stub posts in new foundations for relocated sign assemblies. Erect the new supports on the new stub posts and attach the existing signs to the supports in conformance with the plans and pertinent Items. Remove existing foundations to be abandoned in accordance with Section 644.3.4., "Removal."

- 3.4. **Removal.** Remove abandoned concrete foundations to 2 ft. below finished grade unless otherwise shown on the plans. Cut off and remove steel protruding from the remaining concrete. Backfill the remaining hole with material equal in composition and density to the surrounding area. Replace any surfacing with like material to equivalent condition.

- 3.5. **Handling and Storage.** Handle and store existing signs or portions of signs removed so they are not damaged. Store all signs to be reused off the ground and in a vertical position until erected. Prevent any damage to the various sign assembly components. Replace any portion of the sign damaged by the Contractor designated for reuse or salvage, including messages removed.

Store all new signs off the ground and in a vertical position until erected. Store new sheet aluminum substrate signs in a weatherproof building. Extruded aluminum substrate signs may be stored outdoors.

Stockpile all removed sign components that will be reused or become the property of the Department at designated locations. Accept ownership of unsalvageable materials and dispose of them in conformance with federal, state, and local regulations.

- 3.6. **Cleaning.** Wash the entire sign after installation using a biodegradable cleaning solution acceptable to the sign face materials manufacturer to remove dirt, grease, oil smears, streaks, finger marks, and other foreign materials.

4. MEASUREMENT

This Item will be measured as each small roadside assembly or bridge-mounted clearance sign assembly installed, removed, or relocated.

5. PAYMENT

The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Install Small Roadside Sign Assemblies" of the type specified, "Install Bridge-Mounted Clearance Sign Assemblies" of the type specified, "Relocate Small Roadside Sign Assemblies" of the type specified, "Relocate Bridge-Mounted Clearance Sign Assemblies" of the type specified, "Remove Small Roadside Sign Assemblies," or "Remove Bridge-Mounted Clearance Sign Assemblies."

- 5.1. **Installation.** This price is full compensation for furnishing, fabricating, galvanizing, and erecting the supports; constructing foundations, including concrete (when required); furnishing complete signs, including sign connections and all hardware; attaching the signs to the supports; preparing and cleaning the signs; and materials, equipment, labor, tools, and incidentals.
- 5.2. **Relocation.** This price is full compensation for removing existing sign assemblies and related materials; furnishing and installing new stub posts and new sign supports; constructing foundations, including concrete

(when required); new hardware; reinstallation of signs; preparing and cleaning the signs; salvaging; disposal of unsalvageable materials; removing existing foundations, backfilling, and surface placement; and materials, equipment, labor, tools, and incidentals.

- 5.3. **Removal.** This price is full compensation for removing existing sign assemblies and related materials; salvaging; disposal of unsalvageable materials; removing existing foundations, backfilling, and surface placement; and materials, equipment, labor, tools, and incidentals.

Item 658

Delineator and Object Marker Assemblies



1. DESCRIPTION

- **Installation.** Install delineator or object marker assembly.
- **Removal.** Remove delineator or object marker assembly.
- **Replacement.** Remove existing delineator or object marker assembly and replace with new delineator or object marker assembly.

2. MATERIALS

Furnish only new materials as shown on the plans unless otherwise directed. The Engineer will sample in accordance with [Tex-725-I](#) or [Tex-737-I](#).

2.1. **Delineator and Object Marker Assemblies.** Fabricate in accordance with the following.

- [DMS-8600](#), “Delineators, Object Markers, and Barrier Reflectors”
- [DMS-4400](#), “Flexible Delineator and Object Marker Posts (Embedded and Surface-Mount Types)”

2.2. **Wing Channel Post.** Furnish material of the size shown on the plans. Supply a notarized original of Form D-9-USA-1 (Department Form 1818) with supporting mill test report certifying that the base metal is in accordance with the following.

- ASTM A1011, SS Grade 50
- ASTM A499

Galvanize material in accordance with Item 445, “Galvanizing.”

3. CONSTRUCTION

3.1. **Installation.** Locate delineators, object markers, and barrier reflectors as shown on the plans or as directed and install in conformance with the manufacturer’s recommendations.

Install winged channel post and flexible delineator posts to allow the reflector units and reflectorized panels to be installed at the specified height and orientation. Align post as shown or as directed.

Drive post plumb using a driving cap to prevent visible cross-section dimension distortion. Drill or drive a pilot hole when post cannot be driven without visibly distorting the cross-section dimension. Backfill pilot holes thoroughly by tamping in 6-in. lifts to grade.

Repair damaged galvanizing in accordance with Section 445.3.4., “Repairs.” Install reflector units on wing channel posts after the posts have been erected.

3.2. **Removal.** Remove post assemblies without damaging materials, and salvage when indicated on the plans. Remove post to a minimum of 6 in. below finished grade. Stockpile salvaged materials at the location shown on the plans or as directed. Accept ownership of unsalvageable materials and dispose of them in conformance with federal, state, and local requirements.

3.3. **Replacement.** Remove existing delineator or object marker assembly in accordance with Section 658.3.2., “Removal,” and replace with new delineator or object marker assembly in accordance with Section 658.3.1., “Installation.”

4. MEASUREMENT

Installation will be measured by each delineator or object marker assembly installed, removed, or replaced.

This is a plans quantity measurement item. The quantity to be paid is the quantity shown in the proposal, unless modified by Article 9.2., "Plans Quantity Measurement." Additional measurements or calculations will be made if adjustments of quantities are required.

5. PAYMENT

The work performed and materials furnished in accordance with this item and measured as provided under "Measurement" will be paid for at the unit price bid for "Install Delineator Assemblies," "Install Object Marker Assemblies," "Install High Speed/High Impact Assemblies," "Replace Delineator Assemblies," or "Replace Object Marker Assemblies" of the types and colors specified, and for "Remove Delineator or Object Marker Assemblies."

- 5.1. **Installation.** This price is full compensation for furnishing and fabricating when required; installing and mounting the delineator or object marker assemblies, including posts, adhesive or pads for surface mount assemblies, back plates, reflector units, fastening plates, brackets, bolts, nuts, and washers; and materials, equipment, labor, tools, and incidentals.
- 5.2. **Removal.** This price is full compensation for removal and disposal of delineator and object marker assemblies and for materials, equipment, labor, tools, and incidentals.
- 5.3. **Replacement.** This price is full compensation for removal and disposal of existing delineator and object marker assemblies; furnishing, installing, and mounting new delineator or object marker assemblies, including posts, adhesive or pads for surface mount assemblies, back plates, reflector units, fastening plates, brackets, bolts, nuts, and washers; and materials, equipment, labor, tools, and incidentals.

DISCLOSURE REQUIREMENTS

CONFLICT OF INTEREST QUESTIONNAIRE

Chapter 176 of the Texas Local Government Code mandates the public disclosure of certain information concerning persons doing business or seeking to do business with Wilson County, including affiliations and business and financial relationships such persons may have with Wilson County officers.

An explanation of the requirements of Chapter 176 is located at

<http://www.statutes.legis.state.tx.us/Docs/LG/htm/LG.176.htm>

A list of County officials is located at <https://www.co.wilson.tx.us/>

The Conflict of Interest Questionnaire (CIQ) form can be obtained on next page or at link below:

<https://www.ethics.state.tx.us/forms/conflict/>

Complete a CIQ form and submit with your response.

By doing business or seeking to do business with Wilson County, you acknowledge that you have been notified of the requirements of Chapter 176 of the Texas Local Government Code and that you are solely responsible for complying with them.

CONFLICT OF INTEREST QUESTIONNAIRE
For vendor or other person doing business with local governmental entity

FORM CIQ

This questionnaire is being filed in accordance with chapter 176 of the Local Government Code by a person doing business with the governmental entity.

By law this questionnaire must be filed with the records administrator of the local government not later than the 7th business day after the date the person becomes aware of facts that require the statement to be filed. See Section 176.006, Local Government Code.

A person commits an offense if the person violates Section 176.006, Local Government Code. An offense under this section is a Class C misdemeanor.

OFFICE USE ONLY

Date Received

1 Name of person doing business with local governmental entity.

2

Check this box if you are filing an update to a previously filed questionnaire.

(The law requires that you file an updated completed questionnaire with the appropriate filing authority not later than September 1 of the year for which an activity described in Section 176.006(a), Local Government Code, is pending and not later than the 7th business day after the date the originally filed questionnaire becomes incomplete or inaccurate.)

3

Name each employee or contractor of the local governmental entity who makes recommendations to a local government officer of the governmental entity with respect to expenditures of money AND describe the affiliation or business relationship.

4

Name each local government officer who appoints or employs local government officers of the governmental entity for which this questionnaire is filed AND describe the affiliation or business relationship.

CONFLICT OF INTEREST QUESTIONNAIRE

For vendor or other person doing business with local governmental entity

FORM CIQ

Page 2

5

Name of local government officer with whom filer has affiliation or business relationship. (Complete this section only if the answer to A, B, or C is YES.

This section, item 5 including subparts A, B, C & D, must be completed for each officer with whom the filer has affiliation or other relationship. Attach additional pages to this Form CIQ as necessary.

A. Is the local government officer named in this section receiving or likely to receive taxable income from the filer of the questionnaire?

Yes

No

B. Is the filer of the questionnaire receiving or likely to receive taxable income from or at the direction of the local government officer named in this section AND the taxable income is not from the local governmental entity?

Yes

No

C. Is the filer of this questionnaire affiliated with a corporation or other business entity that the local government officer serves as an officer or director, or holds an ownership of 10 percent or more?

Yes

No

D. Describe each affiliation or business relationship.

6

Signature of person doing business with the governmental entity

Date

CERTIFICATE OF INTERESTED PARTIES

FORM 1295

Complete Nos. 1 - 4 and 6 if there are interested parties.
 Complete Nos. 1, 2, 3, 5, and 6 if there are no interested parties.

OFFICE USE ONLY

1 Name of business entity filing form, and the city, state and country of the business entity's place of business.

2 Name of governmental entity or state agency that is a party to the contract for which the form is being filed.

3 Provide the identification number used by the governmental entity or state agency to track or identify the contract, and provide a description of the services, goods, or other property to be provided under the contract.

4 Name of Interested Party	City, State, Country (place of business)	Nature of Interest (check applicable)	
		Controlling	Intermediary

5 Check only if there is NO Interested Party.

6 **AFFIDAVIT** I swear, or affirm, under penalty of perjury, that the above disclosure is true and correct.

 Signature of authorized agent of contracting business entity

AFFIX NOTARY STAMP / SEAL ABOVE

Sworn to and subscribed before me, by the said _____, this the _____ day of _____, 20 _____, to certify which, witness my hand and seal of office.

 Signature of officer administering oath Printed name of officer administering oath Title of officer administering oath

ADD ADDITIONAL PAGES AS NECESSARY

County's Verifications and Certifications Required by Law

HOUSE BILL 89- SECTION 2271 VERIFICATION

Pursuant to Section 2271.001, Texas Government Code, as amended:

1. "Boycott Israel" means refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations specifically with Israel, or with a person or entity doing business in Israel or in an Israeli- controlled territory, but does not include an action made for ordinary business purposes; and
2. "Company" means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

I, _____, the undersigned representative of _____ being an adult over the age of eighteen (18) years of age, do hereby verify that the company named above, under the provisions of Subtitle F, Title 10, Government Code 2271, as amended:

Does not boycott Israel currently; and Will not boycott Israel during the term of the contract with the County of Wilson.

SENATE BILL 252- CHAPTER 2252 CERTIFICATION

Effective September 1, 2017, contracts with companies engaged in business with Iran, Sudan, or foreign terrorist organization is prohibited. A governmental entity may not enter into a governmental contract with a company that is identified on a list prepared and maintained under Section 806.051, 807.051 or 2252.153. The comptroller shall prepare and maintain, and make available to each governmental entity, a list of companies known to have contracts with or provide supplies and services to a foreign terrorist organization.

I, _____, the undersigned representative of _____ being an adult over the age of eighteen (18) years of age, pursuant to Texas Government Code, Chapter 2252, Section 2252.152 and Section 2252.153, as amended, certify that the company named above is not listed on the website of the Comptroller of the State of Texas concerning the listing of companies that are identified under Section 806.051, Section 807.051 or Section 2253.153, as amended. I further certify that should the above-named company enter into a contract that is on said listing of companies on the website of the Comptroller of the State of Texas which do business with Iran, Sudan or any Foreign Terrorist Organization, I will immediately notify the County of Wilson.

SENATE BILL 13- CHAPTER 2274 VERIFICATION

Pursuant to Section 2274.001, Texas Government Code, as amended:

1. “Boycott Energy Companies” means, without an ordinary business purpose, refusing to deal with, terminating business activities with, or otherwise taking any action that is intended to penalize, inflict economic harm on, or limit commercial relations with a company because the company:
 - a. engages in the exploration, production, utilization, transportation, sale, or manufacturing of fossil fuel-based energy and does not commit or pledge to meet environmental standards beyond applicable federal and state law; or
 - b. does business with a company described by Paragraph (a) above; and
2. “Company” means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

I, _____, the undersigned representative of _____ being an adult over the age of eighteen (18) years of age, do hereby verify that the company named above, under the provisions of Subtitle F, Title 10, Government Code 2274, as amended:

Does not boycott energy companies currently; and Will not boycott energy companies during the term of the contract with the County of Wilson.

SENATE BILL 19- CHAPTER 2274 VERIFICATION

Pursuant to Section 2274.001, Texas Government Code, as amended:

1. “Discriminate against a firearm entity or firearm trade association”
 - a. means, with respect to the entity or association, to:
 - i. refuse to engage in the trade of any goods or services with the entity or association based solely on its status as a firearm entity or firearm trade association;
 - ii. refrain from continuing an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; or
 - iii. terminate an existing business relationship with the entity or association based solely on its status as a firearm entity or firearm trade association; and
 - b. does not include:
 - i. the established policies of a merchant, retail seller, or platform that restrict or prohibit the listing or selling of ammunition, firearms, or firearm accessories;
 - ii. a company ’s refusal to engage in the trade of any goods or services, decision to refrain from continuing an existing business relationship, or decision to terminate an existing business relationship to comply with federal, state, or local law, policy, or regulations or a directive by a regulatory agency or for any traditional business reason that is specific to the customer or potential customer and not based solely on an entity ’s or association ’s status as a firearm entity or firearm trade association; and
2. “Company” means a for-profit sole proprietorship, organization, association, corporation, partnership, joint venture, limited partnership, limited liability partnership, or any limited liability company, including a wholly owned subsidiary, majority-owned subsidiary, parent company or affiliate of those entities or business associations that exist to make a profit.

I, _____, the undersigned representative of _____ being an adult over the age of eighteen (18) years of age, do hereby verify that the company named above, under the provisions of Subtitle F, Title 10, Government Code 2274, as amended:

Does not have a practice, policy, guidance, or directive that discriminates against a firearm entity or firearm trade associations currently; and Will not discriminate against a firearm entity or firearm trade association during the term of the contract with the County of Wilson.

SENATE BILL 2116- CHAPTER 2274 VERIFICATION

Pursuant to Section 2274.0101, Texas Government Code, as amended:

1. "Critical Infrastructure" means a communication infrastructure system, cybersecurity system, electrical grid, hazardous waste treatment system, or water treatment facility.
2. "Cybersecurity" means" the measures taken to protect a computer, computer network, computer system, or other technology infrastructure against unauthorized use or access.
3. "Designated Country" means a country designated by the Governor as a threat to the critical infrastructure under Section 113.003.

I, _____, the undersigned representative of _____ being an adult over the age of eighteen (18) years of age, do hereby verify that the company named above, under the provisions of Subtitle F, Title 10, Government Code 2274, as amended:

1. Will not be granted direct or remote access to, or control of, critical infrastructure in this State, excluding access specifically allowed by the governmental entity for product warranty and support purposes; and
2. Is not owned by or the majority of stocks or other ownership interest of the company is held or controlled by: (i) individuals who are citizens of China, Iran, North Korea, Russia or a designated country; or (ii) a company or other entity, including a government entity, that is owned or controlled by citizens of or is directly controlled by the government of China, Iran, North Korea, Russia or a designated country; or headquartered in China, Iran, North Korea, Russia or a designated country. Regardless of whether the company's or its parent company's securities are publicly traded; or the company or its parent company is listed on the New York Stock Exchange as: a Chinese, Iranian, North Korean or Russian company; or a company of a designated country "Cybersecurity" means" the measures taken to protect a computer, computer network, computer system, or other technology infrastructure against unauthorized use or access.

Signature Page Follows

Signature of Company Representative

Date

Position/Title