SPECIFICATIONS AND CONTRACT DOCUMENTS

for the

BLANCO FLUME REPLACEMENT

BID NO. 2025-35544

MARCH 2025

Prepared for

BLOOMFIELD IRRIGATION DISTRICT

CONTACT: Stacy Dodd Bloomfield Irrigation District 1205 E. Broadway Avenue Bloomfield, NM 87413 Phone: (505) 632-2800

BOHANNAN HUSTON, INC. PROJECT NO. 20200462 7500 JEFFERSON STREET NE ALBUQUERQUE, NM 87109 (505) 823-1000

Bohannan 🛦 Huston

ENGINEER OF RECORD:

Bohannan Huston, Inc 7500 Jefferson Street NE Albuquerque, NM 87109 (505) 823-1000 or Fax (505) 798-7988

The technical material and data contained in the specifications were prepared under the supervision and direction of the undersigned, whose seal as a Professional Engineer, licensed to practice in the State of New Mexico, is affixed below.

Vincent Steiner, P.E. Engineer of Record License No. 24319



All questions about the meaning or intent of these documents shall be submitted only to the Engineer of Record, stated above, IN WRITING or EMAIL at <u>vsteiner@bhinc.com</u> for interpretations.

Approved by Owner:

Bloomfield Irrigation District

The work contained in the bidding documents have been reviewed and meet the Owner's project requirements.

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CONTRACT DOCUMENTS FOR BLANCO FLUME REPLACEMENT

TABLE OF CONTENTS

TITLE PAGE Engineer of Record......2 Advertisement for BidsC-111-1 Instructions to BiddersC-200-1 Bid FormC-410-1 Bid Bond (Penal Sum)C-430-1 Bid Bond Damages FormC-435-1 Subcontractors Listing And WSD (DOL) Registration.....C-440-1 Bidders Qualifications StatementC-451-1 Resident Veterans Preference Certification Certification Regarding DebarmentCR-1 Non-Collusion AffidavitNCA-1 Campaign Contribution Disclosure Form 1-2 Notice of AwardC-510-1 Form of Agreement between Owner and ContractorC-520-1 Notice to ProceedC-550-1 Performance Bond......C-610-1 Payment BondC-615-1 COA-1 COA-1 Contractor's Application for PaymentC-620-1 Certificate of Substantial CompletionC-625-1 Supplementary ConditionsC-800-1 Contract Change OrderC-941-1 Wage Rates Notice to Contractors Schedule......NTC-1 Supplemental Technical Specifications......STS-1 Geotechnical Report.....

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ADVERTISEMENT FOR BIDS

BLOOMFIELD IRRIGATION DISTRICT BLOOMFIELD, NM BLANCO FLUME REPLACEMENT

General Notice

Bloomfield Irrigation District (Owner) is requesting Bids for the construction of the following Project:

Blanco Flume Replacement 2025-35544

Bids for the construction of the Project will be received until Monday, April 14, 2025, at 3:00 p.m. local time. Bids received will be publicly opened and read on Tuesday, April 15, 2025 at 10:00 a.m. local time at the San Juan Water Commission, located at 7450 East Main Street, Farmington, NM 87402 and via Google Meet.

Google Meet joining info: Video call link: https://meet.google.com/xni-qxmz-qfm Or dial: (US) +1 443-585-0271 PIN: 663 353 642# More phone numbers: https://tel.meet/xni-gxmz-gfm?pin=8235497962631

- Bids delivered in person or sent via Fed Ex/UPS should go to Bloomfield Irrigation District, 1205 East Broadway, Bloomfield, NM 87413.
- Bids mailed via USPS must be addressed to Bloomfield Irrigation District, PO Box 606, Bloomfield, NM 87413.

The Project includes the following Work:

Replacement of existing flume with a prefabricated steel truss structure offset to the east of the existing flume, including but not limited to associated earthwork and concrete abutments. Prefabricated steel truss structure to be provided by owner.

Bids are requested for the following Contract: Blanco Flume Replacement / 2025-35544.

Obtaining the Bidding Documents

Information and Bidding Documents for the Project can be found at the following designated website:

https://bloomfieldirrigationdistrict.com/procurements

Neither Owner nor Engineer will be responsible for full or partial sets of Bidding Documents, including Addenda if any, obtained from sources other than the Issuing Office.

- 1. If you cannot access the website, please notify the Owner at bloomfield@gwestoffice.net.
- All questions must be submitted to bloomfield@gwestoffice.net. A follow up email acknowledging receipt of your question(s) will be sent. It is the Bidder's responsibility to follow up if he/she does not receive a response. Questions will be accepted through Monday, April 7, 2025, at 3:00 p.m. All questions received prior to the deadline will be answered via addendum and distributed to all plan holders.

Page 1 of 2

Pre-bid Meeting

A Non-Mandatory pre-bid meeting for the Project will be held on Monday, March 31, 2025, at 10:00 a.m. at 1205 East Broadway, Bloomfield, New Mexico 87143. There will be a site visit immediately following the pre-bid meeting.

Instructions to Bidders

For all further requirements regarding bid submittal, qualifications, procedures, and contract award, refer to the Instructions to Bidders that are included in the Bidding Documents.

This Advertisement is issued by:

Owner: Bloomfield Irrigation DistrictBy:Stacy DoddTitle:Office CoordinatorDate:March 17, 2025

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

TABLE OF CONTENTS

-
Article 1— Defined Terms1
Article 2— Bidding Documents
Article 3— Qualifications of Bidders
Article 4— Pre-Bid Conference
Article 5— Site and Other Areas; Existing Site Conditions; Examination of Site; Owner's Safety Program; Other Work at the Site
Article 6— Bidder's Representations and Certifications5
Article 7— Interpretations and Addenda5
Article 8— Bid Security
Article 9— Contract Times
Article 10— Substitute and "Or Equal" Items
Article 11— Subcontractors, Suppliers, and Others7
Article 12— Preparation of Bid7
Article 13— Basis of Bid8
Article 14— Submittal of Bid
Article 15— Modification and Withdrawal of Bid9
Article 16— Opening of Bids9
Article 17— Bids to Remain Subject to Acceptance9
Article 18— Evaluation of Bids and Award of Contract9
Article 19— Bonds and Insurance10
Article 20— Signing of Agreement10

ARTICLE 1—DEFINED TERMS

- 1.01 Terms used in these Instructions to Bidders have the meanings indicated in the General Conditions and Supplementary Conditions. Additional terms used in these Instructions to Bidders have the meanings indicated below:
 - A. *Issuing website*—The website from which the Bidding Documents are to be issued. Where a complete set of the Bidding Documents can be obtained from such website.

ARTICLE 2—BIDDING DOCUMENTS

- 2.01 Bidder shall obtain a complete set of Bidding Requirements and proposed Contract Documents (together, the Bidding Documents). See the Agreement for a list of the Contract Documents. It is Bidder's responsibility to determine that it is using a complete set of documents in the preparation of a Bid. Bidder assumes sole responsibility for errors or misinterpretations resulting from the use of incomplete documents, by Bidder itself or by its prospective Subcontractors and Suppliers.
- 2.02 Bidding Documents are made available for the sole purpose of obtaining Bids for completion of the Project and permission to download or distribution of the Bidding Documents does not confer a license or grant permission or authorization for any other use. Authorization to download documents, or other distribution, includes the right for plan holders to print documents solely for their use, and the use of their prospective Subcontractors and Suppliers, provided the plan holder pays all costs associated with printing or reproduction. Printed documents may not be re-sold under any circumstances.
- 2.03 Owner has established a Bidding Documents Website as indicated in the Advertisement or invitation to bid. Owner recommends that Bidder register as a plan holder with the Issuing Office at such website, and obtain a complete set of the Bidding Documents from such website. Bidders may rely that sets of Bidding Documents obtained from the Bidding Documents Website are complete, unless an omission is blatant. Registered plan holders will receive Addenda issued by Owner.
- 2.04 Plan rooms (including construction information subscription services, and electronic and virtual plan rooms) may distribute the Bidding Documents, or make them available for examination. Those prospective bidders that obtain an electronic (digital) copy of the Bidding Documents from a plan room are encouraged to register as plan holders from the Bidding Documents Website or Issuing Office. Owner is not responsible for omissions in Bidding Documents or other documents obtained from plan rooms, or for a Bidder's failure to obtain Addenda from a plan room.
- 2.05 *Electronic Documents*
 - A. When the Bidding Requirements indicate that electronic (digital) copies of the Bidding Documents are available, such documents will be made available to the Bidders as Electronic Documents in the manner specified.
 - 1. Bidding Documents will be provided in Adobe PDF (Portable Document Format) (.pdf) that is readable by Adobe Acrobat Reader Version X or later. It is the intent of the Engineer and Owner that such Electronic Documents are to be exactly representative of the paper copies of the documents. However, because the Owner and Engineer cannot totally control the transmission and receipt of Electronic Documents nor the Contractor's means of reproduction of such documents, the Owner and Engineer cannot

and do not guarantee that Electronic Documents and reproductions prepared from those versions are identical in every manner to the paper copies.

B. Unless otherwise stated in the Bidding Documents, the Bidder may use and rely upon complete sets of Electronic Documents of the Bidding Documents, described in Paragraph 2.05.A above. However, Bidder assumes all risks associated with differences arising from transmission/receipt of Electronic Documents versions of Bidding Documents and reproductions prepared from those versions and, further, assumes all risks, costs, and responsibility associated with use of the Electronic Documents versions to derive information that is not explicitly contained in printed paper versions of the documents, and for Bidder's reliance upon such derived information.

ARTICLE 3—QUALIFICATIONS OF BIDDERS

- 3.01 Bidder is to submit the following information with its Bid to demonstrate Bidder's qualifications to perform the Work:
 - A. Written evidence establishing its qualifications such as financial data, previous experience, and present commitments.
 - B. A written statement that Bidder is authorized to do business in the state where the Project is located, or a written certification that Bidder will obtain such authority prior to the Effective Date of the Contract.
 - C. Bidder's state or other contractor license number, if applicable.
 - D. Subcontractor and Supplier qualification information.
 - E. Other required information regarding qualifications.
- 3.02 A Bidder's failure to submit required qualification information within the times indicated may disqualify Bidder from receiving an award of the Contract.
- 3.03 No requirement in this Article 3 to submit information will prejudice the right of Owner to seek additional pertinent information regarding Bidder's qualifications.

ARTICLE 4—PRE-BID CONFERENCE

- 4.01 A non-mandatory pre-Bid conference will be held at the time and location indicated in the Advertisement or invitation to bid. Representatives of Owner and Engineer will be present to discuss the Project. Bidders are encouraged to attend and participate in the conference; however, attendance at this conference is not required to submit a Bid.
- 4.02 Information presented at the pre-Bid conference does not alter the Contract Documents. Owner will issue Addenda to make any changes to the Contract Documents that result from discussions at the pre-Bid conference. Information presented, and statements made at the pre-Bid conference will not be binding or legally effective unless incorporated in an Addendum.

ARTICLE 5—SITE AND OTHER AREAS; EXISTING SITE CONDITIONS; EXAMINATION OF SITE; OWNER'S SAFETY PROGRAM; OTHER WORK AT THE SITE

- 5.01 *Site and Other Areas*
 - A. The Site is identified in the Bidding Documents. By definition, the Site includes rights-of-way, easements, and other lands furnished by Owner for the use of the Contractor. Any additional lands required for temporary construction facilities, construction equipment, or storage of materials and equipment, and any access needed for such additional lands, are to be obtained and paid for by Contractor.

5.02 *Existing Site Conditions*

- A. Subsurface and Physical Conditions; Hazardous Environmental Conditions
 - 1. The Supplementary Conditions identify the following regarding existing conditions at or adjacent to the Site:
 - a. Those reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data.
 - b. Those drawings known to Owner 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.
 - c. Reports and drawings known to Owner relating to Hazardous Environmental Conditions that have been identified at or adjacent to the Site.
 - d. Technical Data contained in such reports and drawings.
 - 2. If the Supplementary Conditions do not identify Technical Data, the default definition of Technical Data set forth in Article 1 of the General Conditions will apply.
 - 3. *Geotechnical Baseline Report/Geotechnical Data Report:* The Bidding Documents contain a Geotechnical Baseline Report (GBR) and Geotechnical Data Report (GDR).
 - a. As set forth in the Supplementary Conditions, the GBR describes certain select subsurface conditions that are anticipated to be encountered by Contractor during construction in specified locations ("Baseline Conditions"). The GBR is a Contract Document.
 - b. The Baseline Conditions in the GBR are intended to reduce uncertainty and the degree of contingency in submitted Bids. However, Bidders cannot rely solely on the Baseline Conditions. Bids should be based on a comprehensive approach that includes an independent review and analysis of the GBR, all other Contract Documents, Technical Data, other available information, and observable surface conditions. Not all potential subsurface conditions are baselined.
 - c. Nothing in the GBR is intended to relieve Bidders of the responsibility to make their own determinations regarding construction costs, bidding strategies, and Bid prices, nor of the responsibility to select and be responsible for the means, methods, techniques, sequences, and procedures of construction, and for safety precautions and programs incident thereto.

- d. As set forth in the Supplementary Conditions, the GDR is a Contract Document containing data prepared by or for the Owner in support of the GBR.
- B. Underground Facilities: Underground Facilities are shown or indicated on the Drawings, pursuant to Paragraph 5.05 of the General Conditions, and not in the drawings referred to in Paragraph 5.02.A of these Instructions to Bidders. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data.
- 5.03 Other Site-related Documents
 - A. No other Site-related documents are available.
- 5.04 *Site Visit and Testing by Bidders*
 - A. Bidder is not required to visit the Site to conduct a thorough visual examination of the Site and adjacent areas.
 - B. A Site visit is scheduled following the pre-Bid conference. Maps to the Site will be available at the pre-Bid conference.
 - C. Bidders visiting the Site are required to arrange their own transportation to the Site.
 - D. All access to the Site other than during a regularly scheduled Site visit must be coordinated through the following Owner or Engineer contact for visiting the Site: Stacy Dodd (505) 632-2800. Bidder must conduct the Site visit during normal working hours. During the visit the Bidder must not disturb any ongoing operations at the Site.
 - E. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
 - F. On request, and to the extent Owner has control over the Site, and schedule permitting, the Owner will provide Bidder general access to the Site to conduct such additional examinations, investigations, explorations, tests, and studies as Bidder deems necessary for preparing and submitting a successful Bid. Owner will not have any obligation to grant such access if doing so is not practical because of existing operations, security or safety concerns, or restraints on Owner's authority regarding the Site. Bidder is responsible for establishing access needed to reach specific selected test sites.
 - G. Bidder must comply with all applicable Laws and Regulations regarding excavation and location of utilities, obtain all permits, and comply with all terms and conditions established by Owner or by property owners or other entities controlling the Site with respect to schedule, access, existing operations, security, liability insurance, and applicable safety programs.
 - H. Bidder must fill all holes and clean up and restore the Site to its former condition upon completion of such explorations, investigations, tests, and studies.
- 5.05 Owner's Safety Program
 - A. Site visits and work at the Site may be governed by an Owner safety program. If an Owner safety program exists, it will be noted in the Supplementary Conditions.

5.06 Other Work at the Site

A. Reference is made to Article 8 of the Supplementary Conditions for the identification of the general nature of other work of which Owner is aware (if any) that is to be performed at the Site by Owner or others (such as utilities and other prime contractors) and relates to the Work contemplated by these Bidding Documents. If Owner is party to a written contract for such other work, then on request, Owner will provide to each Bidder access to examine such contracts (other than portions thereof related to price and other confidential matters), if any.

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

6.01 *Express Representations and Certifications in Bid Form, Agreement*

- A. The Bid Form that each Bidder will submit contains express representations regarding the Bidder's examination of Project documentation, Site visit, and preparation of the Bid, and certifications regarding lack of collusion or fraud in connection with the Bid. Bidder should review these representations and certifications, and assure that Bidder can make the representations and certifications in good faith, before executing and submitting its Bid.
- B. If Bidder is awarded the Contract, Bidder (as Contractor) will make similar express representations and certifications when it executes the Agreement.

ARTICLE 7—INTERPRETATIONS AND ADDENDA

- 7.01 All questions about the meaning or intent of the Bidding Documents are to be submitted to **Stacy Dodd at Bloomfield Irrigation District at** <u>bloomfield@qwestoffice.net</u>. Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all parties recorded as having received the Bidding Documents. Questions received after 3:00 p.m. on Monday, April 7, 2025 may not be answered. Only questions answered by Addenda will be binding. Oral and other interpretations or clarifications will be without legal effect.
- 7.02 Addenda may be issued to clarify, correct, supplement, or change the Bidding Documents.

ARTICLE 8—BID SECURITY

- 8.01 A Bid must be accompanied by Bid security made payable to Owner in an amount of **5** percent of Bidder's maximum Bid price (determined by adding the base bid and all alternates) and in the form of a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions. Such Bid bond will be issued in the form included in the Bidding Documents.
- 8.02 The Bid security of the apparent Successful Bidder will be retained until Owner awards the contract to such Bidder, and such Bidder has executed the Contract, furnished the required Contract security, and met the other conditions of the Notice of Award, whereupon the Bid security will be released. If the Successful Bidder fails to execute and deliver the Contract and furnish the required Contract security within 15 days after the Notice of Award, Owner may consider Bidder to be in default, annul the Notice of Award, and the Bid security of that Bidder will be forfeited, in whole in the case of a penal sum bid bond, and to the extent of Owner's damages in the case of a damages-form bond. Such forfeiture will be Owner's exclusive remedy if Bidder defaults.

- 8.03 The Bid security of other Bidders that Owner believes to have a reasonable chance of receiving the award may be retained by Owner until the earlier of 7 days after the Effective Date of the Contract or 61 days after the Bid opening, whereupon Bid security furnished by such Bidders will be released.
- 8.04 Bid security of other Bidders that Owner believes do not have a reasonable chance of receiving the award will be released within 7 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 (a) substantially completed and (b) ready for final payment, and (c) Milestones (if any) are to be achieved, are set forth in the Agreement.
- 9.02 Provisions for liquidated damages, if any, for failure to timely attain a Milestone, Substantial Completion, or completion of the Work in readiness for final payment, are set forth in the Agreement.
- 9.03 For consideration, the Owner is anticipating the following project schedule. **Dates are subject to change**:
 - 1. Bid opening April 15, 2025
 - 2. Notice of Award May 5, 2025
 - 3. Notice to Proceed (NTP) (contractor onsite) Late September, 2025
 - a. Owners irrigation down-season is approximately November 1 through April 1.
 - 4. Substantial Completion estimated 90 calendar days from NTP
 - 5. Final Completion estimated 30 calendar days from Substantial Completion

ARTICLE 10—SUBSTITUTE AND "OR EQUAL" ITEMS

- 10.01 The Contract for the Work, as awarded, will be on the basis of materials and equipment specified or described in the Bidding Documents without consideration during the bidding and Contract award process of possible substitute or "or-equal" items. In cases in which the Contract allows the Contractor to request that Engineer authorize the use of a substitute or "or-equal" item of material or equipment, application for such acceptance may not be made to and will not be considered by Engineer until after the Effective Date of the Contract.
- 10.02 All prices that Bidder sets forth in its Bid will be based on the presumption that the Contractor will furnish the materials and equipment specified or described in the Bidding Documents, as supplemented by Addenda. Any assumptions regarding the possibility of post-Bid approvals of "or-equal" or substitution requests are made at Bidder's sole risk.

ARTICLE 11—SUBCONTRACTORS, SUPPLIERS, AND OTHERS

- 11.01 The apparent Successful Bidder, and any other Bidder so requested, must submit to Owner a list of the Subcontractors or Suppliers proposed for the following portions of the Work within five days after Bid opening: N/A
- 11.02 If requested by Owner, such list must be accompanied by an experience statement with pertinent information regarding similar projects and other evidence of qualification for each such Subcontractor or Supplier. If Owner or Engineer, after due investigation, has reasonable objection to any proposed Subcontractor or Supplier, Owner may, before the Notice of Award is given, request apparent Successful Bidder to submit an acceptable substitute, in which case apparent Successful Bidder will submit a substitute, Bidder's Bid price will be increased (or decreased) by the difference in cost occasioned by such substitution, and Owner may consider such price adjustment in evaluating Bids and making the Contract award.
- 11.03 If apparent Successful Bidder declines to make any such substitution, Owner may award the Contract to the next lowest Bidder that proposes to use acceptable Subcontractors and Suppliers. Declining to make requested substitutions will constitute grounds for forfeiture of the Bid security of any Bidder. Any Subcontractor or Supplier, so listed and against which Owner or Engineer makes no written objection prior to the giving of the Notice of Award will be deemed acceptable to Owner and Engineer subject to subsequent revocation of such acceptance as provided in Paragraph 7.07 of the General Conditions.

ARTICLE 12—PREPARATION OF BID

- 12.01 The Bid Form is included with the Bidding Documents.
 - A. All blanks on the Bid Form must be completed and the Bid Form signed. Erasures or alterations must be initialed in ink by the person signing the Bid Form. A Bid price must be indicated for each section, Bid item, alternate, adjustment unit price item, and unit price item listed therein.
 - B. If the Bid Form expressly indicates that submitting pricing on a specific alternate item is optional, and Bidder elects to not furnish pricing for such optional alternate item, then Bidder may enter the words "No Bid" or "Not Applicable."
- 12.02 A Bid by a corporation must be executed in the corporate name by a corporate officer (whose title must appear under the signature), accompanied by evidence of authority to sign. The corporate address and state of incorporation must be shown.
- 12.03 A Bid by a partnership must 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 must be shown.
- 12.04 A Bid by a limited liability company must be executed in the name of the firm by a member or other authorized person and accompanied by evidence of authority to sign. The state of formation of the firm and the official address of the firm must be shown.
- 12.05 A Bid by an individual must show the Bidder's name and official address.
- 12.06 A Bid by a joint venture must be executed by an authorized representative of each joint venturer in the manner indicated on the Bid Form. The joint venture must have been formally established prior to submittal of a Bid, and the official address of the joint venture must be shown.

- 12.07 All names must be printed below the signatures.
- 12.08 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.09 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.10 The Bid must contain evidence of Bidder's authority to do business in the state where the Project is located, or Bidder must certify in writing that it will obtain such authority within the time for acceptance of Bids and attach such certification to the Bid.
- 12.11 If Bidder is required to be licensed to submit a Bid or perform the Work in the state where the Project is located, the Bid must contain evidence of Bidder's licensure, or Bidder must certify in writing that it will obtain such licensure within the time for acceptance of Bids and attach such certification to the Bid. Bidder's state contractor license number, if any, must also be shown on the Bid Form.

ARTICLE 13—BASIS OF BID

13.01 Unit Price

- A. Bidders must submit a Bid on a unit price basis for each item of Work listed in the unit price section of the Bid Form.
- B. The "Bid Price" (sometimes referred to as the extended price) for each unit price Bid item will be the product of the "Estimated Quantity", which Owner or its representative has set forth in the Bid Form, for the item and the corresponding "Bid Unit Price" offered by the Bidder. The total of all unit price Bid items will be the sum of these "Bid Prices"; such total will be used by Owner for Bid comparison purposes. 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 column of figures and the correct sum thereof will be resolved in favor of the correct sum.

13.02 Allowances

A. For cash allowances the Bid price must include such amounts as the Bidder deems proper for Contractor's overhead, costs, profit, and other expenses on account of cash allowances, if any, named in the Contract Documents, in accordance with Paragraph 13.02.B of the General Conditions.

ARTICLE 14—SUBMITTAL OF BID

14.01 The Bidding Documents include one separate unbound copy of the Bid Form, and, if required, the Bid Bond Form. The unbound copy of the Bid Form is to be completed and submitted with the Bid security and the other documents required to be submitted under the terms of Article 2 of the Bid Form.

- 14.02 A Bid must be received no later than the date and time prescribed and at the place indicated in the Advertisement or invitation to bid, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents.
- 14.03 Bids received after the date and time prescribed for the opening of bids, or not submitted at the correct location or in the designated manner, will not be accepted.

ARTICLE 15—MODIFICATION AND WITHDRAWAL OF BID

- 15.01 An unopened Bid may be withdrawn by an appropriate document fully executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 15.02 If a Bidder wishes to modify its Bid prior to Bid opening, Bidder must withdraw its initial Bid in the manner specified in Paragraph 15.01 and submit a new Bid prior to the date and time for the opening of Bids.
- 15.03 If within 24 hours after Bids are opened any Bidder files a duly signed written notice with Owner and promptly thereafter demonstrates to the reasonable satisfaction of Owner that there was a material and substantial mistake in the preparation of its Bid, the Bidder may withdraw its Bid, and the Bid security will be returned.

ARTICLE 16—OPENING OF BIDS

16.01 Bids will be opened at the time and place indicated in the advertisement or invitation to bid and, unless obviously non-responsive, read aloud publicly. An abstract of the amounts of the base Bids and major alternates, if any, will be made available to Bidders after the opening of Bids.

ARTICLE 17—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

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

ARTICLE 18—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 18.01 Owner reserves the right to reject any or all Bids, including without limitation, nonconforming, nonresponsive, unbalanced, or conditional Bids. Owner also reserves the right to waive all minor Bid informalities not involving price, time, or changes in the Work.
- 18.02 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible.
- 18.03 If Bidder purports to add terms or conditions to its Bid, takes exception to any provision of the Bidding Documents, or attempts to alter the contents of the Contract Documents for purposes of the Bid, whether in the Bid itself or in a separate communication to Owner or Engineer, then Owner will reject the Bid as nonresponsive.

- 18.04 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid.
- 18.05 *Evaluation of Bids*
 - A. In evaluating Bids, Owner will consider whether 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.
 - B. For the determination of the apparent low Bidder when unit price bids are submitted, Bids will be compared on the basis of the total of the products of the estimated quantity of each item and unit price Bid for that item, together with any lump sum items.
- 18.06 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors and Suppliers proposed for those portions of the Work for which the identity of Subcontractors and Suppliers must be submitted as provided in the Bidding Documents.
- 18.07 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders and any proposed Subcontractors or Suppliers.

ARTICLE 19—BONDS AND INSURANCE

- 19.01 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, other required bonds (if any), and insurance. When the Successful Bidder delivers the executed Agreement to Owner, it must be accompanied by required bonds and insurance documentation.
- 19.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 20—SIGNING OF AGREEMENT

20.01 When Owner issues a Notice of Award to the Successful Bidder, it will be accompanied by the unexecuted counterparts of the Agreement along with the other Contract Documents as identified in the Agreement. Within 15 days thereafter, Successful Bidder must execute and deliver the required number of counterparts of the Agreement and any bonds and insurance documentation required to be delivered by the Contract Documents to Owner. Within 10 days thereafter, Owner will deliver one fully executed counterpart of the Agreement to Successful Bidder, together with printed and electronic copies of the Contract Documents as stated in Paragraph 2.02 of the General Conditions.

BID FORM FOR CONSTRUCTION CONTRACT

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

ARTICLE 1—OWNER AND BIDDER

- 1.01 This Bid is submitted to: Bloomfield Irrigation District
 - A. Bids delivered in person or mailed via Fed Ex/UPS should go to 1205 E. Broadway Avenue, Bloomfield, NM 87413
 - B. Bids mailed via USPS must be addressed to P.O. Box 606, Bloomfield, NM 87413.
 - C. All bids must be received by Bloomfield Irrigation District no later than 3:00 p.m. on Monday, April 14, 2025.
- 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 this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2—ATTACHMENTS TO THIS BID

- 2.01 The following documents are submitted with and made a condition of this Bid:
 - A. Required Bid security;
 - B. List of Proposed Subcontractors;
 - C. List of Proposed Suppliers;
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such authority within the time for acceptance of Bids;
 - E. Contractor's license number as evidence of Bidder's State Contractor's License or a covenant by Bidder to obtain said license within the time for acceptance of Bids;
 - F. Required Bidder Qualification Statement with supporting data;
 - G. Veterans Preference Certification;
 - H. Non-Collusion Affidavit;
 - I. Campaign Contribution Disclosure Form; and
 - J. Certification Regarding Debarment Suspension.

ARTICLE 3—BASIS OF BID—UNIT PRICES

3.01 Unit Price Bids

A. Bidder will perform the following Work at the indicated unit prices:

Item No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Amount
1	CONSTRUCTION MOBILIZATION, COMPL.		1		Ś
2	CONSTRUCTION STAKING, COMPL.		1		\$
3	CONSTRUCTION TRAFFIC CONTROL & BARRICADING, COMPL.	LS	1		\$
4	CARE AND DIVERSION OF WATER, COMPL. (REFER TO SUPPLEMENTAL TECHNICAL SPECIFICATION)	LS	1		\$
5	DEWATERING, COMPL. (REFER TO SUPPLEMENTAL TECHNICAL SPECIFICATION)	LS	1		\$
6	SWPPP PREPARATION & MAINTENANCE, COMPL.	LS	1		\$
7	SITE CLEARING AND GRUBBING, COMPL.	AC	0.3		\$
8	EARTHWORK, INCL. ALL EXCAVATION, BORROW, FILL, AND HAUL PER APWA SECTION 200	LS	1		\$
9	12" SUBGRADE PREP PER APWA SECTION 301	SY	950		\$
10	6" AGGREGATE BASE COURSE PER APWA SECTION 302	SY	300		\$
11	4" CONCRETE SLOPE PAVEMENT (TIE SLOPES/ARROYO BOTTOM AT SPILL GATE) PER NMDOT SECTION 511		430		\$
12	MAJOR STRUCTURE EXCAVATION PER NMDOT SECTION 210	CY	300		\$
13	MAJOR STRUCTURAL BACKFILL PER NMDOT SECTION 210		240		\$
14	STRUCTURAL CONCRETE, CLASS A PER NMDOT SECTION 511	СҮ	145		\$
15	1"X4" ELASTOMERIC GASKETS	LF	23		\$
16	INSTALL STEEL TRUSS FLUME REPLACEMENT STRUCTURE (STRUCTURE IS OWNER-PROVIDED)	LS	1		\$
17	STEEL RAILING	LF	60		\$
18	SLOPE STABILIZATION (GRAVEL MULCH, 3" THICK) PER NMDOT SECTION 632		420		\$
19	TURF REINFORCEMENT MAT (EROSION/SCOUR PROTECTION ON DITCH SLOPES) PER SUPPLEMENTAL TECHNICAL SPECS (STS) SECTION 632		600		\$
20	SPILLGATE, COMPLETE IN PLACE	LS	1		\$
21	SEEDING PER NMDOT SECTION 632	LS	1		\$
22	DRY UTILITY LOCATION ALLOWANCE	AL	1	5,000.00	\$ 5,000.00
Total of All Unit Price Bid Items (1-22)					
	GRT 6.5000%	\$			
	То	tal of B	id Items 1-22	Plus NMGRT	\$

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- B. Bidder acknowledges that:
 - 1. Each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and
 - 2. Estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all Unit Price Work will be based on actual quantities, determined as provided in the Contract Documents.

ARTICLE 4—TIME OF COMPLETION

- 4.01 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 4.02 Bidder agrees that the Work will be substantially complete within <u>90 Calendar Days from date of</u> <u>the Notice to Proceed</u> and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within <u>120 Calendar Days from date of the Notice to</u> <u>Proceed.</u>
- 4.03 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 5—BIDDER'S ACKNOWLEDGEMENTS: ACCEPTANCE PERIOD, INSTRUCTIONS, AND RECEIPT OF ADDENDA

- 5.01 Bid Acceptance Period
 - A. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.
- 5.02 *Instructions to Bidders*
 - A. Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security.
- 5.03 Receipt of Addenda
 - A. Bidder hereby acknowledges receipt of the following Addenda:

Addendum Number	Addendum Date

ARTICLE 6—BIDDER'S REPRESENTATIONS AND CERTIFICATIONS

- 6.01 *Bidder's Representations*
 - A. In submitting this Bid, Bidder represents the following:
 - 1. Bidder has examined and carefully studied the Bidding Documents, including Addenda.
 - 2. Bidder has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar with the general, local, and Site conditions that may affect cost, progress, and performance of the Work.

- 3. Bidder is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work.
- 4. Bidder 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. Bidder 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. Bidder has considered the information known to Bidder itself; 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 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 Bidder, if selected as Contractor; and (c) Bidder's (Contractor's) safety precautions and programs.
- 7. Based on the information and observations referred to in the preceding paragraph, Bidder 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. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- 9. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and of discrepancies between Site conditions and the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- 10. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- 11. The submission of this Bid constitutes an incontrovertible representation by Bidder that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.

6.02 *Bidder's Certifications*

- A. The Bidder certifies the following:
 - 1. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation.
 - 2. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid.
 - 3. Bidder has not solicited or induced any individual or entity to refrain from bidding.
 - 4. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 6.02.A:
 - a. 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.
 - b. 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.
 - c. 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.
 - d. 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.

BIDDER hereby submits this Bid as set forth above:

Bidder:

(typed or pr	inted name of organization)
Ву:	
Name	(individual's signature)
Name.	(typed or printed)
Title:	
Deter	(typed or printed)
Date:	(typed or printed)
If Bidder is a corporation, a partnership, or a joint	venture, attach evidence of authority to sign.
Attest.	
	(individual's signature)
Name:	
	(typed or printed)
litle:	(typed or printed)
Date:	
	(typed or printed)
Address for giving notices:	
Bidder's Contact:	
Name:	
	(typed or printed)
Title:	(typed or printed)
Phone:	
Email:	
Address:	
Piddor's Contractor Lisonso No : /if applicable	
NM Workforce Solutions Projectation	=/
NMA Viotorano Broforanoo (if applicable)	

BID BOND (PENAL SUM FORM)

Bidder		Surety		
Name:		Name:		
Address (principa	I place of business):	Address (princip	al place of business):	
Owner		Bid		
Name: Bloom	field Irrigation District	Project (name a	nd location):	
Address (principa	Il place of business):	Blanco Flume F	Replacement, Bloomfield, NM	
1205 E. Broadw	ay Avenue			
Bloomfield, NM	87413			
		Bid Due Date:		
Bond	-			
Penal Sum:				
Penal Sum: Date of Bond:				
Penal Sum: Date of Bond: Surety and Bidd	er, intending to be legally bo	ound hereby, subject to	the terms set forth in this Bid Bond	
Penal Sum: Date of Bond: Surety and Bidd do each cause t	er, intending to be legally bo his Bid Bond to be duly exect	ound hereby, subject to uted by an authorized c	the terms set forth in this Bid Bond officer, agent, or representative.	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder	er, intending to be legally bo his Bid Bond to be duly exect	ound hereby, subject to uted by an authorized c Surety	the terms set forth in this Bid Bond officer, agent, or representative.	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder	ler, intending to be legally bo his Bid Bond to be duly exect	ound hereby, subject to uted by an authorized o Surety	the terms set forth in this Bid Bond officer, agent, or representative.	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder <i>(Full</i> By:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder)	ound hereby, subject to uted by an authorized o Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder <i>(Full</i> By:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature)	ound hereby, subject to uted by an authorized c Surety (Full fo By:	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature)	ound hereby, subject to uted by an authorized o Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed)	ound hereby, subject to uted by an authorized o Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name: Title:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed)	ound hereby, subject to uted by an authorized o Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name: Title: Attest:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed)	ound hereby, subject to uted by an authorized of Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name: Title: Attest:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed) (Signature)	ound hereby, subject to uted by an authorized of Surety (Full fo By: Name: Title: Attest:	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed) (Signature)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name: Attest: Name:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed) (Signature)	ound hereby, subject to uted by an authorized of Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed) (Signature)	
Penal Sum: Date of Bond: Surety and Bidd do each cause t Bidder (Full By: Name: Title: Attest: Name:	ler, intending to be legally bo his Bid Bond to be duly exect formal name of Bidder) (Signature) (Printed or typed) (Signature) (Printed or typed)	ound hereby, subject to uted by an authorized of Surety 	the terms set forth in this Bid Bond officer, agent, or representative. rmal name of Surety) (corporate seal) (Signature) (Attach Power of Attorney) (Printed or typed) (Signature) (Printed or typed)	

- 1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond 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 does not in the aggregate exceed 120 days from the 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 will 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.

BID BOND (DAMAGES FORM)

Bidder	Surety		
Name:	Name:		
Address (principal place of business):	Address (principal place of business):		
Owner	Bid		
Name: Bloomfield Irrigation District	Project (name and location):		
Address (principal place of business):	Blanco Flume Replacement, Bloomfield, NM		
1205 E. Broadway Avenue			
Bloomfield, NM 87413			
	Did Due Date:		
	Bid Due Date:		
Bond			
Bond Amount:			
Date of Bond:			
Surety and Bidder, intending to be legally bound he do each cause this Bid Bond to be duly executed by	ereby, subject to the terms set forth in this Bid Bond, an authorized officer, agent, or representative.		
Bidder	Surety		
(Full formal name of Bidder)	(Full formal name of Surety) (corporate seal)		
Ву:	Ву:		
(Signature)	(Signature) (Attach Power of Attorney)		
Name:(Printed or typed)	Name:(Printed or typed)		
Title:	Title:		
Attest:	Attest:		
(Signature)	(Signature)		
Name:	Name:		
(Printed or typed)	(Printed or typed)		
Title:	Title:		
Notes: (1) Note: Addresses are to be used for giving any requir as joint venturers if necessary	ed notice. (2) Provide execution by any additional parties, such		
as joint venturers, ij necessary.			

- 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.

SUBCONTRACTORS LISTING AND WSD (DOL) REGISTRATION

Project: BLANCO FLUME REPLACEMENT

1.0 SUBCONTRACTORS LISTING FOR COMPLIANCE WITH THE SUBCONTRACTORS FAIR PRACTICES ACT AND WSD (DOL) REGISTRATION

1.1 To be fully executed and included with Bid as a condition of the Bid pursuant to \$13-4-31 to 13-4-42 NMSA 1978, known as the Subcontractors Fair Practices Act.

1.2 Pursuant to \$13-4-34 NMSA 1978 all Subcontractors providing services valued at \$5,000 or more (listing threshold)for this project shall be listed below.

1.3 See \$13-4-36 NMSA 1978 for rules regarding changes in this list after bidding.

Project No. 2025-35544

1.4 Pursuant to §13-4-13.1 NMSA 1978 any contractor or subcontractor that submits a bid valued at more than \$60,000 for a public works project subject to the Public Works Minimum Wage Act shall be registered with the Labor and Industrial Division of the Workforce Solutions Department (WSD) (formerly the Department of Labor (DOL). The Owner shall not accept a bid on a public works project from a Contractor that does not provide proof of required registration for itself. Contractors, prime contractors and subcontractors must be registered with the WSD.

Trade (list by trade)	Firm Name and Address	Workforce Solutions Dept. Registration No	Dollar Value
-			_
		WSD Registration No.	_
-			
		WSD Registration No.	
-			
		WSD Registration No.	_
-			
-			_

	WSD Registration No.	
	WSD Registration No.	
	WSD Registration No	
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	WSD Registration No.	
	WSD Registration No	
	WSD Registration No.	
	NOD D N	
	WSD Registration No.	
	WSD Registration No.	
[Use Additional Pages If		
Necessary]		

ARTICLE 1—GENERAL INFORMATION

1.01 Provide contact information for the Business:

Legal Na	ame of Business:					
Corpora	Corporate Office					
Name:				Phone number:		
Title:				Email address:		
Busines	s address of corpo	rate office:				
Local Of	Local Office					
Name:				Phone number:		
Title:				Email address:		
Business address of local office:						

1.02 Provide information on the Business's organizational structure:

Fo	Form of Business: 🛛 Sole Proprietorship 🖓 Partnership 🖓 Corporation					
	□ Limited Liability Company □ Joint Venture comprised of the following companies:					
	1.					
	2.					
	3.					
Pr	Provide a separate Qualification Statement for each Joint Venturer.					
D	Date Business was formed: State in which Business was formed:					
ls	Is this Business authorized to operate in the Project location?					

1.03 Identify all businesses that own Business in whole or in part (25% or greater), or that are wholly or partly (25% or greater) owned by Business:

Name of business:	Affiliation:	
Address:		
Name of business:	Affiliation:	
Address:		
Name of business:	Affiliation:	
Address:		

EJCDC C-451, Qualifications Statement.

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1.04 Provide information regarding the Business's officers, partners, and limits of authority.

Name:		Title:		
Authorized to sign contracts: Yes No		Limit of Authority:		\$
Name:		Title:		
Authorized to sign contracts: Yes No		Limit of Authority:		\$
Name:		Title:		
Authorized to sign contracts: Yes No		Limit o	of Authority:	\$
Name:		Title:		

ARTICLE 2—LICENSING

2.01 Provide information regarding licensure for Business:

Name of License:	
Licensing Agency:	
License No:	Expiration Date:
Name of License:	
Licensing Agency:	
License No:	Expiration Date:

ARTICLE 3—DIVERSE BUSINESS CERTIFICATIONS

3.01 Provide information regarding Business's Diverse Business Certification, if any. Provide evidence of current certification.

Certification	Certifying Agency	Certification Date				
Disadvantaged Business Enterprise						
Minority Business Enterprise						
Woman-Owned Business Enterprise						
Small Business Enterprise						
Disabled Business Enterprise						
Veteran-Owned Business Enterprise						
Service-Disabled Veteran-Owned Business						
HUBZone Business (Historically Underutilized) Business						
□ Other						
□ None						

ARTICLE 4—SAFETY

4.01 Provide information regarding Business's safety organization and safety performance.

Name of Business's Safety Officer:							
Safety Certifications							
Certification Name	Issuing Agency	Expiration					

4.02 Provide Worker's Compensation Insurance Experience Modification Rate (EMR), Total Recordable Frequency Rate (TRFR) for incidents, and Total Number of Recorded Manhours (MH) for the last 3 years and the EMR, TRFR, and MH history for the last 3 years of any proposed Subcontractor(s) that will provide Work valued at 10% or more of the Contract Price. Provide documentation of the EMR history for Business and Subcontractor(s).

Year									
Company	EMR	TRFR	MH	EMR	TRFR	MH	EMR	TRFR	MH

ARTICLE 5—FINANCIAL

5.01 Provide information regarding the Business's financial stability. Provide the most recent audited financial statement, and if such audited financial statement is not current, also provide the most current financial statement.

Financial Institution:						
Business address:						
Date of Business's mo	Date of Business's most recent financial statement:					
Date of Business's mo	Date of Business's most recent audited financial statement:					
Financial indicators from the most recent financial statement						
Contractor's Current Ratio (Current Assets ÷ Current Liabilities)						
Contractor's Quick Ratio ((Cash and Cash Equivalents + Accounts Receivable + Short Term Investments) ÷ Current Liabilities)						

ARTICLE 6—SURETY INFORMATION

6.01 Provide information regarding the surety company that will issue required bonds on behalf of the Business, including but not limited to performance and payment bonds.

Surety Name:	Surety Name:								
Surety is a corpo	Surety is a corporation organized and existing under the laws of the state of:								
Is surety authoriz	zed to provide	e surety bonds in t	he Project location?	🗆 Yes 🗆	□ No				
Is surety listed in Federal Bonds ar (as amended) by □ Yes □ No	Is surety listed in "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" published in Department Circular 570 (as amended) by the Bureau of the Fiscal Service, U.S. Department of the Treasury? □ Yes □ No								
Mailing Address (principal place c	of business):								
Physical Address (principal place of business):									
Phone (main):	Phone (main): Phone (claims):								

ARTICLE 7—INSURANCE

7.01 Provide information regarding Business's insurance company(s), including but not limited to its Commercial General Liability carrier. Provide information for each provider.

Name of insurance provider, and type of policy (CLE, auto, etc.):						
Insurance Provider			Type of Policy (Coverage Provided)			
Are providers licen	nsed or author	orized to issue po	licies in the Projec	t location?	🗆 Yes 🗆 No	
Does provider have	ve an A.M. Be	est Rating of A-VII	or better?	🗆 Yes 🗆 No		
Mailing Address						
(principal place of	business):					
	-					
Physical Address						
(principal place of business):						
	-					
Phone (main):			Phone (claims):			

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ARTICLE 8—CONSTRUCTION EXPERIENCE

8.01 Provide information that will identify the overall size and capacity of the Business.

Average number of current full-time employees:	
Estimate of revenue for the current year:	
Estimate of revenue for the previous year:	

8.02 Provide information regarding the Business's previous contracting experience.

 Years of experience with projects like the proposed project:

 As a general contractor:
 As a joint venturer:

 Has Business, or a predecessor in interest, or an affiliate identified in Paragraph 1.03:

 Been disqualified as a bidder by any local, state, or federal agency within the last 5 years?

 Yes
 No

 Been released from contracting by any local, state, or federal agency within the last 5 years?

 Yes
 No

 Been released from a bid in the past 5 years?
 Yes

 Defaulted on a project or failed to complete any contract awarded to it?
 Yes

 Refused to construct or refused to provide materials defined in the contract documents or in a change order?
 Yes

 Been a party to any currently pending litigation or arbitration?
 Yes
 No

Provide full details in a separate attachment if the response to any of these questions is Yes.

- 8.03 List all projects currently under contract in Schedule A and provide indicated information.
- 8.04 List a minimum of three and a maximum of six projects completed in the last 5 years in Schedule B and provide indicated information to demonstrate the Business's experience with projects similar in type and cost of construction.
- 8.05 In Schedule C, provide information on key individuals whom Business intends to assign to the Project. Provide resumes for those individuals included in Schedule C. Key individuals include the Project Manager, Project Superintendent, Quality Manager, and Safety Manager. Resumes may be provided for Business's key leaders as well.

ARTICLE 9—REQUIRED ATTACHMENTS

- 9.01 Provide the following information with the Statement of Qualifications:
 - A. If Business is a Joint Venture, separate Qualifications Statements for each Joint Venturer, as required in Paragraph 1.02.
 - B. Diverse Business Certifications if required by Paragraph 3.01.
 - C. Certification of Business's safety performance if required by Paragraph 4.02.
 - D. Financial statements as required by Paragraph 5.01.

- E. Attachments providing additional information as required by Paragraph 8.02.
- F. Schedule A (Current Projects) as required by Paragraph 8.03.
- G. Schedule B (Previous Experience with Similar Projects) as required by Paragraph 8.04.
- H. Schedule C (Key Individuals) and resumes for the key individuals listed, as required by Paragraph 8.05.
- I. Additional items as pertinent.

This Statement of Qualifications is offered by: **Business:** (typed or printed name of organization) By: (individual's signature) Name: (typed or printed) Title: (typed or printed) Date: (date signed) (If Business is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.) Attest: (individual's signature) Name: (typed or printed) Title: (typed or printed) Address for giving notices: **Designated Representative:** Name: (typed or printed) Title: (typed or printed) Address: Phone: Email:

Schedule A—Current Projects

Name of Organization							
Project Owner				Project Nam	e		
General Description of P	roject						
Project Cost			Date Project				
Key Project Personnel	Project Manager		Project Superir	ntendent		Safety Manager	Quality Control Manager
Name							
Reference Contact Inform	nation (listing names indication	ates appro	oval to contacting	the names inc	lividuals a	as a reference)	
	Name	Tit	tle/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							
Project Owner				Project Nam	e		
General Description of P	roject						
Project Cost				Date Project			
Key Project Personnel	Project Manager		Project Superir	itendent		Safety Manager	Quality Control Manager
Name							
Reference Contact Inform	nation (listing names indication	ates appro	oval to contacting	the names inc	lividuals a	as a reference)	
	Name	Tit	tle/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							
Project Owner				Project Nam	<u>م</u>		
General Description of P	roject			Troject Nam	C		
Project Cost				Date Project			
Key Project Personnel	Project Manager		Project Superir	rintendent Sa		Safety Manager	Quality Control Manager
Name			· ·				· · · · · · · · · · · · · · · · · · ·
Reference Contact Inform	nation (listing names indication	ates appro	oval to contacting	the names inc	lividuals a	as a reference)	
	Name	Tit	tle/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							

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Schedule B—Previous Experience with Similar Projects

Name of Organization						
Project Owner			Project Nam	e		
General Description of P	roject					
Project Cost			Date Project			
Key Project Personnel	Project Manager	Project Super	rintendent	Sa	fety Manager	Quality Control Manager
Name						
Reference Contact Inform	mation (listing names indica	tes approval to contactin	g the names ind	lividuals as	a reference)	
	Name	Title/Position	Organ	zation	Telephone	Email
Owner						
Designer						
Construction Manager						
Project Owner			Project Nam	e		
General Description of P	roject		·			
Project Cost			Date Project			
Key Project Personnel	Project Manager	Project Super	rintendent	Sa	fety Manager	Quality Control Manager
Name						
Reference Contact Inforr	mation (listing names indica	tes approval to contactin	g the names ind	lividuals as	a reference)	
	Name	Title/Position	Organ	zation	Telephone	Email
Owner						
Designer						
Construction Manager						
Project Owner			Project Nam	0		
General Description of P	roject		FIOJECT Nam	e		
Project Cost			Date Project			
Key Project Personnel	Project Manager	Project Super	rintendent	Sa	fety Manager	Quality Control Manager
Name	rioject Manager		interfacint	50	iety Manager	
Reference Contact Inform	nation (listing names indica	tes approval to contactin	g the names inc	lividuals as	a reference)	
	Name	Title/Position	Organ	zation	Telephone	Email
Owner	itanic		0.801			
Designer						
Construction Manager						

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Schedule B—Previous Experience with Similar Projects

Name of Organization							
Project Owner				Project Nam	e		
General Description of P	roject					-	
Project Cost				Date Project			
Key Project Personnel	Project Manager		Project Superir	ntendent	S	afety Manager	Quality Control Manager
Name							
Reference Contact Inform	mation (listing names indica	ites app	proval to contacting	the names inc	lividuals as	s a reference)	
	Name		Title/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							
Project Owner				Project Nam	e		
General Description of P	roject				-		
Project Cost				Date Project			
Key Project Personnel	Project Manager		Project Superir	ntendent	S	afety Manager	Quality Control Manager
Name							
Reference Contact Inform	mation (listing names indica	ites app	proval to contacting	the names inc	lividuals as	s a reference)	
	Name		Title/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							
Project Owner				Project Nam	<u>م</u>		
General Description of P	roiect			Troject Nam	C		
Project Cost				Date Project			
Key Project Personnel	Project Manager		Project Superir	ntendent	S	afety Manager	Quality Control Manager
Name							
Reference Contact Inform	nation (listing names indica	ites app	proval to contacting	the names inc	lividuals as	s a reference)	
	Name		Title/Position	Organ	ization	Telephone	Email
Owner							
Designer							
Construction Manager							

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Schedule C—Key Individuals

Name of individual Image of experience with this organization Years of experience with this organization Image of similar projects as project manager Number of similar projects in other positions Image of this project as project manager Current Project Assignment Percent of time used for this project Estimated project completion date Mame of assignment Percent of time used for this project Estimated project completion date Reference Contact Information (listing names indicates approval to contact named individuals as a reference) Reference Name Name Image of the project in the project is project superintendent in the project is project superintendent in the project in	Project Manager					
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Organization Organization Telephone Telephone Email Email Project Project	Organization			Organization		
Telephone Telephone Email Email Project Project	Talanhana			Urganization		
Project Project	Email			Email		
Project	Droject			EIIIdii		
Candidato's	Candidate's			Candidata's		
calluluate s Calluluate s Calluluate s Calluluate s Calluluate s	role on project			role on project		

Safety Manager		
Name of individual		
Years of experience as project manager		
Years of experience with this organization		
Number of similar projects as project manager		
Number of similar projects in other positions		
Current Project Assignments	·	
Name of assignment	Percent of time used for	Estimated project
	this project	completion date
Reference Contact Information (listing names indicates ap	 proval to contact named indi	viduals as a reference)
Name	Name	
Title/Position	Title/Position	
Organization	Organization	
Telephone	Telephone	
Email	Email	
Project	Project	
Candidate's role on	Candidate's role on	
project	project	
Quality Control Manager		
Name of individual		
Years of experience as project superintendent		
Years of experience with this organization		
Number of similar projects as project superintendent		
Number of similar projects in other positions		
Current Project Assignments	1	
Name of assignment	Percent of time used for	Estimated project
	this project	completion date
Reference Contact Information (listing names indicates ap	proval to contact named indi	viduals as a reference)
Name	Name	
	Organization	
	reiepnone	
Email Decident	Email	
Project	Project	
Candidate's	Candidate's	
role on project	role on project	

Veterans Preference Certification

_____ (Name of Business) hereby certifies the following in regard to application of the resident veteran preference to this formal request for proposals process:

Please check one box only:

I declare under penalty of perjury that my business prior year revenue starting January 1 ending December 31 is less than \$3M allowing me the 10% preference discount on this bid or proposal. I understand that knowingly giving false or misleading information about this fact constitutes a crime.

"I agree to submit a report, or reports, to the State Purchasing Division of the General Services Department declaring under penalty of perjury that during the last calendar year starting January 1 ending December 31, the following to be true and accurate:

"In conjunction with this procurement and the requirements of this business' application for a Resident Veteran Business Preference/Resident Veteran Contractor Preference under Sections 13-1-21 or 13-1-22 NMSA 1978, when awarded a contract which was on the basis of having such veterans preference, I agree to report to the State Purchasing Division of the General Services Department the awarded amount involved. I will indicate in the report the award amount as a purchase from a public body or as a public works contract from a public body as the case may be."

"I declare under penalty of perjury that this statement is true to the best of my knowledge. I understand that giving false or misleading statements about material fact regarding this matter constitutes a crime."

(signature of Business Representative)*

(Date)

*Must be an authorized signatory for the Business.

The representation made in checking the boxes constitutes a material representation by the business that is subject to protest and may result in denial of an award or unaward of the procurement involved if the statements are proven incorrect.

CERTIFICATION REGARDING DEBARMENT, SUSPENSION, AND OTHER RESPONSIBILITY MATTERS

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

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

I understand that a false statement on this certification may be ground for rejection of this proposal or termination of the award. Under 18USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative

Date

NON-COLLUSION AFFIDAVIT

TO BE EXECUTED BY EACH AWARDEE OF A PRINCIPAL CONTRACT

))ss)_____, being first duly sworn, deposes and says that he is

(sole owner, a partner, president, secretary, etc.)

of _

the party making the foregoing bid; that such a bid is not made in the interest of or on behalf of any undisclosed person, partnership, company association, organization, or corporation; that such a bid is genuine and not collusive or sham; that said bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirect colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, nor that anyone shall refrain from bidding; that said bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of said bidder or of any other bidder, nor to fix any overhead, profit, or cost element of such bid price, nor of that of any other bidder, nor to secure any advantage against the public body awarding the contract or anyone interested in the proposed contract; that all statements contained in such bid are true; and, further, that said bidder has not directly or indirectly, submitted his bid price or any breakdown thereof, nor the contents thereof, nor divulged information or data relative thereto, nor paid and will not pay fee in connection therewith to any corporation, partnership, company, association, organization, bid depository, nor any member or agent thereof, nor any to any other individual except to such person or persons as have a partnership or other financial interest with said bidder in his general business.

Signed:

	Ву		
	Title		
Subscribed and sworn before me this	;	day of	, 20
Seal of Notary			

NOTARY PUBLIC

CAMPAIGN CONTRIBUTION DISCLOSURE FORM

Pursuant to the Procurement Code, Sections 13-1-28, et seq., NMSA 1978 and NMSA 1978, § 13-1-191.1 (2006), as amended by Laws of 2007, Chapter 234, any prospective Proposer seeking to enter into a contract with any state agency or local public body for professional services, a design and build project delivery system, or the design and installation of measures the primary purpose of which is to conserve natural resources must file this form with that state agency or local public body. This form must be filed even if the contract qualifies as a small purchase or a sole source contract. The prospective Proposer must disclose whether they, a family member or a representative of the prospective Proposer has made a campaign contribution to an applicable public official of the state or a local public body during the two years prior to the date on which the Proposer submits a proposal or, in the case of a sole source or small purchase contract, the two years prior to the date the Proposer signs the contract, if the aggregate total of contributions given by the prospective Proposer, a family member or a representative of the prospective of the prospective Proposer, a family member or a representative of the prospective Proposer to the public official exceeds two hundred and fifty dollars (\$250) over the two year period.

Furthermore, the state agency or local public body may cancel a solicitation or proposed award for a proposed contract pursuant to Section 13-1-181 NMSA 1978 or a contract that is executed may be ratified or terminated pursuant to Section 13-1-182 NMSA 1978 of the Procurement Code if: 1) a prospective Proposer, a family member of the prospective Proposer, or a representative of the prospective Proposer gives a campaign contribution or other thing of value to an applicable public official or the applicable public official's employees during the pendency of the procurement process or 2) a prospective Proposer fails to submit a fully completed disclosure statement pursuant to the law.

The state agency or local public body that procures the services or items of tangible personal property shall indicate on the form the name or names of every applicable public official, if any, for which disclosure is required by a prospective Proposer.

THIS FORM MUST BE INCLUDED IN THE REQUEST FOR PROPOSALS AND MUST BE FILED BY ANY PROSPECTIVE PROPOSER WHETHER OR NOT THEY, THEIR FAMILY MEMBER, OR THEIR REPRESENTATIVE HAS MADE ANY CONTRIBUTIONS SUBJECT TO DISCLOSURE.

The following definitions apply:

"**Applicable public official**" means a person elected to an office or a person appointed to complete a term of an elected office, who has the authority to award or influence the award of the contract for which the prospective Proposer is submitting a competitive sealed proposal or who has the authority to negotiate a sole source or small purchase contract that may be awarded without submission of a sealed competitive proposal.

"**Campaign Contribution**" means a gift, subscription, loan, advance or deposit of money or other thing of value, including the estimated value of an in-kind contribution, that is made to or received by an applicable public official or any person authorized to raise, collect or expend contributions on that official's behalf for the purpose of electing the official to statewide or local office. "Campaign Contribution" includes the payment of a debt incurred in an election campaign, but does not include the value of services provided without compensation or unreimbursed travel or other personal expenses of individuals who volunteer a portion or all of their time on behalf of a candidate or political committee, nor does it include the administrative or solicitation expenses of a political committee that are paid by an organization that sponsors the committee.

"**Family member**" means spouse, father, mother, child, father-in-law, mother-in-law, daughter-in-law or son-in-law of (a) a prospective Proposer, if the prospective Proposer is a natural person; or (b) an owner of a prospective Proposer.

"**Pendency of the procurement process**" means the time period commencing with the public notice of the request for proposals and ending with the award of the contract or the cancellation of the request for proposals.

"**Prospective Proposer**" means a person or business that is subject to the competitive sealed proposal process set forth in the Procurement Code or is not required to submit a competitive sealed proposal because that person or business qualifies for a sole source or a small purchase contract.

"Representative of a prospective Proposer" means an officer or director of a corporation, a member or manager of a limited liability corporation, a partner of a partnership or a trustee of a trust of the prospective Proposer.

Name(s) of Applicable Public Official(s) if any: **Board of County Commissioners**

(Completed by State Agency or Local Public Body)

DISCLOSURE OF CONTRIBUTIONS BY PROSPECTIVE PROPOSER:

Relation to Prospective Proposer:	
Date Contribution(s) Made:	
Amount(s) of Contribution(s)	
Nature of Contribution(s)	
Purpose of Contribution(s)	
(Attach extra pages if necessary)	
Signature Date	
Title (position)	
OR—	

NO CONTRIBUTIONS IN THE AGGREGATE TOTAL OVER TWO HUNDRED FIFTY DOLLARS (\$250) WERE MADE to an applicable public official by me, a family member or representative.

Signature

Date

Title (Position)

NOTICE OF AWARD

Date of Issuance:

Owner:	Bloomfield Irrigation District	Owner's Project No.:	2025-335544
Engineer:	Bohannan Huston, Inc.	Engineer's Project No.:	20200462
Project:	Blanco Flume Replacement		
Contract Name:	Blanco Flume Replacement		
Bidder:			

Bidder's Address:

You are notified that Owner has accepted your Bid dated ______for the above Contract, and that you are the Successful Bidder and are awarded a Contract for:

Replacement of existing flume with a steel half-through truss structure carrying a steel half-pipe flume offset to the east of the existing flume. The Contract Price of the awarded Contract is

\$_____ Contract Price is subject to adjustment based on the provisions of the Contract, including but not limited to those governing changes, Unit Price Work, and Work performed on a cost-plus-fee basis, as applicable.

<u>1</u> unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

□ Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

- 1. Deliver to Owner <u>3</u> counterparts of the Agreement, signed by Bidder (as Contractor).
- 2. Deliver with the signed Agreement(s) the Contract security (such as required performance and payment bonds) and insurance documentation, as specified in the Instructions to Bidders and in the General Conditions, Articles 2 and 6.
- 3. Other conditions precedent (if any): None.

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within 10 days after you comply with the above conditions, Owner will return to you one fully signed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner:	Bloomfield Irrigation District
By (signature):	
Name (printed):	
Title:	
Copy: Engineer	

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT

This Agreement is by and between Bloomfield Irrigation District ("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: Replacement of existing flume with a prefabricated steel truss structure offset to the east of the existing flume, including but not limited to associated earthwork and concrete abutments. **Prefabricated steel truss structure to be provided by owner**.

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: Blanco Flume Replacement,

ARTICLE 3—ENGINEER

- 3.01 The Owner has retained Bohannan Huston, Inc. ("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.
- 3.02 The part of the Project that pertains to the Work has been designed by Bohannan Huston, Inc.

ARTICLE 4—CONTRACT TIMES

- 4.01 *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.
- 4.02 *Contract Times: Days*
 - A. The Work will be substantially complete within <u>90 calendar days</u> after the date of the Notice to Proceed 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 <u>120</u> <u>calendar days</u> after the date of the Notice to Proceed.
- 4.03 *Liquidated Damages*
 - A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial 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):

- Substantial Completion: Contractor shall pay Owner \$<u>1,500.00</u> 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.
- 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 <u>\$1,500.00</u> for each day that expires after such time until the Work is completed and ready for final payment.
- B. If Owner recovers liquidated damages for a delay in completion by Contractor, then such liquidated damages are Owner's sole and exclusive remedy for such delay, and Owner is precluded from recovering any other damages, whether actual, direct, excess, or consequential, for such delay, except for special damages (if any) specified in this Agreement.

ARTICLE 5—CONTRACT PRICE

- 5.01 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, at the prices stated in Contractor's Bid, attached hereto as an exhibit.

ARTICLE 6—PAYMENT PROCEDURES

- 6.01 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.
- 6.02 Progress Payments; Retainage
 - A. Owner shall make progress payments on the basis of Contractor's Applications for Payment on or about the **25**th 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.
 - 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.

6.03 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.
- 6.04 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.
- 6.05 Interest
 - A. All amounts not paid when due will bear interest at the rate of **0** percent per annum.

ARTICLE 7—CONTRACT DOCUMENTS

- 7.01 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).
 - 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 (not attached but incorporated by reference) consisting of ______ sheets with each sheet bearing the following general title: Blanco Flume Replacement.
 - 7. Addenda (numbers _____ to _____, inclusive).
 - 8. Exhibits to this Agreement (enumerated as follows):
 - a. Geotechnical 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 8—REPRESENTATIONS, CERTIFICATIONS, AND STIPULATIONS

- 8.01 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, or become familiar with the general, local, and 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 general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.

- 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.
- 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.

8.02 *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:
 - "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;
 - "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.

8.03 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.

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

This Agreement will be effective on	(which is the Effective
Owner:	Contractor:
Disconfield Irrigation District	
BIOOMINEIG IMIGATION DISTRICT	(typed or printed name of organization)
By:	By:
(individual's signature)	(individual 5 signature)
Date:	Date:
(uute signed)	(uute signeu)
Name:	Name:
(typed of printed)	(typed of printed)
litle:	litle:
(typed of printed)	(lyped of printed) (If [Type of Entity] is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)
Attest:	Attest:
(individual's signature)	(individual's signature)
Title:	Title:
(typed or printed)	(typed or printed)
Address for giving notices:	Address for giving notices:
Designated Representative:	Designated Representative:
Name:	Name:
(typed or printed)	(typed or printed)
Title:	Title:
(typed or printed)	(typed or printed)
Address:	Address:
Phone:	Phone:
Email:	Email:
(If [Type of Entity] is a corporation, attach evidence of	License No.:
authority to sign. If [i ype of Entity] is a public body, attach evidence of authority to sign and resolution or	(where applicable)
other documents authorizing execution of this Agreement.)	State:

NOTICE TO PROCEED

Owner:	Bloomfield Irrigation District	Owner's Project No.:	2025-35544	
Engineer:	Bohannan Huston, Inc.	Engineer's Project No.:	20200462	
Contractor:		Contractor's Project No.:		
Project:	Blanco Flume Replacement			
Contract Name:	Blanco Flume Replacement			
Effective Date of Contract:				

Owner hereby notifies Contractor that the Contract Times under the above Contract will commence to run on ______ 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 <u>90 Calendar Days</u> from the date stated above for the commencement of the Contract Times; and the number of days to achieve readiness for final payment is <u>120 Calendar Days</u> from the date of the Notice to Proceed.

Before starting any Work at the Site, Contractor must comply with the following:

[Note any access limitations, security procedures, or other restrictions]

Owner:	Bloomfield Irrigation District
By (signature):	
Name (printed):	
Title:	
Date Issued:	
Copy: Engineer	

PERFORMANCE BOND

Contractor	Surety
Name:	Name:
Address (principal place of business):	Address (principal place of business):
Owner	Contract
Name: Bloomfield Irrigation District	Description:
Mailing address:	Blanco Flume Replacement, Bloomfield, NM
1205 E. Broadway Avenue	
Bloomfield, NM 87413	Contract Price
	Effective Date of Contract:
Bond	
Bond Amount:	
Date of Bond:	
(Date of Bond cannot be earlier than Effective Date of Contract)	
Modifications to this Bond form:	
□ None □ See Paragraph 16	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.	· · · · · · · · · · · · · · · · · · ·
Contractor as Principal	Surety
	(Full former lange of functio) (or respects on the
(Full formal name of Contractor)	(Full Jormal name of Surety) (corporate seal)
Gignature)	(Signature)(Attach Power of Attorney)
Name:	Name:
(Printed or typed)	(Printed or typed)
Title:	Title:
Attest:	Attest:
(Signature)	(Signature)
Name:(Printed or typed)	Name:(Printed or typed)
Title:	Title:
Notes: (1) Provide supplemental execution by any additional pa	rties, such as joint venturers. (2) Any singular reference to
Contractor, Surety, Owner, or other party is considered plural w	here applicable.

- 1. 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.
- 2. 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.
- 3. If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond will arise after:
 - 3.1. 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;
 - 3.2. The Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
 - 3.3. 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.
- 4. 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.
- 5. 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:
 - 5.1. Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;
 - 5.2. Undertake to perform and complete the Construction Contract itself, through its agents or independent contractors;
 - 5.3. 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
 - 5.4. Waive its right to perform and complete, arrange for completion, or obtain a new contractor, and with reasonable promptness under the circumstances:

- 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.
- 6. 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.
- 7. 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:
 - 7.1. the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
 - 7.2. additional legal, design professional, and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Paragraph 5; and
 - 7.3. 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.
- 8. 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.
- 9. 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.
- 10. 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.
- 11. 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.
- 12. 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.
- 13. 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

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.

- 14. Definitions
 - 14.1. 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.
 - 14.2. *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.
 - 14.3. *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.
 - 14.4. *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.
 - 14.5. *Contract Documents*—All the documents that comprise the agreement between the Owner and Contractor.
- 15. 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.
- 16. Modifications to this Bond are as follows: None.

PAYMENT BOND

Contractor	Surety
Name:	Name:
Address (principal place of business):	Address (principal place of business):
Owner	Contract
Name: Bloomfield Irrigation District	Description:
Mailing address:	Blanco Flume Replacement, Bloomfield, NM
1205 E. Broadway Avenue	
Bloomfield, NM 87413	Contract Price:
	Effective Date of Contracts
	Effective Date of Contract:
Bond	
Bond Amount:	
Date of Bond:	
(Date of Bond cannot be earlier than Effective Date of Contract)	
Modifications to this Bond form: \Box None \Box See Paragraph 18	
Surety and Contractor, intending to be legally bour	nd hereby, subject to the terms set forth in this
Payment Bond, do each cause this Payment Bond t	to be duly executed by an authorized officer, agent, or
representative.	
Contractor as Principal	Surety
	(Evill former large of Suide) (correction on 1)
(Full formal name of Contractor)	(Fuil formal name of Surety) (corporate seal)
By:(Signature)	By: (Sianature)(Attach Power of Attorney)
Name:	Name:
(Printed or typed)	(Printed or typed)
Title:	Title:
Attact	Attact
(Sianature)	(Sianature)
Name:	Name:
(Printed or typed)	(Printed or typed)
Title:	Title:
Notes: (1) Provide supplemental execution by any additional p	arties, such as joint venturers. (2) Any singular reference to
Contractor, Surety, Owner, or other party is considered plural	where applicable.

- 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.

- 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;

- 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.

CERTIFICATE OF OWNER'S ATTORNEY

I, the undersigned, ______, the duly authorized and acting legal representative of the (agency) of <u>Bloomfield Irrigation District</u> do hereby certify as follows:

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the <u>Bloomfield Irrigation District</u> acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the <u>Bloomfield Irrigation District</u>; and that the foregoing agreements constitute valid and legally binding obligation upon the parties executing the same in accordance with terms, conditions and provisions thereof.

Name: _____

Date: _____

Address: _____

Telephone No. (____)

Owner: Bloomfield Irrigation District	Owner's Project No.:	2025-35544			
Engineer: Bohannan Huston, Inc.	Engineer's Project No.:	20200462			
Contractor:	Contractor's Project No.:				
Project: Blanco Flume Replacement					
Contract: Blanco Flume Replacement					
Application No.: Ap	plication 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 stol	red to date				
(Sum of Column & Lump Sum Total and C	Joiumn J Unit Price Total)	-			
	ork Completed c				
$a = \frac{1}{2} \times \frac{1}{2} = \frac{1}{2} \times \frac{1}{2}$	red Materials				
c. Total Retainage (Line 5.a + Line 5.b)	Ś	-			
6. Amount eligible to date (Line 4 - Line 5.c) \$	-			
7. Less previous payments (Line 6 from pric	pr application)				
8. Amount due this application	\$	-			
9. Balance to finish, including retainage (Lin	e 3 - Line 4) \$	-			
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				
Ву:	Ву:				
Title:	Title:				
Date:	Date:				
Approved by Funding Agency					
Ву:	Ву:				
Title:	Title:				
Date:	Date:				

Progress Estimate - Unit Price Work

Progress	Estimate - Unit Price Work								Contractor's Ap	plication	1 for Payment
Owner:	Bloomfield Irrigation District								Owner's Project No	.:	2025-35544
Engineer:	Bohannan Huston, Inc.								Engineer's Project N	o.:	20200462
Contractor:	tor:								Contractor's Project	No.:	
Project:	Blanco Flume Replacement										
Contract:	Blanco Flume Replacement										
Application	No.: Application Period	: From		to					Applica	tion Date:	
Α	B	C	D	E	F	G	н	1	L	к	L
			Contract	t Information	I	Work C	Completed				
Bid Item				Unit Price	Value of Bid Item (C X E)	Estimated Quantity Incorporated in	Value of Work Completed to Date (E X G)	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)
No.	Description	Item Quantity	Units	(\$)	(\$)	the Work	(\$)	(\$)	(\$)	(%)	(\$)
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			Origina	al Contract Totals	Ş -		Ş -	Ş -	Ş -		Ş -

Progress Estimate - Unit Price Work

11061633									Contractor 3 Ap	plication	
Owner:	Bloomfield Irrigation District								Owner's Project No	.:	2025-35544
Engineer:	Bohannan Huston, Inc.								Engineer's Project N	lo.:	20200462
Contractor:								•	Contractor's Project	No.:	
Project:	Blanco Flume Replacement							•			
Contract:	Blanco Flume Replacement							-			
Application	No.: Application Period	: From		to					Applica	tion Date:	
• • • • • • • • • • • • • • • • • • • •	D		D	E	F		ц		1	v v	
A	D		Contract	L Information	F	Work (ј п Completed	1	, , ,	N.	L
			Contract			WORK C			Work Completed	% of	
						Estimated	Value of Work	Materials	and Materials	Value of	
					Value of Bid Item	Quantity	Completed to Date	Currently Stored	Stored to Date	Item	Balance to Finish (F
Bid Item				Unit Price	(C X E)	Incorporated in	(E X G)	(not in G)	(H + I)	(I / F)	- 1)
No.	Description	Item Quantity	Units	(\$)	(\$)	the Work	(\$)	(\$)	(\$)	(%)	(\$)
				Char	ige Orders				<u> </u>	(<i>i</i> - <i>i</i>	
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				Original Contra	ct and Change Order	rs					
				Project Totals	\$-		\$-	\$-	\$-		\$-

Stored Materials Summary

											••	
Owner:	Bloomfield Irrig	ation District								Owner's Project No.	-	2025-35544
Engineer:	Bohannan Huston, Inc. Engineer's Project No.: 20								20200462			
Contractor:	Contractor's Project No.:											
Project:	Blanco Flume R	eplacement										
Contract:	Blanco Flume R	eplacement										
Application No.:				Application Period:	From		to				Application Date:	
А	В	С	D	E	F	G	Н		J	К	L	М
							Materials Stored			ncorporated in Work	4	
					Application						Total Amount	Materials
Item No.		Submittal No.			No. When				Amount Previously	Amount	Incorporated in the	Remaining in
(Lump Sum Tab)		(with			Materials	Previous Amount	Amount Stored this	Amount Stored to	Incorporated in the	Incorporated in the	Work	Storage
or Bid Item No.	Supplier	Specification	Description of Materials or		Placed in	Stored	Period	Date (G+H)	Work	Work this Period	(J+K)	(I-L)
(Unit Price Tab)	Invoice No.	Section No.)	Equipment Stored	Storage Location	Storage	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)	(\$)
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					Totals	Ş -	Ş -	Ş -	Ş -	Ş -	Ş -	Ş -

CERTIFICATE OF SUBSTANTIAL COMPLETION

Owner:	Bloomfield Irrigation District
Engineer:	Bohannan Huston, Inc.
Contractor:	
Project:	Blanco Flume Replacement
Contract Name:	Blanco Flume Replacement

Owner's Project No.:2025-35544Engineer's Project No.:20200462Contractor's Project No.:20200462

This \Box Preliminary \Box Final Certificate of Substantial Completion applies to:

 \Box All Work \Box The following specified portions of the Work:

[Describe the portion of the work for which Certificate of Substantial Completion is issued]

Date of Substantial Completion: [Enter date, as determined by Engineer]

The Work to which this Certificate applies has been inspected by authorized representatives of Owner, Contractor, and Engineer, and found to be substantially complete. The Date of Substantial Completion of the Work or portion thereof designated above is hereby established, subject to the provisions of the Contract pertaining to Substantial Completion. The date of Substantial Completion in the final Certificate of Substantial Completion marks the commencement of the contractual correction period and applicable warranties required by the Contract.

A punch list of items to be completed or corrected is attached to this Certificate. This list may not be allinclusive, and the failure to include any items on such list does not alter the responsibility of the Contractor to complete all Work in accordance with the Contract Documents.

Amendments of contractual responsibilities recorded in this Certificate should be the product of mutual agreement of Owner and Contractor; see Paragraph 15.03.D of the General Conditions.

The responsibilities between Owner and Contractor for security, operation, safety, maintenance, heat, utilities, insurance, and warranties upon Owner's use or occupancy of the Work must be as provided in the Contract, except as amended as follows:

Amendments to Owner's Responsibilities: \Box None \Box As follows:

[List amendments to Owner's Responsibilities]

Amendments to Contractor's Responsibilities: \Box None \Box As follows:

[List amendments to Contractor's Responsibilities]

The following documents are attached to and made a part of this Certificate:

[List attachments such as punch list; other documents]

This Certificate does not constitute an acceptance of Work not in accordance with the Contract Documents, nor is it a release of Contractor's obligation to complete the Work in accordance with the Contract Documents.

Engineer

By (signature):	
Name (printed):	
Title:	

STANDARD GENERAL CONDITIONS

OF THE CONSTRUCTION CONTRACT

TABLE OF CONTENTS

	Page
Article 1	– Definitions and Terminology1
1.01	Defined Terms1
1.02	Terminology6
Article 2-	– Preliminary Matters
2.01	Delivery of Performance and Payment Bonds; Evidence of Insurance7
2.02	Copies of Documents
2.03	Before Starting Construction7
2.04	Preconstruction Conference; Designation of Authorized Representatives
2.05	Acceptance of Schedules8
2.06	Electronic Transmittals8
Article 3-	-Contract Documents: Intent, Requirements, Reuse9
3.01	Intent9
3.02	Reference Standards9
3.03	Reporting and Resolving Discrepancies
3.04	Requirements of the Contract Documents
3.05	Reuse of Documents
Article 4-	-Commencement and Progress of the Work11
4.01	Commencement of Contract Times; Notice to Proceed11
4.02	Starting the Work11
4.03	Reference Points
4.04	Progress Schedule
4.05	Delays in Contractor's Progress12
Article 5	-Site; Subsurface and Physical Conditions; Hazardous Environmental Conditions
5.01	Availability of Lands
5.02	Use of Site and Other Areas
5.03	Subsurface and Physical Conditions15

5.04	Differing Subsurface or Physical Conditions	16
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	
7.05	"Or Equals"	
7.06	Substitutes	29
7.07	Concerning Subcontractors and Suppliers	31
7.08	Patent Fees and Royalties	32
7.09	Permits	
7.10	Taxes	
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	
7.18	Indemnification	
7.19	Delegation of Professional Design Services	
Article 8	—Other Work at the Site	40
8.01	Other Work	40
8.02	Coordination	41

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8.03	Legal Relationships	41
Article 9-	-Owner's Responsibilities	
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	D—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 1	1—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
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

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18.02	Computation of Times	69
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

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

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.

- 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; 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.

- 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.

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.

- 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

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.
 - 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.

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
 - 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

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.

- 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:
 - 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

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.

- 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.

- 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

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.

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

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;
 - complying with applicable state and local utility damage prevention Laws and Regulations;

- 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;
 - 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

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

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, 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

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

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

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.

- 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);

- 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

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.

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.

- 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.
 - 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;

- 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.
 - 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.

- 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.

- 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.

- 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.

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.

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.

- 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
 - 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.

- 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
 - 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
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.

- 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

- 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.

- 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.

- 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.

- 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.

- 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.

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.

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.

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.

- 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:

- 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.

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

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

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 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

- 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

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.

- 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.

- 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, expediters, 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

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

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.

- 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,

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.
 - 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,

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

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
 - 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.

- 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;

- 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
- I. 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 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

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.

- 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,

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 year 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.

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,

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

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.

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 binds 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

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

No suggested Supplementary Conditions in this Article.

ARTICLE 2—PRELIMINARY MATTERS

- 2.01 Delivery of Bonds and Evidence of Insurance
- SC-2.01 Delete Paragraphs 2.01.B. and C. in their entirety and insert the following in their place:
 - B. *Evidence of Contractor's Insurance:* When Contractor delivers the signed counterparts of the Agreement to Owner, Contractor shall also deliver to Owner copies of the policies (including all endorsements, and identification of applicable self-insured retentions and deductibles) of insurance required to be provided by Contractor in this Contract. Contractor may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
 - C. *Evidence of Owner's Insurance:* After receipt from Contractor of the signed counterparts of the Agreement and all required bonds and insurance documentation, Owner shall promptly deliver to Contractor copies of the policies of insurance to be provided by Owner in this Contract (if any). Owner may block out (redact) any confidential premium or pricing information contained in any policy or endorsement furnished under this provision.
- 2.06 *Electronic Transmittals*
- SC-2.06 Supplement Paragraph 2.06 of the General Conditions by adding the following paragraph:
 - D. Requests by Contractor for Electronic Documents in Other Formats
 - 1. Release of any Electronic Document versions of the Project documents in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be at the sole discretion of the Owner.
 - 2. To extent determined by Owner, in its sole discretion, to be prudent and necessary, release of Electronic Documents versions of Project documents and other Project information requested by Contractor ("Request") in formats other than those identified in the Electronic Documents Protocol (if any) or elsewhere in the Contract will be subject to the provisions of the Owner's response to the Request, and to the following conditions to which Contractor agrees:
- a. The content included in the Electronic Documents created by Engineer and covered by the Request was prepared by Engineer as an internal working document for Engineer's purposes solely, and is being provided to Contractor on an "AS IS" basis without any warranties of any kind, including, but not limited to any implied warranties of fitness for any purpose. As such, Contractor is advised and acknowledges that the content may not be suitable for Contractor's application, or may require substantial modification and independent verification by Contractor. The content may include limited resolution of models, not-to-scale schematic representations and symbols, use of notes to convey design concepts in lieu of accurate graphics, approximations, graphical simplifications, undocumented intermediate revisions, and other devices that may affect subsequent reuse.
- b. Electronic Documents containing text, graphics, metadata, or other types of data that are provided by Engineer to Contractor under the request are only for convenience of Contractor. Any conclusion or information obtained or derived from such data will be at the Contractor's sole risk and the Contractor waives any claims against Engineer or Owner arising from use of data in Electronic Documents covered by the Request.
- c. Contractor shall indemnify and hold harmless Owner and Engineer and their subconsultants from all claims, damages, losses, and expenses, including attorneys' fees and defense costs arising out of or resulting from Contractor's use, adaptation, or distribution of any Electronic Documents provided under the Request.
- d. Contractor agrees not to sell, copy, transfer, forward, give away or otherwise distribute this information (in source or modified file format) to any third party without the direct written authorization of Engineer, unless such distribution is specifically identified in the Request and is limited to Contractor's subcontractors. Contractor warrants that subsequent use by Contractor's subcontractors complies with all terms of the Contract Documents and Owner's response to Request.
- 3. In the event that Owner elects to provide or directs the Engineer to provide to Contractor any Contractor-requested Electronic Document versions of Project information that is not explicitly identified in the Contract Documents as being available to Contractor, the Owner shall be reimbursed by Contractor on an hourly basis (at \$160 per hour) for any engineering costs necessary to create or otherwise prepare the data in a manner deemed appropriate by Engineer.

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

No suggested Supplementary Conditions in this Article.

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.

Extreme or unusual weather that is typical for a given region, elevation, or season should not be considered abnormal weather conditions. Requests for time extensions due to abnormal weather conditions will be submitted to the Engineer within five days of the end of the abnormal weather condition event.

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

- 5.03 Subsurface and Physical Conditions
- SC-5.03 Add the following new paragraphs immediately after Paragraph 5.03.D:
 - E. The following table lists the reports of explorations and tests of subsurface conditions at or adjacent to the Site that contain Technical Data, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
Geotechnical Engineering Report	September 16,	Geotechnical engineering analysis:
Blanco Replacement Flume by	2020	Boring logs, soil test results, slope
GEOMAT Inc.		stability profile results.

F. The following table lists the 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 specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
None available		

5.06 *Hazardous Environmental Conditions*

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
None available		

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
None available		

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 (2018 edition).
 - 2. *Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC[®] C-615, Payment Bond (2018 edition).
- 6.02 Insurance—General Provisions
- SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:
 - 1. Contractor may obtain worker's compensation insurance from an insurance company that has not been rated by A.M. Best, provided that such company (a) is domiciled in the state in which the Project is located, (b) is certified or authorized as a worker's compensation insurance provider by the appropriate state agency, and (c) has been accepted to provide worker's compensation insurance for similar projects by the state within the last 12 months.
- 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	Statutory	
responsibility coverage), if applicable		
Jones Act (if applicable)		
Bodily injury by accident—each accident	\$N/A	
Bodily injury by disease—aggregate	\$N/A	
Employer's Liability		

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Workers' Compensation and Related Policies	Policy limits of not	
	less than:	
Each accident	\$100,000	
Each employee	\$100,000	
Policy limit	\$500,000	
Stop-gap Liability Coverage		
For work performed in monopolistic states, stop-gap liability	\$N/A	
coverage must be endorsed to either the worker's compensation		
or commercial general liability policy with a minimum limit of:		

- 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.

- 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
Products—Completed Operations Aggregate	\$1,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$1,000,000

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:	
Bodily Injury		
Each Person	\$500,000	
Each Accident \$1,000,000		
Property Damage		
Each Accident \$500,000		
[or]		
Combined Single Limit		
Combined Single Limit (Bodily Injury and Property Damage) \$1,000,000		

J. Umbrella or Excess Liability: Contractor shall purchase and maintain umbrella or excess liability insurance written over the underlying employer's liability, commercial general 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	\$1,000,000
General Aggregate	\$1,000,000

K. 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
Annual Aggregate	\$1,000,000

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

- 7.03 *Labor; Working Hours*
- SC-7.03 Delete Paragraph 7.03.C in its entirety, and insert the following:
 - C. In the absence of any Laws or Regulations to the contrary, Contractor may perform the Work on holidays, during any or all hours of the day, and on any or all days of the week, at Contractor's sole discretion.
- SC-7.03 Add the following new paragraph immediately after Paragraph 7.03.C:
 - D. **Contractor** shall be responsible for the cost of any overtime pay or other expense incurred by the Owner for Engineer's services (including those of the Resident Project Representative, if any), Owner's representative, and construction observation services, occasioned by the performance of Work on Saturday, Sunday, any legal holiday, or as overtime on any regular work day. If Contractor is responsible but does not pay, or if the parties are unable to agree as to the amount owed, then Owner may impose a reasonable set-off against payments due under Article 15.

ARTICLE 8—OTHER WORK AT THE SITE

No suggested Supplementary Conditions in this Article.

ARTICLE 9—OWNER'S RESPONSIBILITIES

No suggested Supplementary Conditions in this Article.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 Resident Project Representative

- SC-10.03 Add the following new subparagraph immediately after Paragraph 10.03.A:
 - 1. On this Project, by agreement with the Owner, the Engineer will not furnish a Resident Project Representative to represent Engineer at the Site or assist Engineer in observing the progress and quality of the Work.
- 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
 - 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.
 - 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

No suggested Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

No suggested Supplementary Conditions in this Article.

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

- 13.03 Unit Price Work
- SC-13.03 Delete Paragraph 13.03.E in its entirety and insert the following in its place:
 - 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 extended price of a particular item of Unit Price Work amounts to **25** percent or more of the Contract Price (based on estimated quantities at the time of

Contract formation) and the variation in the quantity of that particular item of Unit Price Work actually furnished or performed by Contractor differs by more than **25** percent 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 ACCCEPTANCE OF DEFECTIVE WORK

No suggested Supplementary Conditions in this Article.

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

- 16.05 Non-Appropriations Clause
- SC-16.05 Add the following new paragraph immediately after Paragraph 16.04.
- 16.05 Non-Appropriations Clause
 - A. The terms of this Agreement are contingent upon sufficient appropriations and authorization being made by the Legislature of New Mexico for the performance of this Agreement. If sufficient appropriations and authorization are not made by the Legislature, the Bloomfield Irrigation District may immediately terminate this Agreement by giving the Contractor written notice of such termination. The Bloomfield Irrigation District decision as to whether sufficient appropriations are available shall be accepted by the Contractor and shall be final. Contractor hereby waives any rights to assert an impairment of contract claim against the Bloomfield Irrigation District or the Office of the State Engineer or the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State Engineer or the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State Engineer or the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Office of the State Engineer or the State of New Mexico in the event of immediate or Early Termination of this Agreement by the Bloomfield Irrigation District or the Department.

16.06 *Termination Clause*

- SC-16.06 Add the following new paragraph immediately after Paragraph 16.05.
- 16.06 *Termination Clause*
 - A. This contract is funded in whole or in part by funds made available under an Office of the State Engineer Grant Agreement. Should the Office of the State Engineer early terminate the grant agreement, the Bloomfield Irrigation District may early terminate this contract by providing Contractor written notice of such termination. In the event of termination pursuant to this paragraph, the Bloomfield Irrigation District only liability shall by to pay Contractor for acceptable goods delivered and services rendered before the termination date.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

- 17.02 Arbitration
- SC-17.02 Add the following new paragraph immediately after Paragraph 17.01.
- 17.02 Arbitration
 - 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
 - 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.
- 17.03 Attorneys' Fees
- SC-17.03 Add the following new paragraph immediately after Paragraph 17.02.
- 17.03 Attorneys' Fees
 - A. For any matter subject to final resolution under this Article, the prevailing party shall be entitled to an award of its attorneys' fees incurred in the final resolution proceedings, in an equitable amount to be determined in the discretion of the court, arbitrator, arbitration panel, or other arbiter of the matter subject to final resolution, taking into account the parties' initial demand or defense positions in comparison with the final result.

ARTICLE 18—MISCELLANEOUS

No suggested Supplementary Conditions for this Article.

CHANGE ORDER NO.:

Owner:	Bloomfield Irrigation District	Owner's Project No.:	2025-35544
Engineer:	Bohannan Huston, Inc.	Engineer's Project No.:	20200462
Contractor:		Contractor's Project No.:	
Project:	Blanco Flume Replacement		
Contract Name:	Blanco Flume Replacement		
Date Issued:	Effective Date of Change Order:		

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

Description:

Attachments:

Change in Contract Times [State Contract Times as either a specific date or a

Change in Contract Price	number of days]
Original Contract Price:	Original Contract Times:
	Substantial Completion:
\$	Ready for final payment:
[Increase] [Decrease] from previously approved Change	[Increase] [Decrease] from previously approved
Orders No. 1 to No. [Number of previous Change	Change Orders No.1 to No. [Number of previous
Order]:	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)	Authorized by Owner
By:		
Title:		
Date:		
	Authorized by Owner	Approved by Funding Agency (if applicable)
By:		
Title:		
Date:		

EJCDC[®] C-941, Change Order. Copyright[©] 2018 National Society of Professional Engineers, American Council of Engineering Companies and American Society of Civil Engineers. All rights reserved. Page 1 of 1

PUBLIC WORKS PROJECT REQUIREMENTS

As a participant in a Public Works project valued at more than \$60,000 in the state of New Mexico, the following list addresses many of the responsibilities that are defined by statute or regulation to each project stakeholder.

Contracting Agency

- Ensure that all contractors wishing to bid on a Public Works project when the project is \$60,000 or more are actively registered with the Public Works and Apprenticeship Application (PWAA) website: <u>http://www.dws.state.nm.us/pwaa</u> (Contractor Registration) prior to bidding.
- Please submit Notice of Award (NOA) and Subcontractor List(s) to the PWAA website promptly after the project is awarded.
- Please update the Subcontractor List(s) on the PWAA website whenever changes occur.
- All sub-contractors and tiers (excluding professional services) regardless of contract amount must be listed on the Subcontractor List and must adhere to the Public Works Minimum Wage Act.
- Ninety days after project completion please go into the PWAA system and close the project. Only contracting agencies are allowed to close the project. Agents or contractors are not allowed to close projects.

General Contractor

- Provide a complete Subcontractor List and Statements of Intent (SOI) to Pay Prevailing Wages for all contractors, regardless of amount of work, to the contracting agency within 3 (three) days of award.
- Ensure that all subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <u>http://www.dws.state.nm.us/pwaa</u> prior to bidding when their bid willexceed \$60,000.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- Confirm the Wage Rate poster, provided in PWAA, is displayed at the job site in an easily accessible place.
- When the project has been completed, make sure the Affidavits of Wages Paid (AWP) are sent to the contracting agency.
- All subcontractors and tiers (excluding professional services) regardless of contract amount must pay prevailing wages, be listed on the Subcontractor List, and adhere to the Public Works Minimum Wage Act.

An Equal Opportunity Employer Page 1 of 2

Phone: 505-841-4400 Fax: 505-841-4424



Subcontractor

- Ensure that all subcontractors wishing to bid on a Public Works project have an active Contractor Registration with the Public Works and Apprenticeship Application (PWAA) website: <u>http://www.dws.state.nm.us/pwaa</u> prior to bidding when their bid will exceed \$60,000.
- Make certain the Public Works Apprentice and Training Act contributions are paid either to an approved Apprenticeship Program or to the Public Works Apprentice and Training Fund.
- All subcontractors and tiers (excluding professional services) regardless of contract amount must pay prevailing wages, be listed on the Subcontractor List, and adhere to the Public Works Minimum Wage Act.

Additional Information

Reference material and forms may be found in the New Mexico Department of Workforce Solutions Public Works web pages at: <u>https://www.dws.state.nm.us/Labor-Relations/Labor-</u> Information/Public-Works.

CONTACT INFORMATION

Contact the Labor Relations Division for any questions relating to Public Works projects by email at <u>public.works@state.nm.us</u> or call (505) 841-4400.



11.1.2.20 PREVAILING WAGE AND FRINGE BENEFIT AND APPRENTICESHIP CONTRIBUTION RATES: Pursuant to 11.1.2.13 NMAC, the director of the labor relations division of the department of workforce solutions hereby publishes the 2025 prevailing wage and fringe benefit rates and apprenticeship contributions that will apply to all wage rate decisions issued from January 1, 2025 through December 31, 2025.

TYPE "H" - HEAVY ENGINEERING Effective January 1, 2025

D. TYPE H: HEAVY ENGINEERING				
Trade Classification	Base Rate	Fringe Rate	Apprenticeship	
Asbestos workers/heat & frost insulators	36.36	12.46	.60	
Asbestos workers/heat & frost insulators: Los	38.79	12.46	.60	
Alamos county				
Boilermaker/blacksmith	35.88	32.28	.60	
Boilermaker/blacksmith: San Juan county	36.83	31.88	.60	
Bricklayer/block layer/stonemason	27.03	10.99	.60	
Bricklayer/block layer/stonemason: Curry,	23.10	8.98	.60	
DeBaca, Quay and Roosevelt counties				
Bricklayer/block layer/stonemason: Dona Ana, Otero, Eddy, and Lea counties	26.42	8.98	.60	
Carpenter/lather	30.89	13.26	.60	
Carpenter: Los Alamos county	37.39	14.18	.60	
Millwright/pile driver	50.00	21.15	.60	
Cement mason	25.08	7.41	60	
Electricians - outside classifications: Zone 1				
Ground man	27.18	13.32	.60	
Equipment operator	38.99	17.67	60	
Lineman/technician	49.25	20.82	.60	
Cable splicer	50.46	21.11	.60	
Electricians - outside classifications: Zone 2				
Ground man	27.18	13.32	.60	
Equipment operator	38.99	17.67	.60	
Lineman/technician	49.25	20.82	.60	
Cable splicer	50.46	21.11	.60	
Electricians – outside classifications: Los Alamos				
county				
Ground man	27.95	13.34	.60	
Equipment operator	40.11	17.70	.60	
Lineman/technician	50.54	21.14	.60	
Cable splicer	55.50	22.38	.60	
Electricians – inside classifications: Zone 1				
Wireman/low voltage technician	40.30	13.01	.60	
Cable splicer	44.33	13.13	.60	
Electricians - inside classifications: Zone 2				
Wireman/low voltage technician	43.93	13.11	.60	
Cable splicer	47.96	13.25	.60	

Electricians - inside classifications: Zone 3			
Wireman/low voltage technician	46.35	13.19	.60
Cable splicer	50.38	13.32	.60
Electricians - inside classifications: Zone 4			
Wireman/low voltage technician	50.78	13.32	.60
Cable splicer	54.81	13.44	.60
Electricians – inside classifications: Dona Ana, Hidalgo, Luna and Otero counties			
Wireman/low voltage technician	32.82	9.85	.60
Cable splicer	32.82	9.85	.60
Electricians – inside classifications: Los Alamos county			
Wireman/low voltage technician	46.35	15.50	.60
Cable splicer	50.38	15.83	.60
Glazier/Fabricator	22.25	7.40	.60
Ironworker			
Ironworker journeyman	28.96	19.11	.60
Probationary ironworker	23.17	19.11	.60
Painter – Industrial	24.00	6.70	.60
Paperhanger	24.00	6.70	.60
Drywall Finisher/Taper – Industrial	30.51	9.63	.60
Plumber/pipefitter	43.07	17.25	.60
Roofer			
Roofer journeyman	29.71	9.36	.60
Roofer helper	17.83	936	60
Sheet metal worker	39.13	19.33	60
Operators	57.15	17.55	100
Groun I	26.32	6.95	60
Group II	26.52	6.95	60
Group III	26.71	6.95	.00
Group IV	20.71	6.05	.00
Group V	27.27	6.05	60
	27.59	6.05	.00
Group VII	27.03	6.05	.00
	27.07	0.95	.60
	30.30	6.95	.00
	30.83	6.95	.00
	41.00	0.93	.00
Crown I. Urshilled	10.74	7.51	(0
Group I – Unskilled	19.74	7.51	.60
Group II – Semi-Skilled	21.19	/.51	.60
Group III – Skilled	22.00	7.51	
Group IV- Specialty	22.40	/.51	.60
Laborers – Underground	01.07	7.10	
Group I	21.85	7.12	.60
Group II	22.65	7.12	.60
Group III	22.37	7.12	.60
Soft Floor Layer	21.00	9.20	.60
Truck drivers			
Group I	20.55	9.40	.60
Group II	20.55	9.40	.60

Group III	20.55	9.40	.60
Group IV	20.55	9.40	.60
Group V	20.55	9.40	,60
Group VI	20.55	9.40	.60
Group VII	20.55	9.40	.60
Group VIII	20.55	9.40	.60
Group IX	26.55	9.40	.60

New Mexico Department of WORKFORCE SOLUTIONS

2025 SUBSISTENCE, ZONE, AND INCENTIVE PAY RATES

All contractors are required to pay subsistence, zone, and incentive pay according to the particular trade

Asbestos workers or heat and frost insulators

- Zone 1 shall consist of the area lying within the city limits of a circle whose radius is 66 miles from the city hall in Albuquerque or the city hall in El Paso -\$0.00 per day.
- (2) Zone 2 shall consist of Los Alamos county \$40.00 per day if not furnished a company owned vehicle.
- (3) Zone 3 shall consist of the area lying beyond a circle whose radius is over 66 miles from the city hall in Albuquerque or the city hall in El Paso \$85.00 per day.

Boilermakers/Blacksmiths

- (1) Per diem is calculated from city hall of the dispatch city or the employee's home address, whichever is closer to the job location,
- (2) Per diem is \$55.00 per day for travel between 70 and 120 miles and \$85.00 per day for travel over 120 miles.

Bricklayers

- (1) For Albuquerque area contractors, the starting point shall be at the intersection of I-40 and I-25 and shall continue to the job site. All other areas, the starting point shall be the employer's main office address.
- (2) Between 50 and 75 miles from the starting point, \$35.00 per day.
- (3) 76 or more miles from the starting point, \$55.00 per day.
- (4) All covered refactory work over 75 miles from the intersection of I-40 and I-25, \$80.00 per day.

Cement Masons

- (1) For employees who travel to Santa Fe from Albuquerque or vice versa, \$20.00 per day.
- (2) In all other work performed more than 50 miles from the employer's main office, \$50.00 per day.
- (3) Mutually agreed-upon lodging or transportation paid for by the employer will substitute for subsistence pay.



Drywall Finishers and Tapers

- (1) All zones are measured from the Albuquerque City Hall.
- (2) Up to 70 miles is a free zone.
- (3) Between 71 and 100 miles shall be paid \$30.00 expense allowance per day worked.
- (4) Over 101 miles shall be paid \$80.00 expense allowance per day worked.
- (5) Employees who travel from Santa Fe to Albuquerque will be paid \$30.00 per day or other mutually agreed upon lodging or transportation.
- (6) An area withing a 50-mile radius of the address where an employee permanently resides at the time of hire, outside of Santa Fe or Albuquerque, shall be a free zone.
- (7) When the employer pays for the hotel for out-of-town work, the employee shall receive \$30.00 per day for expenses. Each room shall not house more than two people per room.

Electricians (inside classifications)

- (1) For Albuquerque only:
 - (a) Zone 1 is classified as being within 40 miles from the main post office.
 - (b) Zone 2 shall extend up to 10 miles beyond zone 1. Work performed within zone 2 shall be compensated nine percent above the journeyman rate for zone 1.
 - (c) Zone 3 shall extend up to 20 miles beyond zone 1. Work performed within zone 3 shall be compensated fifteen percent above the journeyman rate for zone 1.
 - (d) Zone 4 shall extend 20 miles or more beyond zone 1. Work performed within zone 4 shall be compensated twenty six percent above the journeyman rate for zone 1.
- (2) For Los Alamos County only: work performed within the county shall be compensated fifteen percent above the zone 1 journeyman rate.
- (3) For all other counties:
 - (a) Zone 1 is:
 - (i) within six miles from the main post office for Raton, Tucumcari, and Farmington.
 - (ii) within eight miles from the main post office for Las Vegas.
 - (iii) within ten miles from the main post office for Santa Fe and Gallup.



- (iv) within twelve miles from the main post office for Belen, Carrizozo, Clovis, Los Lunas, Portales, Roswell, Ruidoso, Artesia, Carlsbad, Hobbs, and Lovington.
- (v) within fourteen miles from the main post office for Espanola.
- (b) Zone 2 shall extend up to 20 miles beyond zone 1. Work performed within zone 2 shall be compensated nine percent above the journeyman rate for zone 1.
- (c) Zone 3 shall extend up to 30 miles from zone 1. Work performed within zone 3 shall be compensated fifteen percent above the journeyman rate for zone 1.
- (d) Zone 4 shall extend beyond 30 miles from zone 1. Work performed within zone 4 shall be compensated twenty six percent above the journeyman rate for zone 1.
- (4) Commuting time to and from a job site at the beginning and end of each workday is not compensable. However, if workers are required to report to the shop at the start of the day or return to the shop at the end of the day, then that time spent traveling is compensable. Similarly, time spent traveling from job to job is compensable. In both cases, workers shall be paid for the time spent traveling and shall be furnished transportation by the employer. Under these conditions the Zone 1 rate and any applicable overtime will be paid.

Electricians (outside classification)

Zone 2: \$50.00 per diem to be paid for work 30 miles outside of Santa Fe and 60 miles outside of Albuquerque. No per diem in Los Alamos County.

Glaziers			
(1)	When out-of-town travel is required, the employer shall provide suitable lodging with no more than two people per room and \$30.00 per day for expenses; or		
(2) Pay \$100.00 per day for expenses, plus their regular rate of pay.			
(3)	Employees required to use a personal vehicle for travel to a jobsite beyond a 50- mile radius from their residence or the employer's shop, whichever is closes to the job, shall be compensated at the current IRS rate for actual mileage incurred beyond the 50-mile radius, plus their regular rate of pay for travel time.		
Ironwork	NM 6		

(1) Travel more than 50 miles from the interchange of Interstate 40 and Interstate 25 or from the employee's home should be paid at \$9.00 per hour.



(2) If travel is within Santa Fe County, travel time shall be paid at\$3.00 per hour.

Laborers (1) Type A: Work travel between 50 and 85 miles from the employer's primary **(a)** address should be compensated at \$3.50 per hour. Work travel 86 miles or greater from the employer's primary address **(b)** should be compensated at \$5.00 per hour. (2) Types B and C: Work travel over 70 miles from the union halls of Albuquerque, **(a)** Espanola, Farmington, or Las Cruces shall be paid at \$7.00 per hour in travel pay, not to exceed 10 hours per day; If an overnight stay is necessary, the employer shall pay \$40.00 per day **(b)** for meals, in addition to travel pay. Type H – no zone subsistence pay: (3) (4) If an employer provides the employee transportation and mutually agreeable, suitable lodging with no more than two people in a room in areas where overnight stays are necessary, subsistence rates do not apply.

Millwrights

- (1) All zone pay shall be calculated from the address of the city hall of the respective dispatch point using the "shortest route" filter on Google Maps.
- (2) Zone 1: Work traveled up to 45 miles from the city hall of the respective dispatch points is a free zone.
- (3) Zone 2: Work traveled between 45 miles and 100 miles shall be compensated at \$4.00 per hour above base wage.
- (4) Zone 3: Work traveled 101 miles or more shall be compensated at \$6.00 per hour above base wage.
- (5) If employer fails to provide suitable lodging, employer shall pay \$110.00 per diem.
- (6) If an employee's principal place of residence is within 45 road miles from the project, no subsistence or travel time shall be paid.

Operating Engineers

(1) Type A operators should be compensated for zone and subsistence as follows:



- (a) Work travel between 50 and 85 miles from the interchange of Interstate
 25 and Interstate 40 in Albuquerque, or from the Farmington City Hall in
 Farmington, should be compensated at \$2.50 per hour.
- (b) Work travel 86 miles or more from the interchange of Interstate 25 and Interstate 40 in Albuquerque or from the Farmington City Hall in Farmington, should be compensated at \$4.00 per hour.
- (2) Type B and C operators:
 - (a) Base points for operators are 30 miles and beyond from the following base points or the employee's home:
 - (i) Bernalillo county courthouse in Albuquerque;
 - (ii) State capital building in Santa Fe;
 - (iii) City hall in Farmington.
 - (b) Zone and subsistence for Albuquerque, Santa Fe, and Farmington are as follows:
 - (i) work travel between 30 and 50 miles from the base point compensated at \$20.00 per day;
 - (ii) work travel between 51 and 100 miles from the base point compensated at \$50.00 per day;
 - (iii) work travel over 100 miles from the base point that involves an overnight stay compensated at \$100.00 per day.
 - (c) Zone and subsistence for Los Alamos County, \$100.00 per day. This takes precedence over the 50-mile radius for Santa Fe zone and subsistence.
 - (d) If an employer provides the employee transportation and mutually agreeable suitable lodging in area where overnight stays are necessary, subsistence rates do not apply.
- (3) Type H operators are not eligible for zone and subsistence pay.

Painters When out-of-town travel is required, the employer shall provide suitable lodging with no more than two people per room and \$30.00 per day for expenses. When out-of-town travel is required and employer does not provide lodging, employer shall pay \$100 per day for expenses, plus their regular rate of pay. Employees required to use a personal vehicle for travel to a jobsite beyond a 60-mile radius from their residence or the employer's shop, whichever is closest to the job, shall be compensated at the current IRS rate for actual mileage incurred beyond the 60-mile radius, plus their regular rate of pay for travel time.



Paper hangers

- (1) When out-of-town travel is required, the employer shall provide suitable lodging with no more than two people per room and \$30.00 per day for expenses.
- (2) When out-of-town travel is required and employer does not provide lodging, employer shall pay \$100.00 per day for expenses, plus their regular rate of pay.
- (3) Employees required to use a personal vehicle for travel to a jobsite beyond a 50mile radius from their residence or the employer's shop, whichever is closes to the job, shall be compensated at the current IRS rate for actual mileage incurred beyond the 50-mile radius, plus their regular rate of pay for travel time.

Plasterers

- (1) Employees who travel from Albuquerque to Santa Fe should be compensated at \$20.00 per day.
- (2) Except for employees who travel from Santa Fe to Albuquerque, work travel 75 miles or more from the employer's office over the most typically traveled route should be compensated at \$5.00 per hour and capped at \$40.00 per day.

Plumbers and pipefitters

- (1) Work travel for 90 or more miles from an employee's primary residence, and involving an overnight stay, should be compensated at \$80.00 per day.
- (2) No zone or subsistence pay is required should the employer elect to cover the room cost.

Roofers

Work travel requiring an overnight stay should be compensated at \$35.00 per day for food. Employer should provide and pay for a suitable hotel. When employees are assigned to jobs located 60 or more miles from the employer's place of business, transportation to and from the job site must be provided.

Sheet metal workers

- (1) Subsistence will be paid in any area outside the employer's home zone unless the jobsite is within 90 miles, by most direct regularly traveled route, of an employee's principal place of residence. In which case the employer will not be required to pay subsistence to that employee while working on the jobsite.
- (2) If an overnight stay is required, \$120.00 subsistence will be paid for each day worked outside of the employer's home zone.



- (3) No subsistence pay is required should employer decide to cover room costs at a suitable location and no more than two workers are in a room.
- (4) Zone 1: any are within an employer's home zone. An employer's home zone shall consist of 90 miles by most direct regularly traveled route from the main post office in the municipality of the employer's primary place of business, and including Los Alamos and Espanola, regardless of mileage.
- (5) Zone 2 (Industrial):
 - (a) Industrial work will be defined as all new construction work performed o the following types of facilities: electrical generation plants, co-generation plants 50 megawatts and over, refineries, natural and LP gas plants, mills, mines, and concentrators. Maintenance and retrofit work are excluded.
 - (b) The minimum rate of pay for all work described in subsection (a) of this section will be as indicated under zone 3 of the public works prevailing wage rates in 11.1.2.20 NMAC.
- (6) Zone 3 (Los Alamos):
 - (a) All work on Los Alamos National Laboratory property, and all prevailing wage work within the county of Los Alamos.
 - (b) The minimum rate of pay for all work described in subsection (a) of this section will be indicated under zone 3 of the public works prevailing wage rates in 11.1.2.20 NMAC.
- (7) Travel:
 - (a) All time spent traveling during the regular workday will be considered time worked and will be paid at the zone 1 rate of pay, provided such travel is directed by the employer. Travel before or after the regular workday will not be considered time worked and will not be paid unless required by federal or state law. If required by law, all time spent traveling outside the regular workday will be paid at the overtime rate of time and a half times two thirds the regular zone 1 rate of pay.
 - (b) If an employer send an employee to perform work outside the territorial jurisdiction of the United States or Canada, travel pay and subsistence arrangements shall be negotiated locally.

Soft floor layer

 Zone 1: Base pay for an area within a 30-mile radius from the main post office in the city or town where the employee permanently resides. Albuquerque, Santa Fe, and Belen shall be considered Zone 1.



- (2) Zone 2: Work travel between 30 and 75 miles from the main post office in the town where an employee permanently resides shall be compensated at \$1.00 per hour above base pay.
- (3) Zone 3: Work travel 75 miles or more from the main post office in the town where an employee permanently resides shall be compensated at \$3.13 per hour above base pay.
- (4) Employer will furnish transportation or gasoline for all work performed beyond the 30-mile radius that encompasses the free cities of Albuquerque, Santa Fe, or Belen.
- (5) When the employee is directed to report to a job site and the distance to the job site requires the employee to stay out of town overnight, the employer shall provide housing arrangements for the affected employees.

Sprinkler fitters

- (1) Work travel between 60 and 80 miles from the employee's primary residence should be compensated at \$23.00 per day.
- (2) Work travel between 81 and 100 miles from the employee's primary residence should be compensated at \$33.00 per day.
- (3) Work travel of 101 miles or more from the employee's primary residence should be compensated at \$125.00 per day.
- (4) No zone or subsistence pay shall be paid when the employer provides daily transportation and the employee elects to travel back and forth from home.

NOTICE TO CONTRACTOR BLANCO FLUME REPLACEMENT SCHEDULE

The project is to be substantially complete within <u>90 calendar days</u> after the date of the Notice to Proceed and final within <u>120 calendar days</u> after the date of the Notice to Proceed. Please note that the Owners irrigation down-season is approximately November 1st through April 1st. The proposed Notice to Proceed date is September 29, 2025. Limited ditch down time during the irrigation season can be coordinated with the Irrigation District owners.

BLOOMFIELD IRRIGATION DISTRICT BLANCO FLUME REPLACEMENT

SUPPLEMENTAL TECHNICAL SPECIFICATIONS

The following revisions and/or additions to the Technical Specifications of the Standard Specifications are hereby made a part of the Contract Documents.

Spec Section	Title/Description		
521	Prefabricated Steel Flume Bridge	521-1 –	521-14
620	Dewatering	620-1 –	620-3
628	Care and Diversion of Water	628-1 –	628-1
632	Revegetation	632-1 –	632-2

SECTION 521 SPECIFICATIONS FOR PREFABRICATED STEEL FLUME BRIDGE

521.1 GENERAL

521.1.1 Scope

These specifications are for a fully engineered clear span bridge of steel construction and shall be regarded as minimum standards for design and construction. Bidders are required to utilize one of the pre-approved manufacturers identified below:

- CONTECH Engineered Solutions Phone: (800) 338-1122
- Excel Bridge Manufacturing Co.
 - p. Phone: (800) 548-0054
- TrueNorth Steel

Phone: (406) 532-7103 Phone: (866) 806-0847

• Bridge Brothers Inc.

521.1.2 Qualified Suppliers

Each bidder is required to identify their intended bridge supplier as part of the bridge submittal in 521.6. The above suppliers have at least 5 years of experience fabricating these type structures and be certified by the American Institute of Steel Construction (AISC).

BRIDGE SUPPLIER shall have a technical representative present during bridge installation for on-site consultation.

521.2 GENERAL FEATURES OF DESIGN

521.2.1 General All bridge and flume dimensions shall conform to the construction plans.

521.2.2 Span There is one (1) bridge span that shall measure approximately 29'-0" (straight line dimension – verify with construction plans) from each end of the bridge structure. The bridge span that shall measure 28'-0" (straight line dimension – verify with construction plans) from the centerlines of bearing at each abutment.

521.2.3 Width Bridge width shall be 13'-3 3/4" (verify with construction plans) and shall be as measured from the outside face of structural elements. The clear width, measured between truss chords, shall be 12'-3 3/4". The flume shall be 8'-0" clear and the manufacturer shall provide a 3'-0" clear walkway adjacent to the flume as shown on the construction plans

521.2.4 Chord Height Chord height for the bridge shall be as needed to provide a minimum of 6'-8" depth of flume.

521.2.5 Flume One (1) steel flume is required, see construction plans for details.

521.2.3 Bridge System Type

Bridge shall be designed as a Pratt truss (as shown on construction plans), that has one (1) diagonal per panel.

521.2.3.1 Bridge(s) shall be designed utilizing an H-Section configuration where the floor beams are placed up inside the trusses and attached to the truss verticals. See construction plans for floor beam location guidelines, paying particular attention to the overlook areas.

521.2.4 Member Components

All members of the vertical trusses (top and bottom chords, verticals, and diagonals) shall be fabricated from square and/or rectangular structural steel tubing. Other structural members and bracing shall be fabricated from structural steel shapes or square and rectangular structural steel tubing.

Unless the floor and fastenings are specifically designed to provide adequate lateral support to the top flange of open shape stringers (w-shapes or channels), a minimum of one stiffener shall be provided in each stringer at every floor beam location.

521.2.5 Attachments

521.2.5.1 Safety Rails Horizontal safety rails shall be placed on the structure up to a minimum height of 3'-6" above the deck surface. Safety rails shall be placed so as to prevent a 4" sphere from passing through the truss. Safety rails shall be placed on the inside of the structure where noted on the plans. Safety rails shall have their ends sealed and ground smooth so as to produce no sharp edges.

The safety rail system shall be designed for an infill loading of 200 pounds, applied horizontally at right angles, as a concentrated point at any point in the system.

521.2.5.2 Toe Plate The bridge shall be supplied with a steel toe plate mounted to the inside face of walkway. The toe plate shall be a minimum of 4 inches high. Toe plating will be welded to the truss members at a height adequate to provide a 1" gap between the bottom of the plate and the top of the deck or the top of the bottom chord, whichever is higher. The span of unstiffened flat toe plating (from center to center of supports) shall not exceed 5'-8".

521.2.6 Camber The bridge shall have a vertical camber dimension at midspan equal to 100% of the full dead load not to exceed 9 inches.

521.2.7 Elevation Difference The bridge and abutments shall be constructed per the construction plan details and seat elevations.

521.3 ENGINEERING

Structural design of the bridge structure shall be performed by or under the direct supervision of a licensed professional engineer and done in accordance with recognized engineering practices and principles. The engineer shall be licensed to practice in the **STATE OF NEW MEXICO**. Design shall be in accordance with the latest edition of *AASHTO Guide Specifications for Design of Pedestrian Bridges.*

521.3.1 Design Loads In considering design and fabrication issues, this structure shall be assumed to be statically loaded. No dynamic analysis shall be required, nor shall fabrication issues typically considered for dynamically loaded structures be considered for this bridge.

521.3.1.1 Dead Load The bridge structure design shall consider its own dead load (superstructure and decking), the weight of the conveyed water in the flume to the full height of the flume wall, as well as the additional loads listed below:

521.3.1.2 Uniform Live Load

521.3.1.2.1 Pedestrian Live Load

Main Members: Main supporting members, including girders, trusses and arches shall be designed for a pedestrian live load of 90 pounds per square foot of bridge walkway area. The pedestrian live load shall be applied to those areas of the walkway so as to produce maximum stress in the member being designed.

Secondary Members: Bridge decks and supporting floor systems, including secondary stringers, floor beams and their connections to main supporting members shall be designed for a live load of 90 pounds per square foot, with no reduction allowed.

521.3.1.4 Wind Load

521.3.1.4.1 Horizontal Forces The bridge shall be designed for a wind load of 25 pounds per square foot on the full vertical projected area of the bridge as if enclosed. The wind load shall be applied horizontally at right angles to the longitudinal axis of the structure.

The wind loading shall be considered both in the design of the lateral load bracing system and in the design of the truss vertical members, floor beams and their connections.

521.3.1.4.2 Overturning Forces The effect of forces tending to overturn structures shall be calculated assuming that the wind direction is at right angles to the longitudinal axis of the structure. In addition, an upward force shall be applied at the windward quarter point of the transverse superstructure width. This force shall be 20 pounds per square foot of deck.

521.3.1.5 Top Chord/Railing Loads The top chord, truss verticals, and floor beams shall be designed for lateral wind loads (per section 521.3.1.4.1) and for any loads required to provide top chord stability as outlined in Section 521.3.3.3; however, in no case shall the load be less than 50 pounds per lineal foot or a 200 pound point load, whichever produces greater stresses, applied in any direction at any point along the top chord or at the top of the safety system (42" or 54" above deck level), if higher than the top chord.

521.3.1.6 Impact Loads The flume shall be designed for impact of debris in water conveyed through the flume. The debris shall be designed for a mass of 200 pounds travelling in the conveyed water at a velocity of 5 feet per second.

521.3.1.7 Load Combinations The loads listed herein shall be considered to act in the following combinations, whichever produce the most unfavorable effects on the bridge superstructure or structural member concerned.

[DL=Dead Load; PL = Pedestrian Live Load; WL = Wind Load; LL = Vehicle Load]

DL + PL DL + LL DL+WL DL+PL+0.3WL DL+LL+0.3WL

NOTE: For service load design, the percentage of the basic unit stress used for each combination shall be in accordance with table 3.22.1A of the AASHTO "Standard Specifications for Highway Bridges".

521.3.2 Design Limitations

521.3.2.1 Deflection

521.3.2.1.1 Vertical Deflection The vertical deflection of the main trusses due to service pedestrian live load shall not exceed 1/500 of the span

The deflection of the floor system members (floor beams and stringers) due to service pedestrian live load shall not exceed 1/360 of their respective spans. The service pedestrian live load shall be 85 PSF, reduced in accordance with Section 3.1.2.1, but should in no case be less than 65 PSF for deflection checks.

Deflection limits due to occasional vehicular traffic shall not be considered.

521.3.2.1.2 Horizontal Deflection The horizontal deflection of the structure due to lateral wind loads shall not exceed 1/500 of the span under a 35 psf wind load.

521.3.2.2 Minimum Thickness of Metal The minimum thickness of all structural steel members shall be 1/4" nominal and be in accordance with the AISC Manual of Steel Constructions' "Standard Mill Practice Guidelines". For ASTM A500 and ASTM A847 tubing, the section properties used for design shall be per the Steel Tube Institute of North America's Hollow Structural Sections "Dimensions and Section Properties".

521.3.3 Governing Design Codes / References Structural members shall be designed in accordance with recognized engineering practices and principles as follows:

521.3.3.1 Structural Steel Allowable Stresses American Association of State Highway and Transportation Officials (AASHTO).

Allowable Design Stresses shall be in accordance with the "Standard Specifications for Highway Bridges" latest edition (AASHTO).

521.3.3.2 Welded Tubular Connections American National Standards Institute / American Welding Society (ANSI/AWS) and the Canadian Institute of Steel Construction (CISC). All welded tubular connections shall be checked, when within applicable limits, for the limiting failure modes outlined in the ANSI/AWS D1.1 Structural Welding Code or in accordance with the "Design Guide for Hollow Structural Section Connections" as published by the Canadian Institute of Steel Construction (CISC).

When outside the "validity range" defined in these design guidelines, the following limit states or failure modes must be checked:

- * Chord face plastification
- * Punching shear (through main member face)
- * Material failure
 - Tension failure of the web member
 - Local buckling of a compression web member
- * Weld failure
 - Allowable stress based on "effective lengths"
 - "Ultimate" capacity
- * Local buckling of a main member face
- * Main member failure:
 - Web or sidewall yielding
 - Web or sidewall crippling
 - Web or sidewall buckling
 - Overall shear failure

All tubular joints shall be plain unstiffened joints (made without the use of reinforcing plates) except as follows:

* Floor beams which frame directly into the truss verticals (H-Section bridges) may be designed with or without end stiffening plates as required by design.

* Where chords, end floor beams and in high profiles the top end struts weld to the end verticals, the end verticals (or connections) may require stiffening to transfer the forces from these members into the end vertical.

- Truss vertical to chord connections.
- NOTE: The effects of fabrication tolerances shall be accounted for in the design of the structure. Special attention shall be given to the actual fit-up gap at welded truss joints.

521.3.3.3 Top Chord Stability Structural Stability Research Council (SSRC), formerly Column Research Council.

The top chord shall be considered as a column with elastic lateral supports at the panel points. The critical buckling force of the column, so determined, shall exceed the maximum force from dead load and live load (uniform or vehicular) in any panel of the top chord by not less than 50 percent for parallel chord truss bridges or 100 percent for bowstring bridges. The design approach to prevent top chord buckling shall be as outlined by E.C. Holt's research work in conjunction with the Column Research Council on the stability of the top chord of a half-through truss. See Appendix A for the calculation of the spring constant C and the determination of an appropriate K factor for out-of-plane buckling.

In addition, for the dead load plus vehicle load combination, the spring constant "C" furnished by the transverse "U-Frames" shall not be less than "C" required as defined by:

$$C required = \frac{1.46 P_c}{L}$$

Where P_c is the maximum top chord compression due to dead load plus the vehicle load times the appropriate safety factor (1.5 for parallel chord truss bridges or 2.0 for bowstring bridges) and L is the length in inches of one truss panel or bay.

For uniformly loaded bridges, the vertical truss members, the floor beams, and their connections (transverse frames) shall be proportioned to resist a lateral force of not less than 1/100k times the top chord compressive load, but not less than .004 times that top chord load, applied at the top chord panel points of each truss. The top chord load is determined by using the larger top chord axial force in the members on either side of the "U-frame" being analyzed. For end frames, the same concept applies except the transverse force is 1% of the axial load in the end post member.

For bridges with vehicle loads, the lateral force applied at the top chord elevation for design of the transverse frames shall not be less than 1% of the top chord compression due to dead load plus any vehicle loading.

The bending forces in the transverse frames, as determined above, act in conjunction with all forces produced by the actual bridge loads as determined by an appropriate analysis which assumes that the floor beams are "fixed" to the trusses at each end.

NOTE: The effects of three-dimensional loading (including "U-frame" requirements) shall be considered in the design of the structure. The "U-frame" forces shall be added to the forces derived from a three-dimensional analysis of the bridge.

521.4 MATERIALS

521.4.1 Steel

521.4.1.1 Structural Steel All structural steel shall be new (unused) material. The Contractor shall provide the Engineer and the **STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER** with copies of all certified mill test reports for all structural steel and bolts. Floor

beams, stringers, and members of each Half-through truss (upper and lower chords, diagonals, end posts and vertical posts) utilized in the bridges shall meet a longitudinal Charpy V notch (CVN) value of 25 ft. lbs. at 40 degrees Fahrenheit. Testing shall be in accordance with AASHTO T 243 (ASTM A 673). The H frequency of heat testing shall be used. The Contractor shall provide the Engineer with certified copies of all CVN test reports.

All square and rectangular structural steel tubing shall conform to the requirements of ASTM A 847, Cold-Formed Welded and Seamless High Strength, Low Alloy Structural Tubing with Improved Atmospheric Corrosion Resistance.

All structural steel shapes and plates shall conform to the requirements of ASTM A 588, High-Strength Low-Alloy Structural Steel with Atmospheric Corrosion Resistance.

All anchor bolts and nuts shall conform to the requirements of ASTM F 1554, Grade 105, Carbon Steel Bolts and Studs, and shall be galvanized in accordance with the requirements of ASTM A 153. Each anchor bolt shall be provided with two nuts for jamming.

All structural steel field connections shall be bolted with high strength bolts. High strength bolts, including suitable nuts and plain hardened washers, shall conform to the requirements of ASTM A 325. Bolts shall be Type 3.

521.4.1.2 Structural Steel Coating

All surfaces in direct contact with conveyed water and any additional surfaces as indicated on the plans shall be coated prior to according to the schedule included in this section. All surfaces shall be cleaned by sand blasting so as to remove all visible mill scale and rust in conformance with SSPC-SP10 "Near White Metal Blast Cleaning". Shop prime coat shall be applied within 24 hours of cleaning.

Paint Schedule					
Shop Prime	Aromatic Urethane, Zinc Rich	Tnemec Series 91- H2O Hydro Zinc	2.5 to 3.5 Mils DFT	Greenish-Gray	
Field Prime	Polyamide Epoxy	Tnemec Series 20 or FC20 Pota- Pox	2.0 to 3.0 Mils DFT	-	
Finish Coat	Polyamide Epoxy	Tnemec Series 22 Epoxoline	16.0 to 20 Mils DFT	WH11 Off White	
Total	-	-	Dry Film Thickness 18.5 to 23.5 mils		

521.4.2 Decking

521.4.2.1 Plank Grating shall be heavy-duty walkway, GRIP STRUT® plank grating, by McNichols or approved equal. Plank grating shall be 10 Gauge, (.1382" Thick) carbon steel galvanized in conformance with ASTM A-653, G90 mill finished with 8-Diamond (36" Width), 5" Channel Height, Serrated Surface, Long Way of Opening (LWO) Parallel to Width.

521.5 WELDING

521.5.1 Welding Welding and weld procedure qualification tests shall conform to the provisions of ANSI/AWS D1.1 "Structural Welding Code", 1996 Edition. Filler metal shall be in accordance with the applicable AWS Filler Metal Specification (i.e. AWS A 5.28 for the GMAW Process). For exposed, bare, unpainted applications of corrosion resistant steels (i.e. ASTM A588 and A847), the filler metal shall be in accordance with AWS D1.1"Structural Welding Code", 1996 Edition, Section 3.7.3.

521.5.2 Welders Welders shall be properly accredited operators, each of whom shall submit certification of satisfactorily passing AWS standard qualification tests for all positions with unlimited thickness of base metal, have a minimum of 6 months experience in welding tubular structures and have demonstrated the ability to make uniform sound welds of the type required.

521.6 SUBMITTALS

521.6.1 Submittal Drawings Schematic drawings and diagrams shall be submitted to the owner and the **STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER** for their review after receipt of order. Submittal drawings shall be unique drawings, prepared to illustrate the specific portion of the work to be done. All relative design information such as member sizes, bridge reactions, and general notes shall be clearly specified on the drawings. Drawings shall have cross referenced details and sheet numbers. All drawings shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 521.3.

521.6.2 Structural Calculations Structural calculations for the bridge superstructure shall be submitted by the bridge manufacturer and reviewed by the approving engineer and the **STATE OF NEW MEXICO OFFICE OF THE STATE ENGINEER** for approval. All calculations shall be signed and sealed by a Professional Engineer who is licensed in accordance with Section 521.3. The calculations shall include all design information necessary to determine the structural adequacy of the bridge. The calculations shall include the following:

- * All AASHTO allowable stress checks for axial, bending and shear forces in the critical member of each truss member type (i.e. top chord, bottom chord, floor beam, vertical, etc.).
- * Checks for the critical connection failure modes for each truss member type (i.e. vertical, diagonal, floor beam, etc.). Special attention shall be given to all welded tube on tube connections (see section 521.3.3.2 for design check requirements).
- * All bolted splice connections.
- * Main truss deflection checks.
- * U-Frame stiffness checks (used to determine K factors for out-of-plane buckling of the top

chord) for all half through or "pony" truss bridges.

* Deck design.

NOTE: The analysis and design of triangulated truss bridges shall account for moments induced in members due to joint fixity where applicable. Moments due to both truss deflection and joint eccentricity must be considered.

521.6.3 Welder certifications in compliance with AWS standard qualification tests.

- 521.6.4 Welding procedures in compliance with Section 521.5.1.
- 521.6.5 Splicing and erection procedures in compliance with Section 521.9.
- 521.6.6 AISC Shop Certification in compliance with Section 521.7.2

521.7 FABRICATION

521.7.1 General Requirements

521.7.1.1 Water Entrapment When the collection of water inside a structural tube is a possibility, either during construction or during service, the tube shall be provided with a drain hole at its lowest point to let water out. The perimeter of all steel faying surfaces shall have a seal weld to prevent corrosion due to water collection.

521.7.1.2 Welds Special attention shall be given to developing sufficient weld throats on tubular members. Fillet weld details shall be in accordance with AWS D1.1, Section 3.9 (See AWS Figure 3.2). Unless determined otherwise by testing, the loss factor "Z" for heel welds shall be in accordance with AWS Table 2.8. Fillet welds which run onto the radius of a tube shall be built up to obtain the full throat thickness (See Figure 7.1). The maximum root openings of fillet welds shall not exceed 3/16" in conformance with AWS D1.1, Section 5.22. Weld size or effective throat dimensions shall be increased in accordance with this same section when applicable (i.e. fit-up gaps> 1/16").



FIGURE 7.1 BUILD UP RADIUS WELD
The fabricator shall have verified that the throat thickness of partial joint penetration groove welds (primarily matched edge welds or the flare-bevel-groove welds on underhung floor beams) shall be obtainable with their fit-up and weld procedures. Matched edge welds shall be "flushed" out when required to obtain the full throat or branch member wall thickness.

For full penetration butt welds of tubular members, the backing material shall be fabricated prior to installation in the tube so as to be continuous around the full tube perimeter, including corners. Backing may be of four types:

- * A "box" welded up from four (4) plates.
- * Two "channel" sections, bent to fit the inside radius of the tube, welded together with full penetration welds.
- * A smaller tube section which slides inside the spliced tube.
- * A solid plate cut to fit the inside radius of the tube.

Corners of the "box" backing, made from four plates, shall be welded and ground to match the inside corner radii of the chords. The solid plate option shall require a weep hole either in the chord wall above the "high side" of the plate or in the plate itself. In all types of backing, the minimum fit-up tolerances for backing must be maintained at the corners of the tubes as well as across the "flats".

521.7.1.3 Sealing and Caulking To prevent rust runs on painted structures, open ends of all tubes shall be capped, and seal welded. Wherever practical, member end connections and steel on steel contact surfaces, such as stringer to floor beam connections, shall be welded all around. Long seams between members or any seam which cannot be practically welded shall be caulked.

521.7.2 Quality Certification Bridge shall be fabricated by a fabricator who is currently certified by the American Institute of Steel Construction to have the personnel, organization, experience, capability, and commitment to produce fabricated structural steel for the category "Certified Bridge Fabricator: Intermediate (IBR)" as set forth in the AISC Certification Program with Fracture Critical Endorsement. Quality control shall be in accordance with procedures outlined for AISC certification. For painted structures, the fabricator must hold a "Sophisticated Paint Endorsement" as set forth in the AISC certification program. Furthermore, the bridge shall be fabricated in a facility owned and/or leased by the corporate owner of the manufacturer, and fully dedicated to bridge manufacturing.

521.8 NOT USED

521.9 DELIVERY AND ERECTION

Delivery is made to a location nearest the site which is easily accessible to normal over-theroad tractor/trailer equipment. All trucks delivering bridge materials will need to be unloaded at the time of arrival.

The manufacturer will provide detailed, written instruction in the proper lifting procedures and splicing procedures (if required). The contractor is responsible for submitting the placement method, staging locations, and sequence of erection.

The bridge manufacturer shall provide written inspection and maintenance procedures to be followed by the Owner.

521.10 BEARINGS

521.10.1 Bearing Devices Fabricator shall provide expansion and fixed bearings where indicated in plan. Expansion bearings shall utilize elastomeric bearing pads or "frictionless" plates to permit thermal expansion and contraction parallel to axis of bridge. One end of the bridge will be fixed by fully tightening the nuts on the anchor bolts at that end. The opposite end will have finger tight only nuts to allow movement under thermal expansion or contraction.

The bearing seat shall be as shown in the construction drawings. The step height (from bottom of bearing to top-of-deck) shall be as shown in the construction drawings.

Bridges may have elastomeric or "frictionless" plate bearings designed and detailed by the bridge manufacturer. Design shall be in accordance with AASHTO LRFD Specifications, Article 14.7.6, Method A. The range in thermal movement used in bearing pad design shall not be less than 75% of the total anticipated movement due to temperature. See construction drawings for minimum bearing assembly depths.

521.11 FOUNDATIONS

Unless specified otherwise, the bridge manufacturer shall determine the number, diameter, minimum grade, and finish of all anchor bolts. The anchor bolts shall be designed to resist all horizontal and uplift forces to be transferred by the superstructure to the supporting foundations. The contractor shall provide all materials for (including anchor bolts) and construction of the bridge supporting foundations. The contractor shall install the anchor bolts in accordance with the manufacturer's anchor bolt spacing dimensions.

Information as to bridge support reactions and anchor bolt locations will be furnished by the bridge manufacturer after receipt of order and after the bridge design is complete.

521.12 BASIS OF PAYMENT

Pay Item

Prefabricated Steel Flume Bridges

Pay Unit LS

521.13 WORK INCLUDED IN PAYMENT

The following work and items will be considered as included in the payment for the main item and will not be measure or paid for separately:

- A. Shipping, assembly, erection, and installation of bridges.
- B. Bearing assemblies, bolts, and all necessary equipment and hardware required for assembly and installation of bridges.
- C. Safety railing, handrails, toe plates, and all other appurtenances.
- D. Steel flume, flume coating and conveyance continuity connection to concrete transition structures.

521.14 WARRANTY

The bridge manufacturer shall warrant that it can convey good title to the goods, that they are free of liens and encumbrances and that their steel structure(s) are free of design, material, and workmanship defects for a period of ten years from the date of delivery.

521.15 APPROVAL CHECKLIST

The following checklist will be used in the evaluation of all submittals to assure compliance with the Special Specifications for Prefabricated Bridge. This checklist is considered the minimum acceptable requirements for compliance with these specifications. Any deviations from this checklist shall be considered grounds for rejection of the submittal. Any costs associated with delays caused by the rejection of the submittal, due to non-compliance with this checklist, shall be fully borne by the contractor and bridge supplier.

SUBMITTAL DRAWINGS

Data Required to be Shown:

		Weld Failure Checks (Ultimate)
Bridge	Elevation	Local Buckling of the Main Member Face Checks
Bridge	Cross Section	Main Member Yielding Failure Checks
All Men	nber Sizes	Main Member Crippling Failure Checks
All Vert	ical Truss Members are Square	Main Member Buckling Failure Checks
or Rect	angular Tubing	Main Member Shear Failure Checks
Bridge	Reactions	All Bolted Splice Checks (if applicable)
General Notes Indicating		Main Truss Deflection Checks
	AISC Stress Conformance	Decking Material Checks
	Material Specifications to be Followed	"U-Frame" Stiffness Checks (if applicable)
	Design Live Load	Interior and End Portal Design Checks (if applicable)
	Design Vehicle Load (If Applicable)	Determination of Top Chord K Factor
		Based on "U-Frame" Stiffness (if applicable)
	Design Wind Load	Consideration of Individual Member Moments Due to
		Truss Deflection, Joint Fixity and Joint Eccentricity
	Other Specified Design Loads	

□**

FABRICATION SUBMITTALS

Data Required to be Shown:

Paint Color Chart (If Applicable) Detailed Bolted Splices (If Applicable)

Welding Process

Blast Cleaning

- П Bolted Splice Location (If applicable) П
- Signature and Seal of Professional Engineer, licensed in Accordance with Section 3.0
- □** Contractor's erection/placement plan

DESIGN CALCULATIONS

Data Required to be Shown:

- Data Input for 3-D Analysis of Bridge Joint Coordinates & Member Incidences
 - Joint and Member Loads □**
 - - **Member Properties**
 - Load Combinations
- AASHTO Member Stress Checks for Each Member Type
- Critical Connection Failure Mode Checks For П Each Member Type
 - Chord Face Plastification Checks
 - **Punching Shear Checks**
- Material Failure Checks (Truss Webs)
- Weld Failure Checks (Effective Length)

- □** Written Splicing Instructions Written Maintenance & Inspection Instructions ⊓**
- □** Welder Certifications
- □** Welding Procedures
- Material Certifications (if applicable)

Written Installation Instructions

- Structural Steel (if applicable)
 - Decking (if applicable)
 - Structural Bolts (if applicable)
 - **Quality Control Section of AISC** Certification Manual (if applicable)
 - Weld Testing Reports (if applicable)
- **NOTE: These items are required to be submitted along with Submittal Drawings and Design Calculations Those Fabrication Submittal Items not marked are to be submitted prior to shipment of the bridge.

Appendix A

1/K FOR VARIOUS VALUES OF CL/Pc and n

				n			
1/K	4	6	8	10	12	14	16
1.000	3.686	3.616	3.660	3.714	3.754	3.785	3.809
0.980		3.284	2.944	2.806	2.787	2.771	2.774
0.960		3.000	2.665	2.542	2.456	2.454	2.479
0.950			2.595				
0.940		2.754		2.303	2.252	2.254	2.282
0.920		2.643		2.146	2.094	2.101	2.121
0.900	3.352	2.593	2.263	2.045	1.951	1.968	1.981
0.850		2.460	2.013	1.794	1.709	1.681	1.694
0.800	2.961	2.313	1.889	1.629	1.480	1.456	1.465
0.750		2.147	1.750	1.501	1.344	1.273	1.262
0.700	2.448	1.955	1.595	1.359	1.200	1.111	1.088
0.650		1.739	1.442	1.236	1.087	0.988	0.940
0.600	2.035	1.639	1.338	1.133	0.985	0.878	0.808
0.550		1.517	1.211	1.007	0.860	0.768	0.708
0.500	1.750	1.362	1.047	0.847	0.750	0.668	0.600
0.450		1.158	0.829	0.714	0.624	0.537	0.500
0.400	1.232	0.886	0.627	0.555	0.454	0.428	0.383



Where: $C = \frac{E}{h^2 [h/3I_v + b/2I_b]}$ L = Lengthin inches of one truss panel $P_c = Buckling Load (= Top Chord Compression x F.S.)$ n = Number of Panels

Reference: Galambos, T.V. (1988) "Guide to Stability Design Criteria for Metal Structures", 4th Ed., PP 515-529. Copyright © 1988. Reprinted by permission of John Wiley and Sons, Inc.

SECTION 620 DEWATERING (ADDED SECTION)

620.1 GENERAL

620.1.1 Scope

This section covers the work necessary for dewatering of excavations and structures in and adjacent to the Blanco Flume and arroyo as shown or as specified in the Contract Documents.

620.1.2 Submittals

Shop Drawings: Water Control Plan.

620.1.3 Water Control Plan

- A. The Contractor shall prepare and implement a Water Control Plan for all groundwater and surface water control facilities.
- B. The Water Control Plan shall be incorporated into the Contractor's Storm Water Pollution Prevention Plan for the project. Additionally, the Water Control Plan shall include:
 - 1. Descriptions of the groundwater and surface water control equipment; methods; standby equipment and power supply, pollution control facilities, and discharge locations to be utilized.
 - 2. Drawings showing locations, dimensions, and relationships of elements of each system.

The overall performance and stability of the dewatering system shall remain the responsibility of the Contractor.

620.3 EXECUTION

620.3.1 General

Continuously control water during course of construction in accordance with Water Control Plan, including, if necessary, weekends and holidays and during periods of work stoppages, and provide adequate backup systems to maintain control of water.

620.3.2 Dewatering Systems

A. Provide, operate, and maintain dewatering systems of sufficient size and capacity to permit excavation and subsequent construction in the dry and to lower and maintain groundwater level a minimum of 2 feet below the lowest point of excavation. Continuously maintain excavations free of water, regardless of source, and until

backfilled to final grade.

B. Dewatering systems shall include wells or well points, pumps, piping, settling ponds, and all other equipment and appurtenances as necessary.

C. Electric Power

- 1. The Contractor shall coordinate with PNM Electric as required, to obtain electric power if required for the dewatering process.
- 2. Contractor shall pay for any electric power used during construction until final acceptance by the OWNER.
- 3. Contractor shall also pay for any temporary electric power installations and installation shall meet construction safety requirements of OSHA, State, and other governing agencies.

D. Design and Operate Dewatering Systems

- 1. To prevent loss of ground as water is removed.
- 2. To avoid inducing settlement or damage to existing facilities, completed work, or adjacent property.
- 3. To relieve artesian pressures and resultant uplift of excavation bottom.
- E. Sufficient redundancy in each system to keep excavation free of water in event of component failure.

620.3.3 Monitoring Wells

Monitoring Groundwater Levels: The Contractor shall install and monitor temporary observation wells as necessary to monitor changes in the groundwater elevation.

620.3.4 Disposal of Water

Disposal of water from the dewatering operations shall be in accordance with the Contractor's Storm Water Pollution Prevention Plan.

620.3.5 Protection of Property

Securely support existing facilities, completed work, and adjacent property vulnerable to settlement due to dewatering operations. Support may include, but not be limited to, bracing, underpinning, or compaction grouting.

620.4 PAYMENT

620.4.1 General

Costs for the work in this section shall be included in the Dewatering bid item and shall be paid for as follows:

Payment will be made as a percent of the dollar amount of work completed to date minus the Mobilization bid item, the Care and Diversion of Water bid item, and Dewatering bid item and prorated for each pay application.

Pay Item

Dewatering

<u>Pay Unit</u> LS

SECTION 621 CARE AND DIVERSION OF WATER (ADDED SECTION)

621.1 DESCRIPTION

621.1.1

This work covers the handling of storm and nuisance flow water in the vicinity of this project during construction.

621.2 CONSTRUCTION REQUIREMENTS

The Contractor shall construct and maintain all dikes and drainage ditches necessary for the elimination of surface water from work areas. This includes the protection of any inchannel storage of equipment or materials. These control measures shall be confined within the project limits as shown on the plans. The Contractor is responsible for adequacy of the scheme or plans and for furnishing all equipment, labor and materials necessary for protecting the work areas from surface water flows.

Diversion methods may be by use of concrete wall barriers, sand bag diversion channels, sand bag dams, earthen berms, pumping or piping around or over the work areas or any method or combination of said methods.

In the event that storm flow, snowmelt or other water flows overtop the Contractor's diversion method, the Contractor will be responsible for any and all damage and is responsible for immediate resolution and repair in a manner acceptable to the Owner.

621.3 BASIS OF PAYMENT

Providing and maintaining the diversion and care of water, regardless of the amount of water handled, shall be paid for as follows:

Payment will be made as a percent of the dollar amount of work completed to date minus the Mobilization bid item, the Care and Diversion of Water bid item, and Dewatering bid item and prorated for each pay application.

Pay Item Care and Diversion of Water

<u>Pay Unit</u> LS

632.1 DESCRIPTION

This revegetation Work consists of preparing the soil, seeding, mulching, crimping, and the application of tackifier to areas stripped of vegetation during construction operations and are required to be revegetated. For additional information refer to the US Clean Water Act as outlined in the Environmental Protection Agency (EPA) National Pollutant Discharge Elimination System (NPDES) Storm Water Pollution Prevention Plan (SWPPP). Construction staking and digital submittals are included in the scope of the revegetation Work. The Department and Subcontractor shall each have at least one (1) Section 632, "REVEGETATION" TTCP-certified person on the Project at all times.

632.2 MATERIALS

The Contractor shall provide submittals as per Table 632.3.4:1, "Operations Sequence for Classes of Seeding," for all Materials to the Project Manager at a minimum of ten (10) working Days before revegetation Work commences. Submittals shall conform to the Specifications and the revegetation Plan, and shall be on the Approved Products List. After submittals have been approved as per procedures identified in Section 632.3.3, "Pre-Seeding Conference;" the Contractor may substitute products on the Approved Products List with prior approval as per the same process. Rock Mulch Material submittal shall be required and meet the Specification but does not need to be on the Approved Product List. Submittal shall be a full five (5) gallon bucket sample provided to the Project Manager for sieve analysis.

All bulk Materials delivered to the Project shall be accompanied by a certified weigh master ticket for Materials utilized per Project as per Section 109.1, "Measurement of Quantity." Split loads of fertilizer, seed, straw, tackifier, and bonded fiber matrix may be allowed with proper weigh master ticket and Contractor affidavit. Split loads shall not be allowed for compost mulch and rock mulch.

All packaged Materials delivered to the Project shall be wrapped or otherwise securely protected from weather which might affect their integrity. Materials in weather-damaged packaging shall be rejected for use on the Project.

Certification for bulk Materials shall comply with Section 106.4, "Certificates of Compliance." Notify Project Inspectors when bulk Materials are delivered so loads may be inspected and verified.

The Contractor shall ensure that straw bales stored on the Project shall not exceed 20% moisture content.

632.2.1 Temporary Soil Stabilant/Tackifiers for Class A Seeding

Temporary soil stabilant and tackifier shall be considered the same and the terms used interchangeably. Tackifiers shall have a blue or green dye lasting a minimum of 36 hours to aid in application and inspection, and be bio-degradable. When used as part of seeding operations it shall be applied at a rate of 200 pounds per acre.

Tackifiers shall be plant-derived and bio-degradable and be composed of either guar, psyllium (Plantago ovata), or starch.

Guar. Guar is a plant based product derived from the ground endosperm of the guar plant, treated with dispersant agents for easy mixing.

Section 632: Revegetation

Psyllium. Psyllium is composed of the finely ground muciloid coating of Plantago ovata seeds that is applied as a dry powder or in a wet slurry to the surface of the soil. It dries to form a firm but re-wettable membrane that binds soil particles together but permits germination and growth of seed. Psyllium requires twelve (12) to eighteen (18) hours drying time.

Starch. Starch is non-ionic, cold-water soluble (pre-gelatinized) granular cornstarch. The Material is mixed with water. Approximate drying time is nine (9) to twelve (12) hours.

632.2.2 Seed for Class A and C Seeding

The Project seed list shall conform to the NMDOT Revegetation Zone and Seed List Maps at the NMDOT website or at the following link: <u>https://arcg.is/2peB6Cc</u>.

The list used shall be the year the Project was let. The Contract shall specify varieties of noxious weed-free seed in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11 et seq.).

Seed submittal shall be a list from a seed producer showing the common name, botanical name, pure live seed, total poundage, source locality (county and state), and NMDOT Project control number as per the revegetation/erosion control Plan.

All seed suppliers must be on the current Approved Products List and provide documentation that their regulating state agency belongs to the Association of Official Seed Certifying Agencies (AOSCA).

Seed mixtures shall be pre-mixed and bagged certifying the mixture quantity and percentage as noted in the Contract.

Substitutions for unavailable seeds shall be performed by adding the quantity of the unavailable seed to the quantity of the next seed species listed within that subcategory of the seed list. Before substitutions can be made the Contractor must provide proof of unavailability in letter form from three (3) seed suppliers listed on the NMDOT Approved Products List that the seed is not available.

All seed delivered to the Project shall be stored in a container protected from rodents and moisture and not subject to temperatures higher than 90°F.

632.2.2.1 Seed Labeling

The Contractor shall seal and label each bag in accordance with the Federal Seed Act (7 U.S.C. § 1551 et seq.) and NMDA seed labeling requirements (NMSA 1978, § 76-10-13). The Contractor shall provide the following information on each bag tag for each species:

- 1. Variety (specify if certified);
- 2. Kind of seed;
- 3. Lot number;
- 4. Purity;
- 5. Germination;
- Percentage crop seed, percentage inert, percentage noxious weeds, in accordance with New Mexico Seed Law (NMSA 1978, § 76-10-11. et seq);
- 7. Origin;
- 8. Test date; and
- 9. Weight (in pounds) of this species or percentage of total lot.

Section 632: Revegetation

The Contractor shall provide seed analysis results that are not older than twelve (12) months prior to use.

Seed suppliers shall provide one (1)-acre seed bags.

The Contractor shall provide to the Project Manager documentation of seed origin and pure live seed content from a certified testing Laboratory. Seed must arrive in the original sealed containers from the Supplier and the Revegetation Contractor must provide all tags and certifications to the Project Manager. Certification must be provided that the seed has been stored in appropriate conditions in the twelve (12) months before arriving at the Project. Each seed tag shall be affixed to the bag and have the project control number clearly identified. The certified seed Supplier shall maintain records of seed tag control numbers for a period of three (3) years.

632.2.3 Fertilizer for Class A and C Seeding

Fertilizer shall be organic, slow release with an N-P-K (nitrogen, phosphorous, potassium) analysis of either 3-6-3 or 3-7-2 and blended with endo-mycorhizza and humates. Application rate shall be 1,000 lbs. per acre. Humates must comprise a minimum of 15% by weight. Endo-mycorrhiza must be arbuscular with a minimum propagule of 1.33 propagules per gram. The Contractor shall provide fertilizer (specified type and formulation) and supplier's certification in accordance with the Contract. Each bag or tote of fertilizer shall have a visible, sealed, and un-altered analysis tag from the manufacturer that must be approved by an authorized Section 632, "Revegetation" certified Inspector prior to application of the Material. The tag must include the manufacturer's information, the N-P-K analysis of the product, and the weight of the bag or tote. NMDOT reserves the right to inspect any bill of ladings or packing slips from the supplier to verify quantity of Material on site.

632.2.4 Hydro-Mulch - Bonded Fiber Matrix (BFM) for Class C Seeding

Hydro-mulch shall be Bonded Fiber Matrix (BFM). BFM is a hydraulically-applied blanket that controls soil erosion and accelerates seed germination. BFM is a three (3)-dimensional composite of wood or paper fibers bonded by polymer tackifier that provides high performance erosion prevention on slopes. Dye and tackifier shall be included in the BFM formulation. BFM shall be applied at a rate of 2,000 lbs per acre. As a hydraulic erosion control product (HECP) as defined by the Erosion Control Technology Council, the BFM or its equivalent shall be Type 3 or higher in functional longevity as defined in Table 1 of the 2014 Standard Specifications for Hydraulic Erosion Control Products (HECPs) Part 2.01.

632.2.5 Rock Mulch for Class C Seeding

Rock Mulch shall be between one (1) inch and no greater than 1 $\frac{1}{2}$ inches in size. Rock shall have a minimum of two (2) Fractured Faces. Rock which is black in color will not be Acceptable. Pumice rock is not Acceptable.

632.2.6 Composted Mulch for Class A Seeding

The Contractor shall furnish and place composted mulch as shown on the revegetation Plan and in accordance with the criteria as described below. Composted mulch provider must be registered with or permitted by the New Mexico Environment Department Solid Waste Bureau and must be in compliance with 20 NMAC 9.1.

Composted mulch is defined as the product of a controlled aerobic thermophilic biological decomposition process that meets the quality requirements in Table 632.2.6:1, "Requirements

Section 632: Revegetation

of Compost Mulch." Raw Materials used in producing composted mulch may include green waste, animal manure, animal bedding, paper waste, food waste, biosolids or other non-toxic organic matter, but shall not include animal mortalities.

Material	Measure	Method	Criterion			
	Moisture Content*	Evaporative loss at 105°C	Between 35 % and 60%			
	Carbon/Nitrogen Ratio*	Nitrogen by AOAC 993.13, Carbon by ASTM D5373	Between 15:1 and 20:1			
	Particle Size	Sieve	40% minimum to 100% maximum of Material may pass ¾ inch screen; 100% of pieces smaller than 4 inches in length and 2 inches in diameter			
All Composted	Electrical Conductivity*	1:5 slurry (mass basis)	<10 mmho/cm			
Mulches	pH*	1:5 slurry (mass basis)	pH 5.0 – pH 8.0			
	Organic Matter*	Loss on ignition at 550°C	25% - 100% of dry weight			
	Maturity	Germination test in 50:50 (volume basis) mixture of ¾ inch screened composted mulch and twice- rinsed nursery sand.	Minimum 50% germination to second set of leaves for marigold seeds			
	Stability	By temperature and moisture content	Maximum core temperature of 110°F after 48 hours in 5 foot tall conical pile, with moisture adjusted to between 40% and 60%.			
	Debris	By volume	Less than one percent (1%) inorganic debris, including but not limited to, glass, plastic, stones and metal.			
Composted Mulches with	Trace Metals*	HNO₃ digestion	Complies with Table 3 of 40CFR503.13			
Wastewater Biosolids	Fecal Coliforms*	MPN with A-1 broth	<1000 MPN/dry gram			
*Tests marked with a tests may be perform	* lests marked with asterisks must be performed by a suitable analytical Laboratory; other tests may be performed by the composted mulch producer.					

Table 632.2.6:1 Requirements of Compost Mulch

632.2.6.1 Acceptance

Compost mulch suppliers on the Approved Products List are approved for Project use.

Section 632: Revegetation

The NMDOT Landscape Architect shall review lab analysis and submittals from the compost producers every 180 Days and confirm their listing on the Approved Products List.

Before delivering composted mulch, provider shall furnish documentation that includes the following:

- 1. The raw Materials, by percentage of volume, used in the production of the delivered composted mulch;
- Daily temperature records for at least 20% of the piles or batches used to produce the delivered composted mulch, illustrating attainment of at least 130°F for at least seven (7) consecutive Days;
- A Laboratory analysis for criteria shown in Table 632.2.6:1, "Requirements of Compost Mulch" performed on composted mulch no more than 180 Days prior to delivery; and
- 4. An affidavit, signed by a corporate officer, confirming that the composted mulch meets each requirement shown in Table 632.2.6:1, "Requirements of Compost Mulch."

632.2.6.2 Straw Mulch for Class A Seeding

The Contractor shall not use rotten or moldy straw. All straw mulch must be barley straw and is to be free of noxious weeds as certified by an industry-recognized forage certification authority. Certification twine must appear on all certified straw bales. The color of the certified twine for straw bales shall be listed on the certification submittal for identification purposes. The date on the straw certification provided to NMDOT may not be older than one (1) year from the date of purchase. Before Acceptance the Contractor shall provide to the Project Manager weigh tickets signed by a certified weighmaster as per Section 109.1, "Measurement of Quantity," which confirms that the amount of bulk Materials delivered to the Project equals tonnage required for the Project per the determined acreage.

632.3 CONSTRUCTION REQUIREMENTS

632.3.1 Equipment

All Equipment shall be inspected by the Contractor to confirm Equipment is in good working order prior to commencing Work. An Inspector shall witness the inspection and calibration.

To avoid the spread of noxious weeds, all revegetation Equipment (including but not limited to trucks, trailers, tractors, hydro-seeders, drill seeders, straw blasters, and disks) shall be pressure-washed to remove all visible mud, soil, and debris prior to entering the Project limits within the state right of way. If Equipment leaves the Project for any reason it shall be re-inspected when returned to the job site.

Disking attachments shall have a minimum six (6) foot carriage with front and rear discs.

Crimping Equipment shall have a minimum eight (8) foot wide carriage.

Skid steer attachments may only be used on confined areas for seeding operations.

Skid steers shall not be used for spreading compost unless in a confined area.

632.3.1.1 Drill Seeder

Section 632: Revegetation

Drill seeding Equipment shall be inspected so that drill seed drop tubes are not torn or clogged. All seed loaded into Equipment shall be verified by an Inspector to confirm correct application rates. An Inspector must verify that the auger in the seed bin is rotating and that seed is dropping through drop tubes.

The drill seeder must be inspected daily to prevent loss of seed or to prevent overseeding. Calibration is necessary to control rate and depth of seed distribution. Calibration procedure and demonstration shall be as per manufacturer's Specifications. The drill seeder shall be calibrated once per Project unless it is replaced on the Project. Drill seeders shall only be modified by manufacturer recommendation and documentation of the modification must be available.

The inspection shall ensure that the Equipment has the following:

- 1. Double disc openers with 'A' frames;
- 2. Depth bands;
- 3. Drop tubes;
- 4. Packer wheels or drag chains;
- 5. Rate control attachments;
- 6. Seed boxers with covers and agitators for trashy seed; and
- 7. Keyway holding auger to shaft.

632.3.1.2 Hydro-Seeder

The hydro-seeder cannons, hoses and agitators shall be in good working condition. The hydro-seeder shall be capable of applying Materials up to distances of 200 ft.

632.3.2 Materials and Sampling

Inspector must be present when Materials are to be loaded into Equipment or distributed on the areas to be seeded. Contractor shall provide all containers and bags to the Project Inspector for verification.

A one (1) quart sealed zip lock bag of seed Material labeled with the Material identification and the Project control number is to be provided to the NMDOT Landscape Architect for examination and testing. The Department may reject Materials not in accordance with the Contract.

632.3.3 Pre-Seeding Conference

A mandatory pre-seeding conference called by the Project Manager shall be held on the Project before revegetation Work begins. Attending will be the NMDOT Project Manager or representative, the NMDOT Landscape Architect or certified seeding Inspector, the General Contractor, and the Revegetation Contractor.

The purpose of the meeting is to inspect the Project, and off-site yards, pits, and borrow roads for confirmation of their revegetation requirements. The Project Manager shall have at the pre-seeding meeting documentation of all pits, Contractor yards, etc. approved for use on the Project. Per Section 632.3.12, "Seeding Operations for Class A and Class C Seeding," test strip location shall be verified following the Pre-seeding Conference. Construction staking must be completed and quantities must be verified by the Project Manager before test strip commences.

Section 632: Revegetation

Submittals must be provided to the Project Manager and Landscape Architect ten (10) Days prior to the proposed start of revegetation Work. Any revegetation Work done prior to this inspection shall be rejected.

All areas to be revegetated shall be measured and confirmed for each class of seeding in accordance with Section 801, "Construction Staking by the Contractor." The Project Manager and the Contractor shall field verify and agree on the acreage for each Class of seeding, including Modified Class A, before any Materials are ordered or delivered to the Project.

Construction staking shall also identify all areas which have less than four (4) inches of soil cover and qualify for Modified Class A seeding.

The Prime Contractor shall provide minutes of this meeting for review and approval by the Project Manager and Landscape Architect or representative.

There will be no change in Materials or the scope of revegetation Work after the Contractor begins seeding operations.

For revegetation Work areas to be considered ready for revegetation they shall be accessible, free of Equipment, and no further construction processes occurring which would interfere with seeding operations. No further revegetation Work or Equipment access shall occur on areas which have been revegetated.

The Prime Contractor shall maintain a minimum twelve (12) foot wide Equipment access to all revegetated areas for use by revegetation Subcontractor until revegetation Work is complete.

632.3.3.1 Weather Limitations

Revegetation Work shall not be performed when the ground is frozen or when temperatures are below 32°F. No revegetation Work shall be performed when wind speed exceeds fifteen (15) miles per hour as measured with a wind meter by the Inspector.

632.3.4 Seeding Classes

The Contractor shall provide the various classes and the Material and operations for each class in accordance with Table 632.3.4:1, "Operations Sequence for Classes of Seeding."

		Class			
Operation	Α	Mod A	С		
Disk seed bed to four (4)"	х	Х			
Apply fertilizer by broadcast, then disk to four (4)"	Х	Х			
Apply one (1) inch compost mulch, disk to four (4)"	Х	Х			
Drill seed	Х	Х			
Straw crimp; apply tackifier, dye	х				
Track slopes with ridges horizontal and parallel to bottom of slope	х		Х		
Hand rake or chain harrow surface horizontally			Х		
Hydro apply seed, fertilizer, dye, tackifier		Х	Х		

 Table 632.3.4:1

 Operations Sequence for Classes of Seeding

Section 632: Revegetation

Table 632.3.4:1 Operations Sequence for Classes of Seeding

	Class		
Operation	Α	Mod A	С
Scarify seeded areas horizontally to slope		Х	х
Hydro mulch; apply tackifier, dye			х
Rock Mulch		Х	х
Note: No seeding shall be applied on frozen ground			
Key: X = required; = not required			

632.3.5 Modified Class A Seeding for Narrow Areas or Areas Inaccessible to Drill Seeding Equipment

Any Project areas with slopes less than 3:1 requiring revegetation which are less than eight (8) ft wide, or are inaccessible to drill seeding Equipment, or are too rocky to disk to a four (4) inch depth, shall use the following procedure and payment is to be made at the Class A rate.

The Contractor shall disk soil to a four (4) inch depth with one (1) inch of incorporated compost mulch and fertilize as per Class A treatment. A skid steer with attachments may be used. If the seed bed is too rocky to disk to four (4) inches, the Contractor shall omit compost mulch and chain harrow or hand rake the entire area and proceed with Steps 1 and 2 below.

A hydro-seeder shall then be used to apply the seed, dye, tackifier, and hydro mulch in two (2) steps as described below.

Step 1. The Contractor shall apply seed and dye to the newly disked soil, rake or chain harrow so seed is covered with soil.

Step 2. The Contractor shall apply an approved bonded fiber mulch with tackifier applied in two (2) coats from opposing directions at rate of 2,000 lbs. per acre.

Seed in these areas shall be applied at twice the specified rates and no extra payment shall be made therefore.

632.3.6 Revegetation of Areas Outside the Project Limits

Revegetation of all disturbed off-site locations will be in accordance with Section 104.7, "Final Cleanup," and the appropriate class of seeding will be used for the terrain. Section 632, "Revegetation," procedures will be followed for all public lands and private lands that are required to be revegetated unless other seed lists and procedures are required in a resource agency permit. All revegetation Work done for permitted Contractor located activities shall be done at the Contractor's expense.

The Contractor must provide as part of submittals a letter of intent from landowners for off-site locations to be used as per Section 104.7, "Final Cleanup." The letter of intent must acknowledge the landowner's right to have revegetation performed as per our Specifications and if that revegetation right is waived the owner acknowledges that neither the Contractor nor NMDOT shall be responsible for any claims, including but not limited to fugitive dust, noxious weeds, and siltation of waterways, related to the owner's decision to forgo revegetation. When revegetation Work is being performed on private land, a right of access permit for

Section 632: Revegetation

inspection of the revegetation Work for that private land must be provided by the Contractor to Project Management and shall be considered Incidental to the Work.

The Contractor shall provide documentation of the treatment used and notify Project Manager when the revegetation Work is being performed so Inspectors may be present.

Table 632.3.6:1 Schedule of Materials for Class A Seeding					
CLASS A REVEGETATION MATERIALS PER ACRE					
TACKIFIER COMPOST SEED STRAW FE			FERTILIZER		
200 lbs	134 cubic yards	Per revegetation zone list	2 tons	1000 lbs.	

Table 632.3.6.2 Schedule of Materials for Class A Modified Seeding						
CL	CLASS A MODIFIED REVEGETATION MATERIALS PER ACRE					
COMPOST SEED		HYDRO MULCH WITH TACKIFIER	FERTILIZER			
134 cubic yards	Per revegetation zone list X2	2,000 lbs	1000 lbs.			

Table 632.3.6:3 Schedule of Materials for Class C Seeding

CLASS C REVEGETATION MATERIALS PER ACRE						
HYDRO MULCH WITH TACKIFIER	SEED	ROCK MULCH	FERTILIZER			
2,000 lbs.	Per revegetation zone list X2	300 tons	1,000 lbs.			

632.3.7 Materials Certifications

The Contractor shall provide all certifications for required Material to the Project Manager before the Project begins.

632.3.8 Seedbed Preparation for Class A Seeding

The Contractor shall till the seedbed with a disk, harrow, or chiseling tools to at least four (4) inches deep. Uproot competitive vegetation during seedbed preparation, and uniformly work the soil to a surface free of clods, large stones, or other Deleterious Material that would interfere with seeding Equipment. The Contractor shall ensure Inspector approves area that was disked before compost is added to the soil.

The Contractor shall add one (1) inch of compost mulch as specified by disc, harrow, or chisel to a depth of four (4) inches.

The same day as and preceding tilling compost mulch into the seedbed water shall be added to the compost mulch at a rate of 2,500 gallons per each 134 cubic yards. This is to aid

Section 632: Revegetation

in the incorporation of the mulch into the seedbed. All compost mulch must be incorporated into the seedbed before adding fertilizer and commencing drill seeding. The Contractor shall add fertilizer by broadcast and disc, harrow, or chisel to a depth of four (4) inches.

The Contractor shall till across the slope, along the contour. The Contractor shall not till the seedbed if the moisture content of the soil is outside the limits recommended by the seed Supplier for planting, or the ground is in a non-tillable condition.

The Contractor shall not prepare more seedbed area on which the entire seeding operation can be applied before the surface crusts or loses seed and fertilizer to erosion. If erosion or crusting occurs, perform seedbed preparation again.

After seed bed preparation and before drill seeding commences all rocks larger than four (4) inches in diameter shall be removed from the seed bed and no payment shall be made therefore.

632.3.9 Tracking and Scarification for Class C Seeding

Areas designated as Class C treatment shall be track-walked as per Table 632.3.4:1, "Operations Sequence for Classes of Seeding" with tracks parallel to the toe of slope to compact and score the slopes within seven (7) working Days prior to the commencement of Class C operations.

Slopes which have eroded or otherwise degraded in the seven (7) working Day period before seeding may need to be re-graded before revegetation.

Competitive vegetation shall be uprooted before hydro-seeding so that seed has good adherence to the surface and soil cover and no payment shall be made therefore.

Following tracking slopes shall be scarified by hand raking or chain harrowing horizontally and parallel to the bottom of the slope.

Following tracking of the slopes all rocks larger than four (4) inches in diameter shall be removed from the hydro-seed bed and no payment shall be made therefore.

632.3.10 Fertilizer for Class A and Class C Seeding

Fertilizer bags shall be examined before use to confirm correct analysis and content. Notify Project Inspector when bags are to be loaded into machines and all bags shall be collected and counted confirming correct amounts used.

The Contractor shall apply the fertilizer uniformly to the prepared seedbed. Class A shall be broadcast and Class C shall be hydro-applied. The Contractor shall apply mix fertilizer in the hydro-seeder for a minimum of ten (10) minutes before applying.

632.3.11 Compost Mulch for Class A Seeding

The Contractor shall wet down compost mulch so that wind loss is kept to a minimum. Stockpiles shall be less than six (6) ft tall and oriented perpendicularly to the prevailing winds to prevent wind loss.

The compost mulch moisture content shall be indicated on the delivery ticket at the time of delivery and shall be within the 35 - 60 % range.

Regardless of the compost mulch moisture content, the Project Manager may require

Section 632: Revegetation

further wetting of compost mulch at delivery to prevent loss through wind. No extra payment shall be made therefore.

The certified Inspector shall verify the load is full before unloading to confirm the Material is up to the front of the trailer. Indications of a short load are gaps at the front of the truck, overloading at the back of the truck, and slip staining of the Material from the original loading line.

632.3.12 Seeding Operations for Class A and Class C Seeding

The Contractor shall uniformly apply the seed mix at a rate in accordance with the Contract. The Contractor shall not drive vehicles or other Equipment on seeded areas. The Contractor is responsible for protecting revegetation Work until Acceptance.

A test strip of each class of seeding shall be provided by Contractor before commencing general seeding. Each test strip shall measure no less than one (1) acre in a configuration which works for the Equipment and the site, shall be at a location of the Contractor's choosing within the Project, and shall be done as per Specifications with a certified Inspector and the Landscape Architect or representative present. Equipment calibration and a test strip are not required for Projects less than one (1) acre in size. The test strip is to verify Equipment functionality, proper adjustment, application rate, and the Contractor's ability to perform the Work as per Specification.

Upon Acceptance of the test plot the Contractor may proceed with seeding operations. If the test strip is not Accepted, the Contractor shall establish a new one (1) acre strip location and re-verify. The Contractor shall not proceed to full seeding operation until an Acceptable test strip has been produced. Payment will only be made for Accepted test strips and shall be made under appropriate class of seeding.

The Contractor shall coordinate with the Project Manager prior to starting seeding operations to ensure than an Inspector is present at all times. No revegetation Work shall be performed without the presence of a certified Inspector.

Once seed is installed on a given Project area all operations to complete that class of seeding for that area must be completed the same Day.

If rainfall or some other factor prevents the Contractor from seeding to the specified depth on prepared surfaces, the Contractor shall prepare the seedbed and apply seed again, at no additional cost to the Department.

Class C areas are to be seeded at twice the standard rate and no extra payment is to be made therefore.

The Contractor shall not perform seeding operations when wind velocity exceeds fifteen (15) mph. Disking may still be performed with winds exceeding 15 mph.

632.3.13 Drill Seeding for Class A Seeding

The Contractor shall plant seed 1/2 inch deep unless otherwise specified in the Contract. The Contractor shall ensure that the distance between the drilled furrows is no more than eight (8) inches. If the furrow openers on the drill exceed eight (8) inches, the Contractor shall redrill the area and no extra payment shall be made therefore.

632.3.14 Hydro-Seeding for Class C Seeding

Section 632: Revegetation

Seed shall be applied in a slurry with fertilizer and dye. All Materials loaded into Equipment shall be verified by NMDOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

632.3.15 Hydro-Mulching for Class C Seeding

Hydro-mulching shall be applied in two (2) sweeps from opposing directions to ensure coverage is complete. The BFM must contain a tackifier when applied. A dye capable of lasting 36 hours shall be included in slurry so that Project Inspectors can confirm coverage. Mulch must be applied the same Day as the seed to protect seed. All Materials loaded into Equipment shall be verified by NMDOT Project Inspectors to confirm correct application rates. The Contractor shall mix all Materials for a minimum of ten (10) minutes before application.

The Contractor shall provide the Project Manager a laminated color reference card from the BFM manufacturer showing a close-up reference photograph of their product installed at the rate of 2,000 lbs. per acre.

632.3.16 Straw Mulching for Class A Seeding

The Contractor shall anchor straw mulch using a crimper with flat serrated discs at least one (1) inch thick with dull edges, spaced no more than nine (9) inches apart. The Contractor shall ensure that the disc diameter is large enough to prevent the frame of the Equipment from dragging in mulch.

The Contractor shall ensure that straw mulch crimping is at least two (2) inches deep and do not cover it with excessive amounts of soil. The Contractor shall perform mulch anchoring across the slope where practical, with no more than two (2) passes of the anchoring Equipment. Straw shall be evenly distributed over entire bedding area with no bare areas showing or areas with straw deeper than four (4) inches in depth before crimping.

The Contractor shall ensure that the rate of application of straw mulch is at least two (2) tons of air-dry straw per acre. The Inspector shall verify the total tons per acre of straw required per acre.

The Contractor shall ensure that straw mulch has at least 50% of fibers exceeding ten (10) inches long on the ground after application.

The Contractor shall spread straw mulch following drill seeding with a mechanical mulch spreader or by hand. If spreading by hand, the Contractor shall tear apart the bales of mulch and fluff it before spreading.

The Contractor shall anchor straw following crimping with an approved tackifier with green dye at a rate of 200 lbs. per acre. The tackifier shall be Incidental to the seeding.

When crimping the straw is impractical due to rocky areas it may be spread and not crimped. Tackifier will be applied as per Specification. This method shall be approved by the Project Manager for rocky areas only.

When the revegetation Work is being done the Contractor shall verify straw bale moisture content with a straw bale moisture meter with an eight (8) inch minimum length probe for the duration of the Project. An Inspector must be present and record this test. The moisture meter shall remain the property of the Contractor following Project completion and the testing shall be considered Incidental to the Project. Each bale must be tested to confirm that the bale interior moisture content is no greater than 20%. Any bales with moisture above this level shall be rejected and removed from the Project. Higher levels of moisture may indicate the

Section 632: Revegetation

presence of mold and the risk of spontaneous combustion.

632.3.17 Rock Mulch

The finished rock mulch surface must be smooth and uniform maintaining the original flow lines, slope gradients, and contours of the job. Rock mulch must be applied in a fashion not to tear up or damage the hydro-mulch when being placed. Methods and means of rock mulch installation are not specified and may vary as per access. Damaged hydro-mulch shall be replaced and no extra payment made therefore.

632.3.18 Class C Slopes with over 50' of Slope Length

Class C slopes in excess of 50' of slope length (measured along the slope face from toe to crest) shall have the following treatment.

Class G rip-rap shall be used for the lower portion of the slope from the toe upwards to the point where there will not be more than 50' of slope length covered with 3/4 inch to one (1) inch rock mulch described in 632.2.5, "Rock Mulch for Class C Seeding," and Table 632.3.4:1, "Operations Sequence for Classes of Seeding." The rip rap shall be placed over the hydroseeded and mulched surface in a way that does not damage the applied mulch treatment, shall be installed from the toe of the slope upwards and shall be one (1) layer of Class G rip-rap in thickness.

632.4 METHOD OF MEASUREMENT

The Contractor shall digitally provide for approval of a to-scale printable revegetation Plan as part of the submittals before the mandatory pre-seeding meeting. The Plan shall identify each area by station, numerical order, Project left, Project right, and is to indicate the class of seeding as per Table 632.3.4:1, "Operations Sequence for Classes of Seeding." Quantities shall match those produced by construction staking and shall include all off-site areas.

The Contractor shall identify on the Plan all areas identified by Construction Staking which have less than four (4) inches of soil cover and qualify for Modified Class A treatment as per Section 632.3.5, "Modified Class A Seeding for Narrow Areas or Areas Inaccessible to Drill Seeding Equipment."

An accompanying table to the Plan shall be submitted showing the amount of each Material apportioned for each area on the Project and the acreage of that sub-area. Included in the Plan shall be all off-Project areas requiring revegetation as enumerated in Section 632.5, "Basis of Payment."

632.5 BASIS OF PAYMENT

Pay Item	Pay Unit
Class A Seeding	Acre
Class C Seeding	Acre

632.5.1 Revegetation Work Included in Payment

The following revegetation Work items shall be considered as included in payment for the main items and shall not be measured or paid for separately:

1. Tackifier for straw mulch;

Section 632: Revegetation

- 2. All compost mulch, fertilizer Materials, and water added at tilling;
- 3. Rock for rock mulch;
- 4. Moisture probe for straw bales;
- 5. Weed removal and disposal prior to seed operations;
- 6. Revegetation Plan;
- 7. Right of access permit to be provided by Contractor for inspection of off-site locations located on private property;
- 8. Multiple mobilizations to meet NPDES requirements; and
- 9. Construction staking.

Section 632: Revegetation

SECTION 632 REVEGETATION (ADDED SECTION TO NMDOT SECTION 632)

Add the following subsection:

632.2.7 ROLLED EROSION CONTROL PRODUCTS

A. For all non-channel applications provide the following:

Permanent turf reinforcement mat

A machine-produced mat of 100% UV stable polypropylene fiber. The matting shall be of consistent thickness with synthetic fibers evenly distributed over the entire area of the mat. The matting shall be covered on the top with black heavyweight UV stabilized polypropylene netting having ultraviolet additives to prevent breakdown and an approximate 0.50 x 0.50 inch (1.27 x 1.27 cm) mesh size. The bottom net shall also be UV stabilized polypropylene, with a 0.625 x 0.625 inch (1.57 x 1.57 cm) mesh size. The matting shall be sewn together on 1.50 inch (3.81 cm) centers with UV stabilized polypropylene thread, such as North American Green P300, Western Excelsior PP5-Heavy Duty or Western Excelsior EXCEL PP5-12.

- B. For all <u>channel</u> applications provide the following. (Shear stress must be calculated by a qualified engineer or hydrologist):
 - For channels subject to flow producing an unvegetated shear stress of 3 lbs./ft² or less and a vegetated shear stress of 8 lbs/ft² or less (Shear stress must be calculated by a qualified engineer or hydrologist):

Permanent composite turf renforcement mat

A machine-produced composite turf reinforcement mat comprised of a 100% UV stabilized polypropylene fiber matrix incorporated into a permanent three-dimensional turf reinforcement matting. The matting shall be of consistent thickness with synthetic fibers evenly distributed over the entire area of the mat. The matting shall be covered on the top with black heavyweight UV stabilized polypropylene netting having ultraviolet additives to prevent breakdown and an approximate 0.50 x 0.50 inch (1.27 x 1.27 cm) mesh size.

The bottom net shall also be UV stabilized polypropylene, with a 0.625 x 0.625 inch (1.57 x 1.57 cm) mesh size. The matting shall be sewn together on 1.50 inch (3.81 cm) centers with UV stabilized polypropylene thread to form a permanent three-dimensional turf reinforcement matting, such as North American Green PP5-12.

2. For channels subject to flow producing an unvegetated shear stress of 3.2 lbs./ft² or greater and a vegetated shear stress of 12 lbs./ft² or less:

Permanent composite turf reinforcement mat

A machine-produced composite turf reinforcement mat comprised of a 100% coconut fiber matrix or a 100% polypropylene fiber matrix incorporated into permanent three-dimensional turf reinforcement matting. The matrix shall be evenly distributed across the entire width of the matting and stitch bonded between a super heavy duty UV stabilized bottom net with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, an ultraheavy duty UV stabilized, dramatically corrugated (crimped) intermediate netting with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, and covered by a super heavy duty UV stabilized top net with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings, and covered by a super heavy duty UV stabilized top net with 0.50 x 0.50 inch (1.27 x 1.27 cm) openings. The corrugated netting shall form prominent closely spaced ridges across the entire width of the mat. The three nettings shall be stitched together on 1.50 inch (3.81 cm) centers with UV stabilized polypropylene thread to form a permanent three-dimensional turf reinforcement matting, such as North American Green C350 or P550.

C. Use fasteners as appropriate for substrate and according to manufacturer's recommendations. Shallow, rocky or loose soils may require spikes and large washers to secure the matting.



GEOTECHNICAL ENGINEERING REPORT BLANCO REPLACEMENT FLUME BLOOMFIELD IRRIGATION DISTRICT BLANCO, NEW MEXICO

Submitted To:

Vincent Steiner, P.E., CFM Bohannan Huston 7500 Jefferson Street NE Albuquerque, New Mexico 87109

Submitted By:

GEOMAT Inc. 915 Malta Avenue Farmington, New Mexico 87401

September 16, 2020 GEOMAT Project 202-3482



September 16, 2020

Vincent Steiner, P.E., CFM Bohannan Huston 7500 Jefferson Street NE Albuquerque, New Mexico 87109

RE: Geotechnical Engineering Report Blanco Replacement Flume – Bloomfield Irrigation District Blanco, New Mexico GEOMAT Project No. 202-3482

GEOMAT Inc. (GEOMAT) has completed the geotechnical engineering exploration for the proposed Bloomfield Irrigation Districts' Blanco Replacement Flume to be located in Blanco, New Mexico. This study was performed in general accordance with our Proposal No. 202-01-28, dated January 31, 2020.

The results of our engineering study, including the geotechnical recommendations, site plan, boring records, and laboratory test results are attached. Based on the geotechnical engineering analyses, subsurface exploration and laboratory test results, the proposed replacement structures for the BID replacement flume could be supported on either formational sandstone or engineered fill. In order to reduce the potential for differential settlement, footings for an individual structure should bear either entirely on rock or entirely on engineered fill, but not on a combination of the two materials. Other design and construction details, based upon geotechnical conditions, are presented in the report.

We have appreciated being of service to you in the geotechnical engineering phase of this project. If you have any questions concerning this report, please contact us.

Sincerely yours, GEOMAT Inc.



Robert "Bob" Flegal, P.E. Senior Engineer

Copies to: Addressee (1)

Matthew 14

Matthew J. Cramer, P.E. President, Principal

TABLE OF CONTENTS

Page No	D.
INTRODUCTION	1
PROPOSED CONSTRUCTION	1
SITE EVDI ODATION	2
SITE EAFLORATION	3 2
Leboratory Testing	.) 1
Laboratory resting	4
SITE CONDITIONS	4
SUBSURFACE CONDITIONS	5
Soil Conditions	5
Groundwater Conditions	6
Laboratory Test Results	.6
OPINIONS AND RECOMMENDATIONS	7
Geotechnical Considerations	7
Slope Stability Analysis	7
Seismic Considerations and Slope Stability	7
Foundations	8
Corrosion and Cement Type 1	1
Site Classification	2
Lateral Earth Pressures 1	2
Slopes1	3
Earthwork1	3
General Considerations1	3
Site Clearing1	3
Excavation1	4
Foundation Preparation	4
Fill Materials	5
Placement and Compaction	5
Compliance	6
Drainage	6
Surface Drainage1	6
Subsurface Drainage 1	6
GENERAL COMMENTS1	7

TABLE OF CONTENTS (continued)

APPENDIX A

Site Plan Slope Stability Profiles Logs of Borings Unified Soil Classification Drilling and Exploration Procedures

APPENDIX B

Laboratory Test Results Laboratory Test Procedures

APPENDIX C

Slope Stability Profile Results

APPENDIX D

Important Information About This Geotechnical Engineering Report (Taken From GBA)

GEOTECHNICAL ENGINEERING REPORT BLANCO REPLACEMENT FLUME BLOOMFIELD IRRIGATION DISTRICT BLANCO, NEW MEXICO GEOMAT PROJECT NO. 202-3482

INTRODUCTION

This report contains the results of our geotechnical engineering exploration for the proposed Bloomfield Irrigation District's (BID) Blanco Replacement Flume to be located in Blanco, New Mexico, as shown on the Site Plan in Appendix A of this report.

The purpose of these services is to provide pre-design information and geotechnical engineering recommendations about:

- subsurface soil conditions
- groundwater conditions
- lateral soil pressures
- earthwork

- foundation design and construction
- slope stability analysis
- drainage

The opinions and recommendations contained in this report are based upon the results of field and laboratory testing, engineering analyses, and experience with similar soil conditions, structures, and our understanding of the proposed project as stated below.

PROPOSED CONSTRUCTION

We understand the project will consist of:

- Replacing the existing flume structure,
- Evaluation of the existing south ditch embankment slope adjacent to the flume, and
- Slope stability recommendations for locations at which the existing ditch is realigned to construct the replacement flume.

The existing flume structure is located at the intersection of US-64 and NM 575 in Blanco. The existing structure is a combination of wood and concrete supports. It is assumed the supports are founded on concrete spread footings. We understand the replacement flume may be pre-cast concrete or steel truss with pipe depending on the final design. It is anticipated that the flume would be supported on concrete spread footings. The purpose of the flume is transport water

from the irrigation ditch across an existing arroyo. The depth from the top of the flume to the bottom the wash was approximately 10 to 12 feet. The following photographs present the BID flume site prior to exploration.



Existing Flume Structure View from the East



Existing Flume Structure – southern base View from the North



Existing Flume Structure – northern base View from the Northeast

SITE EXPLORATION

Our scope of services performed for this project included a site reconnaissance by a staff geologist, a subsurface exploration program, laboratory testing and engineering analyses.

Field Exploration:

Subsurface conditions at the site were explored on July 17, 2020 by drilling four exploratory borings at the approximate locations shown on the Site Plan in Appendix A. Borings B-1 and B-2 were drilled to depths of approximately 25 feet below existing ground surface (bgs), while borings B-3 and B-4 were drilled to depths of approximately 31 and 13¹/₂ feet bgs, respectively. Both borings B-3 and B-4 were terminated prior to their planned depths of 35 feet due to auger refusal.

The borings were advanced using a CME-55 truck-mounted drill rig with continuous-flight, 7.25-inch O.D. hollow-stem auger. The borings were continuously monitored by a geologist from our office who examined and classified the subsurface materials encountered, obtained representative samples, observed groundwater conditions, and maintained a continuous log of each boring.

Soil samples were obtained from the borings using a combination of standard 2-inch O.D. split spoon and 3-inch O.D. ring-lined split-barrel samplers. The samplers were driven using a 140-pound hammer falling 30 inches. The standard penetration resistance was determined by

recording the number of hammer blows required to advance the sampler in six-inch increments. Representative bulk samples of subsurface materials were also obtained.

Groundwater evaluations were made in each boring at the time of site exploration. Soils were classified in accordance with the Unified Soil Classification System described in Appendix A. Boring logs were prepared and are presented in Appendix A.

Laboratory Testing:

Samples retrieved during the field exploration were transported to our laboratory for further evaluation. At that time, the field descriptions were confirmed or modified as necessary, and laboratory tests were performed to evaluate the engineering properties of the subsurface materials.

SITE CONDITIONS

The site of the proposed Blanco Replacement Flume is located north of the intersection of US-64 and NM-575. Much of the area surrounding the flume appears to be undeveloped besides the private residential property to the northwest and the residential properties on the other sides of NM-575 and US-64. The ground surface across the site had a gentle gradient in the direction of the flow of the irrigation ditch. There is a relatively steep embankment to the south of the irrigation ditch and the location of borings B-1 through B-3. The area was vegetated by a sparse to moderate growth of weeds in the areas directly around the irrigation ditch but was unvegetated in the areas on the embankment at the time of our exploration. No evidence of prior structural development was noted at the site besides the current flume and irrigation ditch. The following photographs depict the site at the time of our exploration.



Drill Rig at Boring B-1 View to the Southwest



Drill Rig at Boring B-4 View to the West at the roadway

SUBSURFACE CONDITIONS

Soil Conditions:

As presented on the Boring Logs in Appendix A, we encountered very loose to medium dense sandy soils in all of the borings from the ground surface to varying depths. In borings B-1 through B-3, silty sand identified as fill material extending from the surface to 6 to 7½ feet bgs. The fill was very loose, slightly damp and contained traces of cobbles, trash and organic material in locations. In borings, B-1 through B-3, the sandy soils extended from the bottom of the fill to approximate depths of 24½, 19½, and 15½ feet bgs, respectively.

Beneath the sandy soils in these borings, we encountered weakly to moderately cemented, gray sandstone bedrock. In boring B-1, the sandstone extended to the total depth explored in the boring ($26\frac{1}{2}$ feet).

In boring B-2, below the sandstone, at approximately 25½ feet bgs, we encountered a gray-black shale which extended to the total depth explored in the boring (26 feet). In boring B-2, it is worth noting that between the depths of 5½ feet and 13 feet bgs, we encountered what appeared to be a large sandstone boulder buried within the embankment. This was not thought to be bedrock but rather a boulder from the sandstone outcroppings located to the north of the irrigation ditch that occurred naturally or was placed as fill. Inclusions of this nature are typical of large fill projects such as the BID embankment and could be anticipated during construction.

In boring B-3, we encountered a shale as well from approximate depths of 21 to $24\frac{1}{2}$ feet bgs. Below the shale, boring B-3 transitioned back into gray, sandstone bedrock to the total depth

explored in the boring (31 feet). Boring B-3, was terminated short of its planned depth of 35 feet bgs, due to auger refusal in the sandstone.

Boring B-4 was advanced on the west side of the flume, not in the embankment but on the edge of the roadway. B-4 we encountered gravel and cobble in similar sandy soils from the ground surface to a depth of approximately 13¹/₂ feet bgs. Below this depth we encountered a larger, gravel and cobble deposit which caused the termination of the boring prior to its planned depth of 35 feet bgs.

Groundwater Conditions:

Groundwater was encountered in the borings at depths ranging from 8½ to 19 feet below the existing ground surface in borings B-1 through B-3, no groundwater was encountered in boring B-4. Groundwater elevations can fluctuate over time depending upon precipitation, irrigation, runoff and infiltration of surface water. We do not have any information regarding the historical fluctuation of the groundwater level in this vicinity.

Additionally, it was observed that there were significantly higher moisture levels at shallower elevations in the borings. Although not definitive, the higher moistures could be attributed to seepage from the existing irrigation ditch.

Laboratory Test Results:

Laboratory analyses of samples tested indicate the sandy soils have fines contents (silt- and/or clay-sized particles passing the U.S. No. 200 sieve) ranging from approximately 23 to 48 percent. In-place dry densities of the silty sand soils ranged from approximately 101 to 110 pounds per cubic foot (pcf), with natural moisture contents between approximately 3 and 12 percent.

Laboratory consolidation/expansion testing was performed on undisturbed ring samples of the subgrade soils beneath the proposed building. Results of these tests indicate that the sandy soils undergo slight compression when subjected to anticipated foundation stresses at the existing moisture contents. When subjected to increased moisture conditions at these stresses, they undergo moderate to moderately severe additional compression.

Results of all laboratory tests are presented in Appendix B.

OPINIONS AND RECOMMENDATIONS

Geotechnical Considerations:

The site is considered suitable for the proposed flume structure based on the geotechnical conditions encountered and tested for this report. To reduce the potential for settlement and provide more uniform and higher allowable bearing pressures, the footings should bear on engineered fills or bedrock.

If there are any significant deviations from the assumed foundation type of concrete spread footings, structure locations and/or loads noted at the beginning of this report, the opinions and recommendations of this report should be reviewed and confirmed/modified as necessary to reflect the final planned design conditions.

Our recommendations are based on the information obtained from the borings performed during our subsurface exploration. It should be realized that subsurface conditions could vary across the extent of the BID embankment and the new flume, and these variations may not become apparent until construction is underway. If, during construction, soil types other than those encountered during our exploration are encountered, we should be contacted to observe the actual conditions and confirm/modify our recommendations, as appropriate.

Slope Stability Analysis:

A slope stability analysis was performed for the existing embankments as at the BID flume site to evaluate four bank profiles in the present state as provided in the profile map included in the Appendix A. Profiles were developed from survey data provide by Bohannan Huston in conjunction with information from our boring logs. Slope safety factors were analyzed utilizing Galena 6.0 software running Bishop's Method. Note that survey details of the ditch were unavailable and assumptions made regarding the ditch bank and water elevation profiles. Assumptions were also made regarding the profiles of the phreatic surface and the subsurface soils based upon subsurface conditions encountered in our borings and our observations of the surrounding conditions.

As requested, point loads representing the rear axle loads of heavy equipment, typical of a concrete ready-mix truck used during construction of the new flume, were also modeled and positioned on the bank parallel to the ditch. These external point forces totaled 22,500-pounds. Data was obtained with and without the loading. Table 1 summarizes the results of the analyses.

Seismic Considerations and Slope Stability:

Seismic design parameters for the analysis were obtained utilizing the U.S. Geological Survey's (USGS) Unified Hazard Tool located at the web address -
<u>https://earthquake.usgs.gov/hazards/interactive/</u>. The site replaces previously available information from the USGS and is part of the probabilistic seismic hazard analysis (PSHA) platform developed and maintained by the National Seismic Hazard Mapping Project (NSHMP) within the USGS earthquake hazards program.

The Earthquake Hazard and Probability Map for the Conterminous U.S. for 2014 (version 4.0.x) was selected to display the peak ground acceleration for an event with a probability of 2% in 50 years. From the projects location the site classification was determined to be on the B/C boundary. The resulting peak force produced an earthquake coefficient of 0.0909, which was enter into the Galena models for all profiles to represent an overlying earthquake force.

Note that the seismic site classification was estimated based on site location, the results of our subsurface exploration, experience with similar projects in the area, and a review of a geologic map of the project area. Additional exploration to greater depths would be required to verify the subsurface conditions below the depth explored for this report. Graphical printouts are attached in the Appendix and results are summarized in Table 1 below.

		Factor of Safety				
	Approx. Slope	Base	Base w/load	Seismic Applied	Seismic Applied w/load	
Profile 1	43%	2.29	1.56	1.81	1.39	
Profile 2	27%	3.78	2.09	2.62	1.85	
Profile 3	54%	3.02	1.36	2.28	1.26	
Profile 4	31%	3.95	1.17	2.82	1.10	

Table 1 - Slope Stability Analysis.

Based on the results of our subsurface exploration, laboratory testing, and engineering analyses, the grades of the ditch embankment near the profile locations are suitable and present a factor of safety above the required 1.5 for slope stability. Because of the potential for the factor of safety to fall below the threshold of 1.5, we do not find the BID embankment suitable for operating loads from heavy equipment such as that modeled by concrete ready-mix trucks.

Foundations:

Based on our understanding of the type of structures to be built and the results of our field subsurface exploration and laboratory testing, the flume structure could be founded on

conventional shallow spread footings bearing on either engineered fill or formational sandstone. In order to reduce the potential for differential settlement due to the footings bearing on differing materials, footings for an individual structure should bear entirely on rock or entirely on engineered fill, but not on a combination of the two materials.

Deep foundations, such as driven piles or drilled piers, may also be options for support of the structure but were not considered based upon our understanding the structures are to be supported on shallow spread footings. Recommendations for deep foundations can be provided upon request.

Due to the close proximity of the proposed footings to the adjacent arroyo, we anticipate that scour in the arroyo will impact the final footing depth. Footings should be embedded as described below or lowest scour depth, whichever is greater.

Spread Footings Bearing on Rock:

Where the footings are to bear on formational sandstone, footing excavations should be extended as required to expose competent sandstone. Minimum footing depth for protection against frost heaving is not applicable to footings bearing on rock. However, footings should bear a minimum of twelve inches into competent rock to provide lateral stability. Therefore, footings may need to be deepened as necessary to ensure that they are properly embedded and that the entire structural foundation system bears on rock. The bottoms of footing excavations should be cleared of any loose and/or disturbed soil or rock material prior to placement of forms, reinforcing steel, or concrete

Spread Footings Bearing on Engineered Fill:

If footings are to bear on engineered fill, the engineered fill should be provided for a minimum thickness of two (2.0) feet of engineered fill should be provided below the bottom of the footings, except in areas where sandstone is encountered at footing elevation. Where sandstone is encountered, it should be removed to provide a minimum of one (1.0) foot of engineered fill below the bottom of footings. The engineered fill should extend a minimum of one (1.0) foot laterally beyond the edge of the footing. Materials and compaction criteria for the engineered fill should be as recommended in the **Earthwork** section of this report. Adequate drainage should be provided to prevent the supporting soils from undergoing significant moisture changes.

A generalized depiction of a shallow spread footing supported on engineered fill is shown in the following illustration.



The recommended design bearing capacities and footing depths are presented in the following table.

	Allowable	
Footing	Bearing	
Depth ¹ (ft)	Pressure (psf)	Bearing Soil
1.0 ²	5,000	Formational Sandstone
2.5^{3}	2,500	Engineered Fill
3.0	3,000	Engineered Fill

¹Footing depth referenced below lowest adjacent finished grade or lowest scour depth, whichever is deeper. Finished grade is the lowest adjacent grade.

²Minimum footing depth for frost protection is not applicable for footings bearing directly on formational rock; however, footings should bear a minimum of twelve inches into competent rock and below calculated scour depth to provide lateral stability

³Minimum footing depth for frost protection.

Total and differential settlements resulting from the assumed structural loads are estimated to be on the order of ½ inch or less. Proper drainage should be provided in the final design and during construction and areas adjacent to the structure should be designed to prevent water from ponding or accumulating next to the structure.

Total and differential settlements should not exceed predicted values, provided that:

- Foundations are constructed as recommended, and
- Essentially no changes occur in water contents of foundation soils.

For foundations adjacent to descending slopes, a minimum horizontal setback of five (5) feet should be maintained between the foundation base and slope face. In addition, the setback should be such that an imaginary line extending downward at 45 degrees from the nearest foundation edge does not intersect the slope.

Footings and foundations should be reinforced as necessary to reduce the potential for distress caused by differential foundation movement.

Foundation excavations should be observed by GEOMAT. If the soil conditions encountered differ significantly from those presented in this report, supplemental recommendations will be required.

Corrosion and Cement Type:

A representative sample of soil from the boring was tested to evaluate the potential for the onsite soils to corrode buried metal and/or concrete. The sample was tested for pH, electrical resistivity, and soluble sulfates and chlorides. Results of these tests are summarized in the following table.

Corrosivity Test Results							
Sample	Boring No.	Sample	лЦ	Resistivity	Sulfates	Chlorides	
No.	Doring 140.	Depth (ft)	рп	(ohm-cm)	(%)	(%)	
9875	B-4	21/2	8.51	931	0.023	0.007	

¹ND = Not Detected

Corrosion of Concrete:

The soluble sulfate contents of the samples tested boring B-4 was less than 0.10 percent (by weight), which may be characterized as negligible potential for corrosion (IBC Table 1904.3). According to the American Concrete Institute Building Code 318, when the sulfate content is less than 0.10 percent by weight in soil, there shall be no restriction on the cement type and water/cement ratio. The soluble sulfate contents of the sample tested from the area of Test Pit TP-2 was 0.361 percent (by weight), which may be characterized as severe potential for corrosion (IBC Table 1904.3). For this level of sulfate exposure, ACI 318 recommends the use of Type V cement and a maximum water-cementitious material ratio of 0.45. Additionally, it recommends the use of concrete with a minimum 28-day compressive strength of 4,500 psi. All concrete should be designed, mixed, placed, finished, and cured in accordance with the guidelines presented by the American Concrete Institute (ACI).

Corrosion of Metals:

Corrosion of buried ferrous metals can occur when electrical current flows from the metal into the soil. As the resistivity of the soil decreases, the flow of electrical current increases, increasing the potential for corrosion. A commonly accepted correlation between soil resistivity and corrosion of ferrous metals is shown in the following table.

Resistivity (ohm-cm)	Corrosivity
0 to 1,000	Severely Corrosive
1,000 to 2,000	Corrosive
2,000 to 10,000	Moderately Corrosive
>10,000	Mildly Corrosive

The sample tested resistivity value ranging from 422 to 6,100 ohm-cm. Based on these laboratory results and the table above, the on-site soils would be characterized as severely corrosive toward ferrous metals. The potential for corrosion should be taken into account during the design process.

Site Classification:

Based on the subsurface conditions encountered in the borings, we estimate that a Site Class C is appropriate for the site in accordance with the 2018 International Building Code. This parameter was estimated based on extrapolation of data beyond the deepest depth explored, using methods allowed by the code. Actual shear wave velocity testing/analysis and/or exploration to a depth of 100 feet were not performed as part of our scope of services for this project.

Lateral Earth Pressures:

For soils above any free water surface, recommended equivalent fluid pressures for unrestrained foundation elements are presented in the following table:

•	Active:
	Granular soil backfill
	Undisturbed subsoil
•	Passive:
	Shallow foundation walls250 psf/ft
	Shallow column footings
•	Coefficient of base friction:0.40
	The coefficient of base friction should be reduced to 0.30 when used in conjunction with passive pressure.

Where the design includes restrained elements, the following equivalent fluid pressures are recommended:

• At rest:

Granular soil backfill	50 psf/ft
Undisturbed subsoil	60 psf/ft

Fill against grade beams and retaining walls should be compacted to densities specified in **Earthwork**. Medium to high plasticity clay soils should not be used as backfill against retaining walls. Compaction of each lift adjacent to walls should be accomplished with hand-operated tampers or other lightweight compactors. Over compaction may cause excessive lateral earth pressures that could result in wall movement.

Slopes:

This recommendation is independent of the slope stability analysis for the existing embankment and applies to new, engineered construction. Assuming fill specifications, compaction requirements, and recommended setbacks provided in this report are followed, cut and fill slopes as steep as to 2.5:1 (horizontal:vertical) should be stable. Depending upon specific project conditions, adequate factors of safety against slope failure may be available for steeper configurations. However, such a determination would require additional analysis.

Earthwork:

General Considerations:

The opinions contained in this report for the proposed construction are contingent upon compliance with recommendations presented in this section. Although underground facilities such as foundations, septic tanks, cesspools, and irrigation systems were not encountered during site reconnaissance, such features could exist and might be encountered during construction.

Site Clearing:

- 1. Strip and remove all existing pavement, fill, debris and other deleterious materials from the proposed structure area. Any existing structures should be completely removed from below any structure, including foundation elements and any associated development such as underground utilities, etc. All exposed surfaces below footings and slabs should be free of mounds and depressions which could prevent uniform compaction.
- 2. If unexpected fills or underground facilities are encountered during site clearing, we should be contacted for further recommendations. All excavations should be observed by GEOMAT prior to backfill placement.

- 3. Stripped materials consisting of vegetation and organic materials should be removed from the site, or used to re-vegetate exposed slopes after completion of grading operations. If it is necessary to dispose of organic materials on-site, they should be placed in non-structural areas, and in fill sections not exceeding 5 feet in height.
- 4. Sloping areas steeper than 5:1 (horizontal:vertical) should be benched to reduce the potential for slippage between existing slopes and fills. Benches should be level and wide enough to accommodate compaction and earth moving equipment.
- 5. All exposed areas which will receive fill, once properly cleared and benched where necessary, should be scarified to a minimum depth of eight inches, conditioned to near optimum moisture content, and compacted to at least 95% of standard proctor (ASTM D698).

Excavation:

- 1. We present the following general comments regarding our opinion of the excavation conditions for the designers' information with the understanding that they are opinions based on our boring data. More accurate information regarding the excavation conditions should be evaluated by contractors or other interested parties from test excavations using the equipment that will be used during construction. Based on our subsurface evaluation it appears that <u>excavations in soils at the site</u> will be possible using standard excavation equipment. <u>Excavations that encounter rock, including excavations for site utilities, are expected to be difficult and may necessitate the use of heavy-duty equipment and/or specialized techniques. Our notation of the degree of weathering of formational rock is a geological description of the material and is not intended to imply the degree of ease or difficulty of rock excavation.</u>
- 2. On-site soils may pump or become unstable or unworkable at high water contents, especially for excavations near the water table. Dewatering may be necessary to achieve a stable excavation. Workability may be improved by scarifying and drying. Over-excavation of wet zones and replacement with granular materials may be necessary. Lightweight excavation equipment may be required to reduce subgrade pumping.

Foundation Preparation:

Footings should bear on engineered fill or rock as recommended in the **Foundations** section of this report. All loose and/or disturbed soils should either be compacted or removed from the bottoms of footing excavations prior to placement of reinforcing steel and/or concrete.

Fill Materials:

- 1. Native or imported soils with low expansive potentials could be used as fill material for the following:
 - general site grading
 - foundation areas
 - foundation backfill
- 2. Select granular materials should be used as backfill behind walls that retain earth.
- 3. On site or imported soils to be used in structural fills should conform to the following:

	Percent finer by weight
Gradation	(ASTM C136)
3"	100
No. 4 Sieve	
No. 200 Sieve	50 Max
Maximum expansive potential (%)*	1.5
 Measured on a sample compacted to approximate D698 maximum dry density at about 3 percent be The sample is confined under a 144-psf surcharge 	ely 95 percent of the ASTM clow optimum water content. and submerged.

4. Aggregate base should conform to Type I Base Course as specified in Section 303 of the 2019 New Mexico Department of Transportation (NMDOT) "*Standard Specifications for Highway and Bridge Construction*."

Placement and Compaction:

- 1. Place and compact fill in horizontal lifts, using equipment and procedures that will produce recommended moisture contents and densities throughout the lift.
- 2. Un-compacted fill lifts should not exceed 10 inches loose thickness.
- 3. Materials should be compacted to the following:

	Minimum Percent
<u>Material</u>	(ASTM D698)
Subgrade soils beneath fill areas	
On site or imported soil fills:	

Beneath footings, slabs on grade and pavements	95
Aggregate base beneath slabs and pavements	95
Miscellaneous backfill	90

4. On-site and imported soils should be compacted at moisture contents near optimum.

Compliance:

Recommendations for slabs-on-grade and foundation elements supported on compacted fills depend upon compliance with **Earthwork** recommendations. To assess compliance, observation and testing should be performed by GEOMAT.

Drainage:

Surface Drainage:

- 1. Positive drainage should be provided during construction and maintained throughout the life of the proposed project. Infiltration of water into utility or foundation excavations must be prevented during construction. Planters and other surface features that could retain water in areas adjacent to the building or pavements should be sealed or eliminated.
- 2. In areas where sidewalks or paving do not immediately adjoin the structure, we recommend that protective slopes be provided with a minimum grade of approximately 5 percent for at least 10 feet from perimeter walls. Backfill against footings, exterior walls, and in utility and sprinkler line trenches should be well compacted and free of all construction debris to reduce the possibility of moisture infiltration.
- 3. Downspouts, roof drains or scuppers should discharge into splash blocks or extensions when the ground surface beneath such features is not protected by exterior slabs or paving.
- 4. Sprinkler systems should not be within 5 feet of foundation walls. Irrigated landscaping adjacent to the foundation system should be minimized or eliminated.

Subsurface Drainage:

Free-draining, granular soils containing less than five percent fines (by weight) passing a No. 200 sieve should be placed adjacent to walls which retain earth. A drainage system consisting of either weep holes or perforated drain lines (placed near the base of the wall) should be used to intercept and discharge water which would tend to saturate the backfill. Where used, drain lines should be embedded in a uniformly graded filter material and provided with adequate clean-outs

for periodic maintenance. An impervious soil should be used in the upper layer of backfill to reduce the potential for water infiltration.

GENERAL COMMENTS

It is recommended that GEOMAT be retained to provide a general review of final design plans and specifications in order to confirm that grading and foundation recommendations in this report have been interpreted and implemented. In the event that any changes of the proposed project are planned, the opinions and recommendations contained in this report should be reviewed and the report modified or supplemented as necessary.

GEOMAT should also be retained to provide services during excavation, grading, foundation, and construction phases of the work. Observation of footing excavations should be performed prior to placement of reinforcing and concrete to confirm that satisfactory bearing materials are present and is considered a necessary part of continuing geotechnical engineering services for the project. Construction testing, including field and laboratory evaluation of fill, backfill, pavement materials, concrete and steel should be performed to determine whether applicable project requirements have been met.

The analyses and recommendations in this report are based in part upon data obtained from the field exploration. The nature and extent of variations beyond the location of test borings may not become evident until construction. If variations then appear evident, it may be necessary to re-evaluate the recommendations of this report.

Our professional services were performed using that degree of care and skill ordinarily exercised, under similar circumstances, by reputable geotechnical engineers practicing in this or similar localities at the same time. No warranty, express or implied, is intended or made. We prepared the report as an aid in design of the proposed project. This report is not a bidding document. Any contractor reviewing this report must draw his own conclusions regarding site conditions and specific construction equipment and techniques to be used on this project.

This report is for the exclusive purpose of providing geotechnical engineering and/or testing information and recommendations. The scope of services for this project does not include, either specifically or by implication, any environmental assessment of the site or identification of contaminated or hazardous materials or conditions. If the owner is concerned about the potential for such contamination, other studies should be undertaken. This report has also not addressed any geologic hazards that may exist on or near the site.

This report may be used only by the Client and only for the purposes stated, within a reasonable time from its issuance. Land use, site conditions (both on and off site), or other factors may change over time and additional work may be required with the passage of time. Any party,

other than the Client, who wishes to use this report, shall notify GEOMAT in writing of such intended use. Based on the intended use of the report, GEOMAT may require that additional work be performed and that an updated report be issued. Non-compliance with any of these requirements, by the Client or anyone else, will release GEOMAT from any liability resulting from the use of this report by an unauthorized party.

Appendix A

B-4	C B-	BID Flume B-2	B-T
in the second se			
Approximate Not to Scale	SITE PLAN SITE PLAN Boring Locations (approximate) GEOMAT Project No. 202-3482 Date of Exploration: July 17, 2020	PROJECT BID Flume Drilling Bohannan Huston Blanco, New Mexico	





GEOMAT 202-3482.GPJ GEOMAT.GDT 9/16/20

915 Malta Avenue Farmington, NM 87401 Tel (505) 327-7928 Fax (505) 326-5721

Boring B-1

Page 1 of 1 Date Drilled: Blanco Replacement Flume 7/17/2020 Project Name: Project Number: <u>202-3482</u> Not Determined Latitude: Bohannon Huston Longitude: Not Determined Client: Blanco, New Mexico Not Determined Site Location: Elevation: See Site Plan Rig Type: ____ CME-55 Boring Location: 7.25" O.D. Hollow Stem Auger Drilling Method: Groundwater Depth: 19 feet Sampling Method: _Bulk, Ring and Split spoon samples SY Logged By: _ Hammer Weight: <u>140 lbs</u> Remarks: None 30 inches Hammer Fall: Laboratory Results ٥ Material Type Sample Type & Length (in) Soil Symbol Depth (ft) Blows per Symbol % Passing #200 Sieve Dry Density (pcf) Moisture Content (%) Plasticity Index Soil Description Silty SAND with gravel and cobble, brown, fine- to 1 coarse-grained, very loose, slightly damp to damp (FILL) 2 3-4 3 R trace gravel 4 SM 5 А 3-6 12.7 110.9 6 gray/brown R 7 8 Silty SAND, gray/brown, fine- to coarse-grained, loose to 9 medium dense, damp to moist 10 2-5 R 11 12 13 14 15 4-4-5 48 3 SS 16 SM 17 18 19 wet 20 4-3 no sample recovery R 21 22 23 24 25 6-16-29 SANDSTONE, gray, fine- to medium-grained, damp, weak RK SS 26 cement 27 Total Depth 261/2 feet 28 29 30 31 32 33 34 35

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer



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Boring B-2

Page 1 of 1

Project Name: Project Number: Client: Site Location: Rig Type: Drilling Method: Sampling Method: Hammer Weight: Hammer Fall:	Blanco Replacem 202-3482 Bohannon Huston Blanco, New Mexi CME-55 7.25" O.D. Hollow Bulk, Ring and Sp 140 lbs 30 inches	ent Flume	Date Drilled: 7/17/2020 Latitude: Not Determined Longitude: Not Determined Elevation: Not Determined Boring Location: See Site Plan Groundwater Depth: 13 feet Logged By: SY Remarks: None
Dry Density (pcf) % Passing #200 Sieve Plasticity Index Moisture Content (%) Blows per 6"	Sample Type & Length (in) Symbol Material Type	Soil Symbol Depth (ft)	Soil Description
07016 5-5-1 07016 50/6' 1 50/7' 6-6 16-50/ 26-50/ 26-50/ 0 26-50/ 0 0	10 SS SM R GRAB SS SM A R /5" R R RK RK	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	SAND with gravel and cobble, brown, fine- to irse-grained, medium dense, slightly damp to damp (FILL) to no sample recovery SAND, brown, fine- to medium-grained, loose, damp stone boulder from approximately 5½ to 13 feet brown, moist to wet ample recovery DSTONE, gray, fine- to medium-grained, damp, weak nent LE, gray/black, moderately fissile/friable, slightly damp Depth 26 feet



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Boring B-3

Page 1 of 1

P	Project Name: Blanco Replacement Flume Project Number: 202-3482					<u>o Re</u>	place	ment Fl	ume	Date Drilled: 7/17/2020
	rojec	t Nur	mber	:	202-3482 Robannon Huston					Latitude: <u>Not Determined</u>
	Client: Bonannon Huston						HUSL	on		Longitude: <u>Not Determined</u>
Site Location: Blanco, New Mexico							ew ivie	exico		Elevation: Not Determined
	Rig Type: <u>CME-55</u>							w Stom	Augor	Boring Location: <u>See Site Plan</u>
	rilling		inoa:	/	. <u>25 (</u>	<u>ט.ט.</u> הייר			Auger	
	ampi	Ing N	/lethc	na: _⊒	<u>40 lk</u>	≺ing	and	Spiit spo	on san	ipies Logged By: <u>St</u>
	lamm	er vi	/eign	נ: <u>ו</u>	40 ID	<u>s</u> haa				Remarks: <u>None</u>
	amm	er Fa	ali: _	3		nes				
Lab	orator	y Re	sults	."0	0		be	<u> </u>		
Dry Density (pcf)	% Passing ≠200 Sieve	Plasticity Index	Moisture Content (%)	Blows per	Sample Typ & Length (in	Symbol	Material Ty	Soil Symb	Depth (ft	Soil Description
	- +							××××××		City CAND with succeed and askeds because fine to
									1_	coarse-grained very loose, slightly damp to damp (FILL)
101.0			3.2	3-4			SM		3	trace group contains organize and trach
					R		Sivi		4	trace gravel, contains organics and trash
	23	NP		3-2-1	A	$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	7		5_	moist (irrigation tranch soonage)
					SS K K 6 (Indisit (Ingation trench seepage)					Silty SAND gray/brown fine- to medium-grained loose to
									8 _	_ medium dense, moist
									9	⊻ wet
				3-3	_				10 _	
					R		SM		11 _	no sample recovery
	23	NP							12 _	
					GRAB				14	
				4-19					15 _	
					R				16 _	SANDSTONE, gray, fine- to medium-grained, damp, weak
								· · · · · · · · · · · · · · · · · · ·	17 _	cement
							RK	· · · · · · · · · · ·	19	
				13-14-				· · · · · · · · ·	20	
				50/6"	SS	\boxtimes			21 _	ר grades to shale /-
							PK		22 _	SHALE, gray/tan to dark gray/black, slightly fissile/friable,
							ΓΛ		24	slightly damp, thin laminations
D N				50/6"					25 _	SANDSTONE grav fine- to medium-grained damp moderate
101./6					R				26 _	to well cemented
							אס	· · · · · · · · ·	27_	
MAL							RN	· · · · · · · · · · · ·	20 _	
				23-50/3"				· · · · · · · · ·	30 _	
					SS	\bowtie			31	Auger Defused on conductors
3482.									32 _	Auger Refusal on sandstone Total Depth 31 feet
-202									33 _ 34	· · · · · · · · · · · · · · · · · · ·
									35 _	
រៀ A	= Auge	r Cutti	ngs R	= Ring-L	ined B	arrel S	Sample	r SS = Spli	it Spoon	GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer



Project Number: <u>202-3482</u>

Project Name:

Client:

Rig Type: ____

Site Location:

Drilling Method:

915 Malta Avenue Farmington, NM 87401 Tel (505) 327-7928 Fax (505) 326-5721

Blanco Replacement Flume

7.25" O.D. Hollow Stem Auger

Bohannon Huston

CME-55

Blanco, New Mexico

Boring B-4

 Page 1 of 1

 Date Drilled:
 7/17/2020

 Latitude:
 Not Determined

 Longitude:
 Not Determined

 Elevation:
 Not Determined

 Boring Location:
 See Site Plan

Groundwater Depth: None Encountered

Sampling Method: _Bulk, Ring and Split spoon samples SY Logged By: _ Hammer Weight: <u>140 lbs</u> Remarks: None 30 inches Hammer Fall: Laboratory Results ٥ Material Type Sample Type & Length (in) Soil Symbol Depth (ft) Blows per Symbol % Passing #200 Sieve Dry Density (pcf) Moisture Content (%) Plasticity Index Soil Description ABC Less than 1 inch of asphalt over 6 inches of aggregate base 1 SM \ course 2 Silty SAND with gravel, brown, fine- to coarse-grained, slightly 2-2-4 3 SS damp (FILL) 4 trash in hole А 5 9-6 96.4 14.6 Silty SAND, brown, fine- to coarse-grained, loose, slightly 6 R damp to damp 7 intermittent gravel/cobble lenses 8 SM 9 10 8-10 R 11 12 13 25-26-18 dense, poor sample recovery 14 SS Auger Refusal on gravel/cobble 15 Total Depth 131/2 feet 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer

34 35

UNIFIED SOIL CLASSIFICATION SYSTEM						STENCY OR	RELATIVE
	Major Divisions		Group Symbols	Typical Names	D	ENSITY CRIT	ERIA
		Clean Gravela	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	<u>Sta</u>	andard Penetration	<u>on Test</u> ır Soils
	Gravels	Clean Graveis	GP	Poorly graded gravels and gravel-sand mixtures, little or no fines	Penetration Resistance, N (blows/ft.)	Relative Density	1
	retained on No. 4 sieve	Gravels with	GM	Silty gravels, gravel-sand-silt mixtures	0-4	Very Loose	
Coarse- Grained Soils		Fines	GC	Clayey gravels, gravel-sand-clay mixtures	5-10	Loose	
More than 50% retained on No. 200 sieve		Clean Sands	SW	Well-graded sands and gravelly sands, little or no fines	11-30	Medium De	nse
	Sands More than 50% of		SP	Poorly graded sands and gravelly sands, little or no fines	31-50	Dense	
	coarse fraction passes No. 4 sieve Sa		SM	Silty sands, sand-silt mixtures	>50	Very Dense	
		Fines	SC	Clayey sands, sand-clay mixtures	<u>Sta</u> Den	andard Penetrationsity of Fine-Grain	<u>on Test</u> ned Soils
			ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	Penetration Resistance, N (blows/ft.)	Consistency	Unconfined Compressive Strength (Tons/ft2)
	Silts an Liquid Limi	d Clays t 50 or less	CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	<2	Very Soft	<0.25
Fine-Grained Soils			OL	Organic silts and organic silty clays of low plasticity	2-4	Soft	0.25-0.50
50% or more passes No. 200 sieve			MH	Inorganic silts, micaceous or diatomaceous free sands or silts, elasti silts	c 4-8	Firm	0.50-1.00
	Silts an Liquid Limit g	d Clays reater than 50	СН	Inorganic clays of high plasticity, fat clays	8-15	Stiff	1.00-2.00
			OH	Organic clays of medium to high plasticity	15-30	Very Stiff	2.00-4.00
н	ighly Organic So	ils	PT	Peat, mucic & other highly organic soils	>30	Hard	>4.0
U.S. Standar	d Sieve Sizes	0/4" "4		"10	"000		
>12" Boulders	12" 3" Cobbles	3/4" #4 Gravel	#10	#40 Sand	#200	Cilt	or Clay
		coarse fine	coarse	medium	fine	Slit	
Dry Slightly Damp Moist	MOISTURE CO Absence of moist, dus Below optimum moistu Near optimum moistur	NDITIONS ty, dry to the touch ure content for compaction e content, will moisten th	on ne hand	MATERIAL QL trace few little	JANTITY 0-5% 5-10% 10-25%	OTHER SY R Ring Sample S SPT Sample B Bulk Sample	<u>MBOLS</u>

BASIC LOG FORMAT:

Group name, Group symbol, (grain size), color, moisture, consistency or relative density. Additional comments: odor, presence of roots, mica, gypsum, coarse particles, etc.

some 25-45%

mostly 50-100%

▼ Ground Water

EXAMPLE:

Very Moist

Wet

SILTY SAND w/trace silt (SM-SP), Brown, loose to med. Dense, fine to medium grained, damp

Above optimum moisture content

Visible free water, below water table

UNIFIED SOIL CLASSIFICATION SYSTEM

TEST DRILLING EQUIPMENT & PROCEDURES

Description of Subsurface Exploration Methods

Drilling Equipment – Truck-mounted drill rigs powered with gasoline or diesel engines are used in advancing test borings. Drilling through soil or softer rock is performed with hollow-stem auger or continuous flight auger. Carbide insert teeth are normally used on bits to penetrate soft rock or very strongly cemented soils which require blasting or very heavy equipment for excavation. Where refusal is experienced in auger drilling, the holes are sometimes advanced with tricone gear bits and NX rods using water or air as a drilling fluid.

<u>Coring Equipment</u> – Portable electric core drills are used when recovery of asphalt or concrete cores is necessary. The core drill is equipped with either a 4" or 6" diameter diamond core barrel. Water is generally used as a drilling fluid to facilitate cooling and removal of cuttings from the annulus.

Sampling Procedures - Dynamically driven tube samples are usually obtained at selected intervals in the borings by the ASTM D1586 test procedure. In most cases, 2" outside diameter, 1 3/8" inside diameter, samplers are used to obtain the standard penetration resistance. "Undisturbed" samples of firmer soils are often obtained with 3" outside diameter samplers lined with 2.42" inside diameter brass rings. The driving energy is generally recorded as the number of blows of a 140-pound, 30-inch free fall drop hammer required to advance the samplers in 6-inch increments. These values are expressed in blows per foot on the boring logs. However, in stratified soils, driving resistance is sometimes recorded in 2- or 3-inch increments so that soil changes and the presence of scattered gravel or cemented layers can be readily detected and the realistic penetration values obtained for consideration in design. "Undisturbed" sampling of softer soils is sometimes performed with thin-walled Shelby tubes (ASTM D1587). Tube samples are labeled and placed in watertight containers to maintain field moisture contents for testing. When necessary for testing, larger bulk samples are taken from auger cuttings. Where samples of rock are required, they are obtained by NX diamond core drilling (ASTM D2113).

Boring Records - Drilling operations are directed by our field engineer or geologist who examines soil recovery and prepares boring logs. Soils are visually classified in accordance with the Unified Soil Classification System (ASTM D2487), with appropriate group symbols being shown on the logs.

Appendix B

	BORING	DEPTH	ASTM	1 D698	MOISTURE	DEN	SITY	ATTE	RBERG	LIMITS	SWELL	CONSOL	% PASS	
LAB NO.	NO.	FT.	Density	Moisture	CONT. (%)	WET (pcf)	DRY (pcf)	LL	PL	PI	(%)	TEST	#200 SIEVE	CLASSIFICATION
9868	B-1	21⁄2	-	-	-	-	-	-	-	-	-	-	-	Silty SAND (FILL)
9869	B-1	5	-	-	12.7	124.9	110.9	-	-	-	-	-	-	Silty SAND (FILL)
9870	B-1	10	-	-	-	-	-	-	-	-	-	-	-	Silty SAND (SM)
9871	B-1	15	-	-	-	-	-	22	19	3	-	-	48	Silty SAND (SM)
9872	B-3	2½	-	-	3.2	104.2	101.0	-	-	-	-	Attached	-	Silty SAND (FILL)
9873	B-3	5	-	-	-	-	-	NLL	NPL	NP	-	-	23	Silty SAND (FILL)
9874	B-3	10 - 15	-	-	-	-	-	NLL	NPL	NP	-	-	23	Silty SAND (SM)
9875	B-4	21⁄2	-	-	-	-	-	-	-	-	-	-	-	Silty SAND (FILL)
9876	B-4	5	-	-	14.6	110.5	96.4	-	-	-	-	Attached	-	Silty SAND (SM)
														NLL = No Liquid Limit NPL = No Plastic Limit NP = Non-Plastic
					_							Project		Blanco Replacement Flume
)G	EC	\mathcal{N}	۱A	INC.	SUN	IMARY O	F SOII	TEST	S		Job No.		202-3482
T												Location		Blanco, New Mexico
												Date Drille	ed	7/17/2020

GRAIN SIZE DISTRIBUTION GRAPH



BID Flume Blanco, New Mexico Project 202-3482 Exploration Dates: 17-Jul-20 Report Date: 11-Sep-20

Lab No. 9873 Boring No. B-3 Sample Depth 5 Liquid Limit NV Plastic Limit NP Plasticity Index NP AASHTO Soil A-1-b/A-3 ASTM Soil SM

Sieve Size	3/4"	1/2"	3/8"	#4	#8	#10	#16	#30	#40	#50	#100	#200
% Passing	100	100	100	99	98	98	97	89	83	72	43	23



PROJECT:	Blanco Replacement Flume	JOB NO:	202-3482
CLIENT:	Bohannan Huston	WORK ORDER NO:	NA
MATERIAL:	Silty SAND (SM)	LAB NO:	9872
SAMPLE SOURCE:	B-3 @ 2.5'	DATE SAMPLED:	7/17/2020
SAMPLE PREP.:	In Situ	SAMPLED BY:	SY

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES OF SOILS (ASTM D2435)



PROJECT:	Blanco Replacement Flume	JOB NO:	202-3482
CLIENT:	Bohannan Huston	WORK ORDER NO:	NA
MATERIAL:	Silty SAND (SM)	LAB NO:	9876
SAMPLE SOURCE:	B-4 @ 5'	DATE SAMPLED:	7/17/2020
SAMPLE PREP.:	In Situ	SAMPLED BY:	SY

ONE-DIMENSIONAL CONSOLIDATION PROPERTIES OF SOILS (ASTM D2435)





Analytical Report

Report Summary

Client: Geomat Engineering Samples Received: 7/20/2020 Job Number: 04001-0002 Work Order: P007046 Project Name/Location: 202-3482 Blanco Flume

Walter Hinden

Walter Hinchman, Laboratory Director

Report Reviewed By:

Date:

7/27/20

TNI TNI TNI TNI TNI

Envirotech Inc. certifies the test results meet all requirements of TNI unless footnoted otherwise. Statement of Data Authenticity: Envirotech, Inc, attests the data reported has not been altered in any way. Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech, Inc. Envirotech, Inc, holds the Utah TNI certification NM009792018-1 for the data reported. Envirotech, Inc, holds the Texas TNI certification T104704557-19-2 for the data reported.





Geomat Engineering	Project Name:	202-3482 Blanco Flume	
915 Malta Avenue	Project Number:	04001-0002	Reported:
Farmington NM, 87401	Project Manager:	Seth Yokel	07/27/20 09:28

Sample Summary

Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
9875; B4 @ 2 1/2	P007046-01A	Soil	07/17/20	07/20/20	Glass Jar, 4 oz.





Geomat Engineering	Project Name:	202-3482 B	lanco Flume				
915 Malta Avenue	Project Number:	04001-0002				Repor	ted:
Farmington NM, 87401	Project Manager:	Seth Yokel				07/27/20	09:28
	9875; P0070	B4 @ 2 1/2 46-01 (Solid)					
		Reporting					
Analyte	Result	Limit	Dilution	Prepared	Analyzed	Notes	
Wet Chemistry by 9050A/2510B	Ohm cm	Ohm cm				Batch:	2030028
Specific Resistance (@ 25 C)	931		1	07/24/20 08:57	07/24/20 12:08		
Wet Chemistry by EPA 9045D	pH Units	pH Units				Batch:	2030027
pH @25°C	8.51		1	07/24/20	07/24/20		
Anions by EPA 300.0/9056A	mg/kg	mg/kg				Batch:	2030009
Chloride	67.3	20.0	1	07/21/20	07/21/20		
Chloride	0.007	0.002	1	07/21/20	07/21/20		
Sulfate	233	20.0	1	07/21/20	07/21/20		
Sulfate	0.023	0.002	1	07/21/20	07/21/20		





Geomat Engineering		Project Name:		202-3482 Bla	nco Flume					
915 Malta Avenue		Project Numbe	er:	04001-0002					Reported:	
Farmington NM, 87401		Project Manag	ger:	Seth Yokel					07/27/20 09:28	
	Wet	Chemistry by	y 9050A/2	2510B - Qu	ality Cor	ntrol				
		Reporting	Spike	Source		REC		RPD		
Analyte	Result	Limit	Level	Result	REC	Limits	RPD	Limit	Notes	
	Ohm cm	Ohm cm	Ohm cm	Ohm cm	%	%	%	%		
Blank (2030028-BLK1)							Prepared	1: 07/24/20	0 Analyzed: 07/24/20 1	
Specific Resistance (@ 25 C)	>100,000									
LCS (2030028-BS1)							Prepared	1: 07/24/20	0 Analyzed: 07/24/20 1	
Specific Resistance (@ 25 C)	699		709		98.5	98-102				_
Duplicate (2030028-DUP1)					Source: P	007057-01	Prepared	l: 07/24/20	0 Analyzed: 07/24/20 1	
Specific Resistance (@ 25 C)	790			755			4.48	20		_





Geomat Engineering		Project Name:		202-3482 Bla	nco Flume	;				
915 Malta Avenue		Project Numbe	er:	04001-0002					Reported:	
Farmington NM, 87401		Project Manag	er:	Seth Yokel					07/27/20 09:28	
	We	t Chemistry b	y EPA 9	0045D - Qua	lity Cor	itrol				
		Reporting	Spike	Source		REC		RPD		
Analyte	Result	Limit	Level	Result	REC	Limits	RPD	Limit	Notes	
	pH Units	pH Units	pH Units	pH Units	%	%	%	%		
LCS (2030027-BS1)							Prepared	l & Analyze	d: 07/24/20 0	
pH	8.00		8.00		100	98.75-101.25				
Duplicate (2030027-DUP1)					Source:	P007057-01	Prepared	l & Analyze	d: 07/24/20 0	
pH	8.37			8.07			3.65	20		





Geomat Engineering		Project Name:		202-3482 Bla	anco Flume				
915 Malta Avenue		Project Number	r:	04001-0002					Reported:
Farmington NM, 87401		Project Manage	er:	Seth Yokel					07/27/20 09:28
	A	nions by EPA 3	300.0/90)56A - Qual	lity Contr	ol			
		Reporting	Spike	Source		REC		RPD	
Analyte I	Result	Limit	Level	Result	REC	Limits	RPD	Limit	Notes
	ng/kg	mg/kg	mg/kg	mg/kg	%	%	%	%	
Blank (2030009-BLK1)							Prepared	: 07/21/20	0 Analyzed: 07/21/20 1
Chloride	ND	20.0							
Chloride	ND	0.002							
Sulfate	ND	20.0							
Sulfate	ND	0.002							
LCS (2030009-BS1)							Prepared	: 07/21/20	0 Analyzed: 07/21/20 1
Chloride	249	20.0	250		99.4	90-110			
Sulfate	249	20.0	250		99.7	90-110			
Matrix Spike (2030009-MS1)					Source: P	007040-01	Prepared	: 07/21/20	0 Analyzed: 07/21/20 1
Chloride	293	20.0	250	42.3	100	80-120			
Sulfate	339	20.0	250	93.6	98.3	80-120			
Matrix Spike Dup (2030009-MSD1)					Source: P	007040-01	Prepared	: 07/21/20	0 Analyzed: 07/21/20 1
Chloride	293	20.0	250	42.3	100	80-120	0.0205	20	
Sulfate	337	20.0	250	93.6	97.4	80-120	0.594	20	

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values my differ slightly.





Geomat Engineering	Project Name:	202-3482 Blanco Flume	
915 Malta Avenue	Project Number:	04001-0002	Reported:
Farmington NM, 87401	Project Manager:	Seth Yokel	07/27/20 09:28

Notes and Definitions

T18	>100,000
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

** Methods marked with ** are non-accredited methods.

Soil data is reported on an "as received" weight basis, unless reported otherwise.



TESTING, RESEARCH, CONSULTING AND FIELD SERVICES Austin, TX - USA | CA - USA | SC - USA | Gold Coast - Australia | Suzhou - China | Sao Paulo, Brazil | Johannesburg - Africa IRONMEN

Direct Shear of Soil Under Consolidated-Drained Conditions





Jeffrey A. Kuhn, Ph.D., P.E., 7/28/20

0.2

Analysis & Ouality Review/Date The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

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Direct Shear of Soil Under Consolidated-Drained Conditions



Jeffrey A. Kuhn, Ph.D., P.E., 7/28/20

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LABORATORY TESTING PROCEDURES

Laboratory testing is performed by trained personnel in our accredited laboratory or may be subcontracted by GEOMAT through a qualified outside laboratory if necessary. Actual types and quantities of tests performed for any project will be dependent upon subsurface conditions encountered and specific design requirements.

The following is an abbreviated table of laboratory testing that may be performed by GEOMAT with the applicable standards listed. Testing for a specific project may include all or a selected subset of the laboratory work listed. Laboratory testing beyond those listed may be available and could be incorporated into the project scope at the discretion of GEOMAT.

PROCEDURE	ASTM	AASHTO
Moisture Content	ASTM D2216	AASHTO T 265
Sieve Analysis	ASTM C136	AASHTO T 27
Fines Content	ASTM D1140	T 11
Hydrometer	ASTM D422	T 88
Atterberg Limits	ASTM D4318	AASHTO T 89/T 90
Soil Compression/Expansion	ASTM D2435	T 216
Soil Classification	ASTM D2487	M 145
Direct Shear	ASTM D3080	T 236
Unconfined Compressive Strength of Soils	ASTM D2166	T 208
Unconfined Compressive Strength of Rock Cores	ASTM D4543	-

Appendix C
































Appendix D

Important Information about This Geotechnical-Engineering Report

Subsurface problems are a principal cause of construction delays, cost overruns, claims, and disputes.

While you cannot eliminate all such risks, you can manage them. The following information is provided to help.

The Geoprofessional Business Association (GBA) has prepared this advisory to help you - assumedly a client representative - interpret and apply this geotechnical-engineering report as effectively as possible. In that way, you can benefit from a lowered exposure to problems associated with subsurface conditions at project sites and development of them that, for decades, have been a principal cause of construction delays, cost overruns, claims, and disputes. If you have questions or want more information about any of the issues discussed herein, contact your GBA-member geotechnical engineer. Active engagement in GBA exposes geotechnical engineers to a wide array of risk-confrontation techniques that can be of genuine benefit for everyone involved with a construction project.

Understand the Geotechnical-Engineering Services Provided for this Report

Geotechnical-engineering services typically include the planning, collection, interpretation, and analysis of exploratory data from widely spaced borings and/or test pits. Field data are combined with results from laboratory tests of soil and rock samples obtained from field exploration (if applicable), observations made during site reconnaissance, and historical information to form one or more models of the expected subsurface conditions beneath the site. Local geology and alterations of the site surface and subsurface by previous and proposed construction are also important considerations. Geotechnical engineers apply their engineering training, experience, and judgment to adapt the requirements of the prospective project to the subsurface model(s). Estimates are made of the subsurface conditions that will likely be exposed during construction as well as the expected performance of foundations and other structures being planned and/or affected by construction activities.

The culmination of these geotechnical-engineering services is typically a geotechnical-engineering report providing the data obtained, a discussion of the subsurface model(s), the engineering and geologic engineering assessments and analyses made, and the recommendations developed to satisfy the given requirements of the project. These reports may be titled investigations, explorations, studies, assessments, or evaluations. Regardless of the title used, the geotechnical-engineering report is an engineering interpretation of the subsurface conditions within the context of the project and does not represent a close examination, systematic inquiry, or thorough investigation of all site and subsurface conditions.

Geotechnical-Engineering Services are Performed for Specific Purposes, Persons, and Projects, and At Specific Times

Geotechnical engineers structure their services to meet the specific needs, goals, and risk management preferences of their clients. A geotechnical-engineering study conducted for a given civil engineer will <u>not</u> likely meet the needs of a civil-works constructor or even a different civil engineer. Because each geotechnical-engineering study is unique, each geotechnical-engineering report is unique, prepared *solely* for the client.

Likewise, geotechnical-engineering services are performed for a specific project and purpose. For example, it is unlikely that a geotechnical-engineering study for a refrigerated warehouse will be the same as one prepared for a parking garage; and a few borings drilled during a preliminary study to evaluate site feasibility will <u>not</u> be adequate to develop geotechnical design recommendations for the project.

Do not rely on this report if your geotechnical engineer prepared it:

- for a different client;
- for a different project or purpose;
- for a different site (that may or may not include all or a portion of the original site); or
- before important events occurred at the site or adjacent to it; e.g., man-made events like construction or environmental remediation, or natural events like floods, droughts, earthquakes, or groundwater fluctuations.

Note, too, the reliability of a geotechnical-engineering report can be affected by the passage of time, because of factors like changed subsurface conditions; new or modified codes, standards, or regulations; or new techniques or tools. *If you are the least bit uncertain* about the continued reliability of this report, contact your geotechnical engineer before applying the recommendations in it. A minor amount of additional testing or analysis after the passage of time – if any is required at all – could prevent major problems.

Read this Report in Full

Costly problems have occurred because those relying on a geotechnicalengineering report did not read the report in its entirety. Do <u>not</u> rely on an executive summary. Do <u>not</u> read selective elements only. *Read and refer to the report in full.*

You Need to Inform Your Geotechnical Engineer About Change

Your geotechnical engineer considered unique, project-specific factors when developing the scope of study behind this report and developing the confirmation-dependent recommendations the report conveys. Typical changes that could erode the reliability of this report include those that affect:

- the site's size or shape;
- the elevation, configuration, location, orientation, function or weight of the proposed structure and the desired performance criteria;
- the composition of the design team; or
- project ownership.

As a general rule, *always* inform your geotechnical engineer of project or site changes – even minor ones – and request an assessment of their impact. *The geotechnical engineer who prepared this report cannot accept* responsibility or liability for problems that arise because the geotechnical engineer was not informed about developments the engineer otherwise would have considered.

Most of the "Findings" Related in This Report Are Professional Opinions

Before construction begins, geotechnical engineers explore a site's subsurface using various sampling and testing procedures. *Geotechnical engineers can observe actual subsurface conditions only at those specific locations where sampling and testing is performed.* The data derived from that sampling and testing were reviewed by your geotechnical engineer, who then applied professional judgement to form opinions about subsurface conditions throughout the site. Actual sitewide-subsurface conditions may differ – maybe significantly – from those indicated in this report. Confront that risk by retaining your geotechnical engineer to serve on the design team through project completion to obtain informed guidance quickly, whenever needed.

This Report's Recommendations Are Confirmation-Dependent

The recommendations included in this report – including any options or alternatives – are confirmation-dependent. In other words, they are <u>not</u> final, because the geotechnical engineer who developed them relied heavily on judgement and opinion to do so. Your geotechnical engineer can finalize the recommendations *only after observing actual subsurface conditions* exposed during construction. If through observation your geotechnical engineer confirms that the conditions assumed to exist actually do exist, the recommendations can be relied upon, assuming no other changes have occurred. *The geotechnical engineer who prepared this report cannot assume responsibility or liability for confirmation-dependent recommendations if you fail to retain that engineer to perform construction observation.*

This Report Could Be Misinterpreted

Other design professionals' misinterpretation of geotechnicalengineering reports has resulted in costly problems. Confront that risk by having your geotechnical engineer serve as a continuing member of the design team, to:

- confer with other design-team members;
- help develop specifications;
- review pertinent elements of other design professionals' plans and specifications; and
- be available whenever geotechnical-engineering guidance is needed.

You should also confront the risk of constructors misinterpreting this report. Do so by retaining your geotechnical engineer to participate in prebid and preconstruction conferences and to perform constructionphase observations.

Give Constructors a Complete Report and Guidance

Some owners and design professionals mistakenly believe they can shift unanticipated-subsurface-conditions liability to constructors by limiting the information they provide for bid preparation. To help prevent the costly, contentious problems this practice has caused, include the complete geotechnical-engineering report, along with any attachments or appendices, with your contract documents, *but be certain to note* conspicuously that you've included the material for information purposes only. To avoid misunderstanding, you may also want to note that "informational purposes" means constructors have no right to rely on the interpretations, opinions, conclusions, or recommendations in the report. Be certain that constructors know they may learn about specific project requirements, including options selected from the report, only from the design drawings and specifications. Remind constructors that they may perform their own studies if they want to, and be sure to allow enough time to permit them to do so. Only then might you be in a position to give constructors the information available to you, while requiring them to at least share some of the financial responsibilities stemming from unanticipated conditions. Conducting prebid and preconstruction conferences can also be valuable in this respect.

Read Responsibility Provisions Closely

Some client representatives, design professionals, and constructors do not realize that geotechnical engineering is far less exact than other engineering disciplines. This happens in part because soil and rock on project sites are typically heterogeneous and not manufactured materials with well-defined engineering properties like steel and concrete. That lack of understanding has nurtured unrealistic expectations that have resulted in disappointments, delays, cost overruns, claims, and disputes. To confront that risk, geotechnical engineers commonly include explanatory provisions in their reports. Sometimes labeled "limitations," many of these provisions indicate where geotechnical engineers' responsibilities begin and end, to help others recognize their own responsibilities and risks. *Read these provisions closely.* Ask questions. Your geotechnical engineer should respond fully and frankly.

Geoenvironmental Concerns Are Not Covered

The personnel, equipment, and techniques used to perform an environmental study – e.g., a "phase-one" or "phase-two" environmental site assessment – differ significantly from those used to perform a geotechnical-engineering study. For that reason, a geotechnical-engineering report does not usually provide environmental findings, conclusions, or recommendations; e.g., about the likelihood of encountering underground storage tanks or regulated contaminants. *Unanticipated subsurface environmental problems have led to project failures.* If you have not obtained your own environmental information about the project site, ask your geotechnical consultant for a recommendation on how to find environmental risk-management guidance.

Obtain Professional Assistance to Deal with Moisture Infiltration and Mold

While your geotechnical engineer may have addressed groundwater, water infiltration, or similar issues in this report, the engineer's services were not designed, conducted, or intended to prevent migration of moisture – including water vapor – from the soil through building slabs and walls and into the building interior, where it can cause mold growth and material-performance deficiencies. Accordingly, proper implementation of the geotechnical engineer's recommendations will <u>not</u> of itself be sufficient to prevent moisture infiltration. Confront the risk of moisture infiltration by including building-envelope or mold specialists on the design team. Geotechnical engineers are <u>not</u> building-envelope or mold specialists.



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