

**GRAND RAPIDS
PUBLIC UTILITIES**
Service is Our Nature

Project Manual For

Phases 1-4 and Kettle D Final Cover Modifications

Prepared for:

**Grand Rapids Public Utilities Commission
500 S.E. 4th St
Grand Rapids, MN 55744**



**February 2026
Stantec Project No. 227708696**

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SECTION 00 01 05
PROFESSIONAL CERTIFICATIONS

PROFESSIONAL ENGINEER

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.



Kyle Morberg, PE

Date: January 30, 2026

License # 60444

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ADVERTISEMENT FOR BIDS

Electronic Bids will be received by the Grand Rapids Public Utilities Commission (GRPUC) of Grand Rapids, Minnesota, on the QuestCDN.com website via the VirtuBid electronic bidding application. Only electronic bids will be accepted for this project. Bids will be received on the QuestCDN.com website, until **12:00 P.M. CST on Wednesday, February 18, 2026**, at which time they will be opened electronically and reviewed for the furnishing of all labor, materials, and all else necessary for the following:

2026 GRAND RAPIDS PUBLIC UTILITIES COMMISSION PHASES 1-4 AND KETTLE D FINAL COVER MODIFICATIONS

In general and pursuant to Minnesota Statutes, chapter 429, the work consists of the construction of Landfill Final Cover improvements to a previously closed industrial landfill with approximately the following quantities:

- 670,824 SF of subgrade preparation
- 670,824 SF of 40-mil smooth LLDPE geomembrane
- 670,824 SF of 12-inch thick granular drainage layer
- 670,824 SF of 6-inch thick rooting zone material
- 670,824 SF of 6-inch thick topsoil
- 12,422 CY of topsoil supplement, as needed
- 2,250 LF of drainage control berms
- 3,022 LF of 4" draintile system
- 17 AC of Site Restoration and turf establishment
- And other associated improvements.

Complete digital Bidding Documents are available at www.questcdn.com by inputting **QuestCDN eBidDoc #10040963** on the website's Project Search page. Paper Bidding Documents may also be viewed upon request at the Grand Rapids Public Utilities Commission facility at 500 SE 4th Street, Grand Rapids, Minnesota, 55744 and at Stantec, 11E Superior St. Suite 330, Duluth, MN 55802.

A pre-bid conference for the Project will be held on **Thursday, February 5, 2026 at 1:00 PM CST at the Grand Rapids Public Utilities Commission Building located at 500 SE 4th Street Grand Rapids, Minnesota 55744**. Attendance at the pre-bid conference is encouraged but not required.

Direct inquiries to the Engineer's Project Manager, Kyle Morberg, PE, of Stantec Consulting Services Inc. at (218) 591-0790 and kyle.morberg@stantec.com.

The Engineer's Estimate of Construction Cost for this Project is \$2,100,000.

Bid Security in the amount of 5 percent of the amount of the Bid must accompany each Bid in accordance with the Instructions to Bidders.

For this project, the City will only accept online electronic bids through QuestCDN. To access the electronic bid, download the project documents and click on the online bidding button at the top of the advertisement. Prospective bidders must be on the plan holders list through QuestCDN for bids to be accepted.

The Owner reserves the right to retain the deposits of the 3 lowest Bidders for a period not to exceed 60 days after the date and time set for the Opening of Bids. No Bids may be withdrawn for a period of 60 days after the date and time set for the Opening of Bids.

The Owner reserves the right to reject any and all Bids, to waive irregularities and informalities therein, and further reserves the right to award the Contract to the best interests of the Owner.

The successful bidder must be a "responsible contractor." The term "responsible contractor" means a contractor as defined in Minnesota Statutes, section 16C.285, subdivision 3. Any prime contractor, subcontractor, or motor carrier that does not meet the minimum criteria or fails to comply with the verification requirements is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project. A prime contractor, subcontractor, or motor carrier that makes a false statement under oath verifying compliance with the minimum criteria will be ineligible to be awarded a construction contract on the project, and the submission of a false statement may result in termination of a contract awarded to a prime contractor, subcontractor, or motor carrier that submits the false statement. A prime contractor shall include in its verification of compliance a list of all of its first-tier subcontractors that it intends to retain for work on the project. Before execution of a construction contract, a prime contractor shall submit a supplemental verification under oath confirming that all subcontractors and motor carriers that the prime contractor intends to use to perform project work have verified to the prime contractor, through a signed statement under oath by an owner or officer, that they meet the minimum criteria for a responsible contractor.

Steve Mattson, Water/Wastewater Department Manager
Grand Rapids Public Utilities Commission
500 SE 4th Street, Grand Rapids, Minnesota 55744
srmattson@grpuc.org
218-326-7195

SECTION 00 21 13

INSTRUCTIONS TO BIDDERS FOR CONSTRUCTION CONTRACT

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 Office*—The office from which the Bidding Documents are to be issued, and which registers plan holders.

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.
- A. It is the responsibility of the Bidder to go to QuestCDN's Projects (www.questcdn.com), check for the presence of Bidding Documents (including Addenda), and download documents as they become available. Bidder shall regularly check QuestCDN's projects for Addenda or other additions or revisions to the Bidding Documents through the Bid Opening date, whether or not Bidder has received email notice of Addenda from Stantec or Quest CDN. Please contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance in free membership registration, downloading, and working with this digital project information.
- B. It is the responsibility of the Recipient of Electronic Bidding Documents from this site to check the electronic data for computer viruses or other harmful code.
- 2.04 *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. It is the intent of the Engineer

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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.

2. It is the responsibility of the Bidder to verify the intended document size (sheet dimensions) and to verify proper colors (color, or black and white) of the Electronic Bidding Documents prior to reproduction. Bidder shall ensure that the Electronic Bidding Documents are reproduced to the correct and exact scale, and correct colors.
- 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 2.06.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 To demonstrate Bidder's qualifications to perform the Work, after submitting its Bid and within 5 days of Owner's request, Bidder must submit the following information:
 - 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.
 - F. Evidence of genuineness of Bid and lack of collusion in conjunction therewith.
- 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.
 - A. 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

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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. Owner will make copies of reports and drawings referenced above available to any Bidder on request. These reports and drawings are not part of the Contract Documents, but the Technical Data contained therein upon whose accuracy Bidder is entitled to rely, as provided in the General Conditions, has been identified and established in the Supplementary Conditions. Bidder is responsible for any interpretation or conclusion Bidder draws from any Technical Data or any other data, interpretations, opinions, or information contained in such reports or shown or indicated in such drawings.
3. 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.
4. No Geotechnical Baseline Report is included in the Bidding Documents.

- 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. In addition to the documents regarding existing Site conditions referred to in Paragraph 5.02.A, the following other documents relating to conditions at or adjacent to the Site are known to Owner and made available to Bidders for reference:
1. No Such Documents.
Owner will make copies of these other Site-related documents available to any Bidder on request.

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- B. Owner has not verified the contents of these other Site-related documents, and Bidder may not rely on the accuracy of any data or information in such documents. Bidder is responsible for any interpretation or conclusion Bidder draws from the other Site-related documents.
 - C. The other Site-related documents are not part of the Contract Documents.
 - D. No other Site-related documents are available.
- 5.04 *Site Visit and Testing by Bidders*
- A. Bidder is not required to visit the Site, however, arrangements for a site visit can be made upon request. During the visit the Bidder must not disturb any ongoing operations at the Site.
 - B. Bidders visiting the Site are required to arrange their own transportation to the Site.
 - C. 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. Bidder must conduct the required Site visit during normal working hours.
 - D. Bidder is not required to conduct any subsurface testing, or exhaustive investigations of Site conditions.
 - E. 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.
 - F. 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.
 - G. 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

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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 Owner on its own initiative may issue Addenda to clarify, correct, supplement, or change the Bidding Documents.
- 7.02 Bidder shall submit all questions about the meaning or intent of the Bidding Documents to Engineer in writing. Contact information for such questions provided in the Advertisement for Bids.
- 7.03 Interpretations or clarifications considered necessary by Engineer in response to such questions will be issued by Addenda delivered to all registered plan holders. Questions received less than seven days prior to the date for opening of Bids may not be answered.
- 7.04 Only responses set forth in an Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect. Responses to questions are not part of the Contract Documents unless set forth in an Addendum that expressly modifies or supplements the Contract 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 certified check, bank money order, or a Bid bond issued by a surety meeting the requirements of Paragraph 6.01 of the General Conditions.
- 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.

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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 5 days after Bid opening:
- A. List shall include all Subcontractors and Suppliers.
- 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. If the Project requires Sealed Bids, all blanks on the Bid Form must be completed in ink and the Bid Form signed in ink. 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 If Bidder has obtained the Bidding Documents as Electronic Documents and if the Project requires Sealed Bids, then Bidder shall prepare its Bid on a paper copy of the Bid Form

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printed from the Electronic Documents version of the Bidding Documents. The printed copy of the Bid Form must be clearly legible, printed on 8½ inch by 11-inch paper and as closely identical in appearance to the Electronic Document version of the Bid Form as may be practical. The Owner reserves the right to accept Bid Forms which nominally vary in appearance from the original paper version of the Bid Form, providing that all required information and submittals are included with the Bid.

- 12.03 If the Project requires electronic bidding, the Bidder shall follow all digital bidding requirements of the Advertisement for Bid.
- 12.04 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.
- 12.05 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.
- 12.06 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.
- 12.07 A Bid by an individual must show the Bidder's name and official address.
- 12.08 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.
- 12.09 All names must be printed in ink below the signatures.
- 12.10 The Bid must contain an acknowledgment of receipt of all Addenda, the numbers of which must be filled in on the Bid Form.
- 12.11 Postal and e-mail addresses and telephone number for communications regarding the Bid must be shown.
- 12.12 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.
- 12.13 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.
- 12.14 Bidders shall indicate the total add or deduct to the Total Base Bid for each Alternate provided on the Bid Form, if applicable.

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.

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- 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.
 - D. Bids will be compared on the basis of the "Total Base Bid" and this amount will be the basis for determining the lowest Bidder.
- 13.02 The Bidding Documents include one separate unbound copy of the Document 00 41 10, 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.
- 13.03 The entire Project Manual should not be submitted with the Bid.
- 13.04 If the Project requires Sealed Bids, 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 must be enclosed in a plainly marked package with the Project title, and, if applicable, the designated portion of the Project for which the Bid is submitted, the name and address of Bidder, and must be accompanied by the Bid security and other required documents. If a Bid is sent by mail or other delivery system, the sealed envelope containing the Bid must be enclosed in a separate package plainly marked on the outside with the notation "BID ENCLOSED." A mailed Bid must be addressed to the location designated in the Advertisement.
- 13.05 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 and will be returned to the Bidder unopened.
- 13.06 If the Bid requires Electronic Bids, Bids shall be submitted no later than the date and time indicated in the Advertisement or invitation to bid and all bids shall be made online at the QuestCDN bidding site and shall be in compliance with the Notice to Bidders. The online bid must be completed and submitted, all addenda acknowledged, and acknowledgement uploaded to the site, and a copy of the bid bond uploaded to the site. If a copy of the bid bond is uploaded, the original must be provided to the City after the bid opening but before the end of business on the second business day after the bid opening.

ARTICLE 14—MODIFICATION AND WITHDRAWAL OF BID

- 14.01 An unopened Bid may be withdrawn by an appropriate document duly executed in the same manner that a Bid must be executed and delivered to the place where Bids are to be submitted prior to the date and time for the opening of Bids. Upon receipt of such notice, the unopened Bid will be returned to the Bidder.
- 14.02 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.
- 14.03 Bids may be withdrawn after Bid Opening only in accordance with the Law
- 14.04 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

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withdraw its Bid, and the Bid security will be returned. Thereafter, if the Work is rebid, the Bidder will be disqualified from further bidding on the Work.

ARTICLE 15—OPENING OF BIDS

- 15.01 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 16—BIDS TO REMAIN SUBJECT TO ACCEPTANCE

- 16.01 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 17—EVALUATION OF BIDS AND AWARD OF CONTRACT

- 17.01 If the Contract is awarded, award will be made on the basis of the lowest responsive, responsible, qualified Bidder determined by the Total Base Bid.
- 17.02 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 and to negotiate contract terms with the successful Bidder.
- 17.03 Owner will reject the Bid of any Bidder that Owner finds, after reasonable inquiry and evaluation, to not be responsible. Owner may also reject the Bid of any Bidder if Owner believes that it would not be in the best interest of the Project to make an award to that Bidder.
- 17.04 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.
- 17.05 If Owner awards the contract for the Work, such award will be to the responsible Bidder submitting the lowest responsive Bid and whose Bid is in the best interest of the Project.
- 17.06 *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.
- 17.07 In evaluating whether a Bidder is responsible, Owner will consider the qualifications of the Bidder and may consider the qualifications and experience of Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work for which the identity of Subcontractors, Suppliers, and other individuals or entities must be submitted as provided in the Bidding Documents.
- 17.08 Owner may conduct such investigations as Owner deems necessary to establish the responsibility, qualifications, and financial ability of Bidders, proposed Subcontractors, Suppliers, and other individuals or entities proposed for those portions of the Work in

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accordance with the Contract Documents. As a condition of its Bid, Bidder is required to waive any and all claims of whatever nature against Owner, Engineer, and their employees and agents which arise out of or relate to such investigations and statements made as a result thereof, except for statements that can be shown by clear and convincing evidence to be intentionally false and made with actual malice. This waiver is not intended to restrict Bidder's rights to challenge a Contract pursuant to law.

ARTICLE 18—BONDS AND INSURANCE

- 18.01 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.
- 18.02 Article 8, Bid Security, of these Instructions, addresses any requirements for providing bid bonds as part of the bidding process.

ARTICLE 19—SIGNING OF AGREEMENT

- 19.01 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.

ARTICLE 20—SALES AND USE TAXES

Not used.

ARTICLE 21—RESPONSIBLE CONTRACTOR

- 21.01 In accordance with 2020 Minnesota Statute §16C.285, Bidders are hereby advised that the Owner cannot award a construction contract in excess of \$50,000 unless the contractor is a "responsible contractor" as defined in Minnesota Statutes §16C.285, subdivision 3. A bidder submitting a Proposal for this Project must verify that it meets the minimum criteria specified in Minnesota Statutes §16C.285, subdivision 3, by completing the Responsible Contractor Certificate within this Proposal. Statements in the certificate must be certified by a company officer. Bidders are responsible for obtaining verifications of compliance from all subcontractors, using a form provided by the Owner. A bidder must submit signed verifications from subcontractors upon the Owner's request.
- A Bidder or subcontractor who does not meet the minimum criteria established in Minnesota Statutes §16C.285, subdivision 3, or who fails to verify compliance with the minimum requirements, will not be a "responsible contractor" and will be ineligible to be awarded the Contract for this Project or to work on this Project. Bidders and subcontractors are also advised that making a false statement verifying compliance with any of the minimum criteria will render the Bidder or subcontractor ineligible to be awarded a

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construction contract for this Project and may result in the termination of a contract awarded to a Bidder or subcontractor that makes a false statement.

ARTICLE 22—SUBLETTING OF CONTRACTOR

- 22.01 The provisions of MnDOT 1801 are modified as follows:
For Projects in excess of \$50,000, the Contractor may sublet work only to subcontractors that meet the definition of “responsible contractor” in Minnesota Statutes §16C.285, subdivision 3. The Contractor is responsible for obtaining verifications of compliance with §16C.285 from subcontractors using a form provided by the Owner. The Contractor must provide such verifications to the Owner upon the Owner’s request.

END OF SECTION

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BIDDER: _____

DOCUMENT 00 41 00

BID FORM

GRAND RAPIDS PUBLIC UTILITIES COMMISSION PHASES 1-4 AND KETTLE D FINAL COVER MODIFICATIONS

STANTEC PROJECT NO. 227708696

GRAND RAPIDS, MINNESOTA

2026

THIS BID IS SUBMITTED TO:

Grand Rapids Public Utilities Commission
Mr. Steve Mattson
500 SE 4th St.
Grand Rapids, MN 55744

1.01 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.

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid Security. The 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.

3.01 In submitting this Bid, Bidder represents that:

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

Addendum No.

Addendum Date

- B. Bidder has visited the Site, if required, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and is satisfied as to all federal, state, and local Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has obtained and carefully studied (or accepts the consequences for not doing so) all additional or supplementary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface, and Underground Facilities) at, or contiguous to, the Site which may affect cost, progress, or performance of the Work or which relate to any aspect of the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder, including applying the specific means, methods, techniques, sequences, and procedures of construction expressly required by the Bidding Documents to be employed by Bidder, and safety precautions and programs incident thereto.
- E. Bidder does not consider that any further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price(s) Bid and within the times and in accordance with the other terms and conditions of the Bidding Documents.
- F. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- G. Bidder has correlated the information known to Bidder, information and observations obtained from visits to the Site, reports and drawings identified in the Bidding Documents, and all additional examinations, investigations, explorations, tests, studies, and data with the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance of the Work for which this Bid is submitted.

J. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

4.01 Bidder further represents that:

- A. The prices in this Bid have been arrived at independently, without consultation, communication, or agreement as to any matters relating to such prices with any other Bidder or with any competitor for the purpose of restricting competition.
- B. The prices in this Bid have not or will not be knowingly disclosed to any other Bidder or competitor prior to opening of the Bids.
- C. No attempt has been made or will be made by the Bidder to induce any other person or firm to submit or not to submit a Bid for the purpose of restricting competition.

4.02 Bidder understands that the law may require the Owner, or Engineer at the Owner's direction, to undertake an investigation and submit an evaluation concerning Bidder's responsiveness, responsibility, and qualifications before awarding a contract. Bidder hereby waives any and all claims, of whatever nature, against Owner, Engineer and their employees and agents, which arise out of or relate to such investigation and evaluation, and statements made as a result thereof, except for statements that can be shown by clear and convincing evidence to be intentionally false and made with actual malice. Nothing in this paragraph is intended to restrict Bidder's rights to challenge a contract pursuant to law.

No.	Item	Units	Qty		Total Price
BASE BID					
1	Mobilization and Demobilization	LS	1	\$ _____	\$ _____
2	Field Engineering	LS	1	\$ _____	\$ _____
3	Site/Haul Road Maintenance	LS	1	\$ _____	\$ _____
4	Silt Fence	LF	2,980	\$ _____	\$ _____
5	Subgrade Preparation	SF	670,824	\$ _____	\$ _____
6	Anchor Trench	LF	3,022	\$ _____	\$ _____
7	Furnish and Install 40-mil smooth LLDPE Geosynthetic Material	SF	670,824	\$ _____	\$ _____
8	Furnish and Install Granular Drainage Layer (12" thick in-place)	SF	670,824	\$ _____	\$ _____
9	Install Salvaged Roofing Zone Soil (6" thick in-place)	SF	670,824	\$ _____	\$ _____
10	Furnish Topsoil	CY	12,422	\$ _____	\$ _____
11	Install Topsoil (6" thick in-place)	SF	670,824	\$ _____	\$ _____
12	Drain Tile System	LF	3,022	\$ _____	\$ _____
13	Drain Tile Outlets	EA	15	\$ _____	\$ _____
14	Gas Vent Extensions	EA	8	\$ _____	\$ _____
15	Site Restoration/Turf Establishment	AC	17	\$ _____	\$ _____
TOTAL BASE BID					\$ _____

6.01 Bidder agrees that the Work will be Substantially Completed and completed and ready for Final Payment in accordance with Article 9.10 of the General Conditions of the Contract for Construction on or before the dates or within the number of calendar days indicated in the Agreement.

6.02 Bidder accepts the provisions of the Agreement as to liquidated damages in the event of failure to complete the Work within the times specified above, which shall be stated in the Agreement.

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

- A. Required Bid Security in the form of 5 percent.
- B. Bid Form Attachment A - Responsible Contractor Verification and Certification of Compliance
- C. Contractor Qualification Form

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

SUBMITTED on _____, 2026.

If Bidder Is:

A Corporation

Corporation Name: _____ (SEAL)

State of Incorporation: _____

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

By: _____
(Signature)

Name (typed or printed): _____

Title: _____

Attest _____ (CORPORATE SEAL)
(Signature of Corporate Secretary)

Business Street Address (No P.O. Box #'s):

Phone No.: _____ Fax No.: _____

Email: _____

An Individual

Name (typed or printed): _____

By: _____ (SEAL)
(Individual's signature)

Doing business as: _____

Business Street Address (No P.O. Box #'s):

Phone No.: _____ Fax No.: _____

Email: _____

A Partnership

Partnership Name: _____ (SEAL)

By: _____
(Signature of general partner)

Name (typed or printed): _____

Business Street Address (No P.O. Box #'s):

Phone No.: _____ Fax No.: _____

Email: _____

A Joint Venture

Joint Venture Name: _____(SEAL)

By: _____
(Signature of joint venture partner)

Name (typed or printed): _____

Title: _____

Business address: _____

Phone No.: _____ Fax No.: _____

Joint Venturer Name: _____(SEAL)

By: _____
(Signature)

Name (typed or printed): _____

Title: _____

Business Street Address (No P.O. Box #'s): _____

Phone No.: _____ Fax No.: _____

Email: _____

Phone and Fax Number, and Address for receipt of official communications:

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

END OF DOCUMENT

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SECTION 00 41 13

BID FORM ATTACHMENT A

RESPONSIBLE CONTRACTOR VERIFICATION AND CERTIFICATION OF COMPLIANCE

PROJECT TITLE: PHASES 1 – 4 AND KETTLE D FINAL COVER MODIFICATIONS

<p>Minn. Stat. § 16C.285, Subd. 7. IMPLEMENTATION. ... any prime contractor or subcontractor that does not meet the minimum criteria in subdivision 3 or fails to verify that it meets those criteria is not a responsible contractor and is not eligible to be awarded a construction contract for the project or to perform work on the project...</p>	
<p>Minn. Stat. § 16C.285, Subd. 3. RESPONSIBLE CONTRACTOR, MINIMUM CRITERIA. "Responsible contractor" means a contractor that conforms to the responsibility requirements in the solicitation document for its portion of the work on the project and verifies that it meets the following minimum criteria:</p>	
(1)	<p>The Contractor:</p> <ul style="list-style-type: none">(i) is in compliance with workers' compensation and unemployment insurance requirements.(ii) is currently registered with the Department of Revenue and the Department of Employment and Economic Development if it has employees,(iii) has a valid federal tax identification number or a valid Social Security number if an individual; and(iv) has filed a certificate of authority to transact business in Minnesota with the Secretary of State if a foreign corporation or cooperative.
(2)	<p>The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 177.24, 177.25, 177.41 to 177.44, 181.13, 181.14, or 181.722, and has not violated United States Code, title 29, sections 201 to 219, or United States Code, title 40, sections 3141 to 3148. For purposes of this clause, a violation occurs when a contractor or related entity:</p> <ul style="list-style-type: none">(i) repeatedly fails to pay statutorily required wages or penalties on one or more separate projects for a total underpayment of \$25,000 or more within the three-year period,(ii) has been issued an order to comply by the commissioner of Labor and Industry that has become final,(iii) has been issued at least two determination letters within the three-year period by the Department of Transportation finding an underpayment by the contractor or related entity to its own employees.(iv) has been found by the commissioner of Labor and Industry to have repeatedly or willfully violated any of the sections referenced in this clause pursuant to section 177.27(v) has been issued a ruling or findings of underpayment by the administrator of the Wage and Hour Division of the United States Department of Labor that have become final or have been upheld by an administrative law judge or the Administrative Review Board; or(vi) has been found liable for underpayment of wages or penalties or misrepresenting a construction worker as an independent contractor in an action brought in a court having jurisdiction. Provided that, if the contractor or related entity contests a determination of underpayment by the Department of Transportation in a contested case proceeding, a violation does not occur until the contested case proceeding has concluded with a determination that the contractor or related entity underpaid wages or penalties;*

(3)	The contractor or related entity is in compliance with and, during the three-year period before submitting the verification, has not violated section 181.723 or chapter 326B. For purposes of this clause, a violation occurs when a contractor or related entity has been issued a final administrative or licensing order, *
(4)	The contractor or related entity has not, more than twice during the three-year period before submitting the verification, had a certificate of compliance under section 363A.36 revoked or suspended based on the provisions of section 363A.36, with the revocation or suspension becoming final because it was upheld by the Office of Administrative Hearings or was not appealed to the office;*
(5)	The contractor or related entity has not received a final determination assessing a monetary sanction from the Department of Administration or Transportation for failure to meet targeted group business, disadvantaged business enterprise, or veteran-owned business goals, due to a lack of good faith effort, more than once during the three-year period before submitting the verification;*
	* Any violations, suspensions, revocations, or sanctions, as defined in clauses (2) to (5), occurring prior to July 1, 2014, shall not be considered in determining whether a contractor or related entity meets the minimum criteria.
(6)	The contractor or related entity is not currently suspended or debarred by the federal government or the state of Minnesota or any of its departments, commissions, agencies, or political subdivisions; and
(7)	All subcontractors that the contractor intends to use to perform project work have verified to the contractor through a signed statement under oath by an owner or officer that they meet the minimum criteria listed in clauses (1) to (6).

Minn. Stat. § 16C.285, Subd. 5. **SUBCONTRACTOR VERIFICATION.**

A prime contractor or subcontractor shall include in its verification of compliance under subdivision 4 a list of all of its first-tier subcontractors that it intends to retain for work on the project.

If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors.

A prime contractor shall submit to the contracting authority upon request copies of the signed verifications of compliance from all subcontractors of any tier pursuant to subdivision 3, clause (7). A prime contractor and subcontractors shall not be responsible for the false statements of any subcontractor with which they do not have a direct contractual relationship. A prime contractor and subcontractors shall be responsible for false statements by their first-tier subcontractors with which they have a direct contractual relationship only if they accept the verification of compliance with actual knowledge that it contains a false statement.

Minn. Stat. § 16C.285, Subd. 4. **VERIFICATION OF COMPLIANCE.**

A contractor responding to a solicitation document of a contracting authority shall submit to the contracting authority a signed statement under oath by an owner or officer verifying compliance with each of the minimum criteria in subdivision 3 at the time that it responds to the solicitation document.

A contracting authority may accept a sworn statement as sufficient to demonstrate that a contractor is a responsible contractor and shall not be held liable for awarding a contract in reasonable reliance on that statement. Failure to verify compliance with any one of the minimum criteria or a false statement under oath in a verification of compliance shall render the prime contractor or subcontractor that makes the false statement ineligible to be awarded a construction contract on the project for which the verification was submitted.

A false statement under oath verifying compliance with any of the minimum criteria may result in termination of a construction contract that has already been awarded to a prime contractor or subcontractor that submits a false statement. A contracting authority shall not be liable for declining to award a contract or terminating a contract based on a reasonable determination that the contractor failed to verify compliance with the minimum criteria or falsely stated that it meets the minimum criteria.

CERTIFICATION

By signing this document, I certify that I am an owner or officer of the company, and I swear under oath that:

- 1) My company meets each of the Minimum Criteria to be a responsible contractor as defined herein and is in compliance with Minn. Stat. § 16C.285,**
- 2) I have included Attachment A-1 with my company's solicitation response, and**
- 3) if my company is awarded a contract, I will also submit Attachment A-2 as required.**

Authorized Signature of Owner or Officer:

Printed Name:

Title:

Date:

Company Name:

Sworn to and subscribed before me this
_____ day of _____, 20__.

Notary Public

My Commission Expires: _____

PLACE NOTARY SEAL HERE

NOTE: Minn. Stat. § 16C.285, Subd. 2, (c) If only one prime contractor responds to a solicitation document, a contracting authority may award a construction contract to the responding prime contractor even if the minimum criteria in subdivision 3 are not met.

ATTACHMENT A-2

ADDITIONAL SUBCONTRACTORS LIST

PRIME CONTRACTOR TO SUBMIT AS SUBCONTRACTORS ARE ADDED TO THE PROJECT

PROJECT TITLE: PHASES 1 – 4 AND KETTLE D FINALCOVER MODIFICATIONS

This form must be submitted to the Project Manager or individual as identified in the solicitation document.

Minn. Stat. § 16C.285, Subd. 5. If a prime contractor or any subcontractor retains additional subcontractors on the project after submitting its verification of compliance, the prime contractor or subcontractor shall obtain verifications of compliance from each additional subcontractor with which it has a direct contractual relationship and shall submit a supplemental verification confirming compliance with subdivision 3, clause (7), within 14 days of retaining the additional subcontractors. Submit this form to the Project Manager.

ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)	Name of city where company home office is located

ADDITIONAL SUBCONTRACTOR NAMES (Legal name of company as registered with the Secretary of State)	Name of city where company home office is located

SUPPLEMENTAL CERTIFICATION FOR ATTACHMENT A-2	
By signing this document I certify that I am an owner or officer of the company, and I swear under oath that:	
All additional subcontractors listed on Attachment A-2 have verified through a signed statement under oath by an owner or officer that they meet minimum criteria to be a responsible contractor as defined in Minn. Stat. § 16C.285.	
Authorized Signature of Owner or Officer:	Printed Name:
Title:	Date:
Company Name:	

Sworn to and subscribed before me this _____ day of _____, 20 .

Notary Public

My Commission Expires: _____

PLACE NOTARY SEAL HERE

END OF SECTION

SECTION 00 52 00

AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT

This Agreement is by and between Grand Rapids Public Utilities Commission ("Owner") and CONTRACTOR NAME TBD ("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: **Phases 1-4 and Kettle D Final Cover Modifications.**

ARTICLE 2—THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Phases 1-4 and Kettle D Final Cover Modifications** for the Grand Rapids Public Utility Commission.

ARTICLE 3—ENGINEER

3.01 The Owner has retained Stantec Consulting Services 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 Engineer

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: Dates*

A. The Work, as defined in Section 00 73 00 of the Project Manual, will be substantially complete on or before **October 1, 2026**, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **November 1, 2026.**

4.05 *Liquidated Damages*

A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the Contract Times, as duly modified. The parties also recognize the delays, expense, and difficulties involved in proving, in a legal or arbitration proceeding, the actual loss suffered by Owner if the

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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):

1. *Substantial Completion*: Contractor shall pay Owner **\$1,500** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for Substantial Completion, until the Work is substantially complete.
 2. *Completion of Remaining Work*: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$1,500** for each day that expires after such time until the Work is completed and ready for final payment.
 4. Liquidated damages for failing to timely attain Substantial Completion, and final completion are not additive, and will not be imposed concurrently.
- 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.

4.06 *Special Damages*

- A. Contractor shall reimburse Owner (1) for any fines or penalties imposed on Owner as a direct result of the Contractor's failure to attain Substantial Completion according to the Contract Times, and (2) for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Substantial Completion (as duly adjusted pursuant to the Contract), until the Work is substantially complete.
- B. After Contractor achieves Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times, Contractor shall reimburse Owner for the actual costs reasonably incurred by Owner for engineering, construction observation, inspection, and administrative services needed after the time specified in Paragraph 4.02 for Work to be completed and ready for final payment (as duly adjusted pursuant to the Contract), until the Work is completed and ready for final payment.
- C. The special damages imposed in this paragraph are supplemental to any liquidated damages for delayed completion established 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. The Bid Prices for Unit Price Work set forth as of the Effective Date of the Agreement are based on estimated quantities. As provided in Paragraph 13.03 of the General Conditions, estimated quantities are not guaranteed, and determinations of actual quantities and classifications are to be made by the Engineer as provided in Paragraph 10.05 of the General Conditions.
 - B. Original Contract Amount is based on **[fill in amount after Award]**.

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, monthly during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract.
 - a. 95 percent of the value of the Work completed (with the balance being retainage).
 - b. 95 percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to 100 percent of the Work completed less the following:
 - a. 250 percent of Engineer's estimate of the value of Work known to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment and that are attached to the certificate of Substantial Completion; and
 - b. one percent of the value of the Contract or \$500, whichever is greater, pending completion and submission of all final paperwork by the contractor or subcontractor. For purposes of this, "final paperwork" means documents required to fulfill contractual obligations, including, but not limited to, operation manuals, payroll documents for projects subject to prevailing wage requirements, and the withholding exemption certificate; and
 - c. less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions.
 - d. The Engineer shall provide a written statement to the Contractor detailing the amount and basis for any withholding pursuant to this paragraph. Such withholdings shall be paid to the Contractor within 60 days after completion and invoicing for the applicable work and submission of the final paperwork, respectively. Nothing in this paragraph shall require the Owner to make payments for portions of a contract which are funded by Federal or State Aid funds until such aid payments have been received by the Owner. Further, no payment contemplated herein shall be mandated for a portion of the Contract which is not complete or for which an invoice has not been

submitted. Upon receipt of the retainage funds, the Contractor shall be obligated to make corresponding payment to subcontractors pursuant to State Statute.

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 maximum rate allowed by law at the place of the Project.

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
 6. Drawings bearing the following general title: **Phases 1-4 and Kettle D Final Cover Modifications**
 7. Addenda (numbers **number** to **number**, inclusive).
 8. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid Form.
 - b. Documentation submitted by Contractor prior to Notice of Award.
 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

A. Contractor's Representations

- A. In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - 1. Contractor has examined and carefully studied the Contract Documents, including Addenda.
 - 2. Contractor has visited the Site, conducted a thorough visual examination of the Site and adjacent areas, and become familiar 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:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;
2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

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 _____, **2026** (which is the Effective Date of the Contract).

Owner:

Grand Rapids Public Utility Commission

(typed or printed name of organization)

By: _____

(individual's signature)

Date: _____

(date signed)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Attest: _____

(individual's signature)

Title: _____

(typed or printed)

Address for giving notices:

Designated Representative:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Address:

Phone: _____

Email: _____

Contractor:

(typed or printed name of organization)

By: _____

(individual's signature)

Date: _____

(date signed)

Name: _____

(typed or printed)

Title: _____

(typed or printed)

(If **[Type of Entity]** is a corporation, a partnership, or a joint venture, attach

Attest: _____

(individual's signature)

Title: _____

(typed or printed)

Address for giving notices:

Designated Representative:

Name: _____

(typed or printed)

Title: _____

(typed or printed)

Address:

Phone: _____

Email: _____

License No.: _____

(where applicable)

State: _____

**EJCDC® C-520, Agreement between Owner and Contractor for Construction Contract (Stipulated Price).
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PERFORMANCE BOND

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

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

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

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”.

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

STANDARD GENERAL CONDITIONS OF THE CONSTRUCTION CONTRACT

Prepared By



Endorsed By



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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, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
42. *Substantial Completion*—The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of Engineer, the Work (or a specified part

thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

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.
1. The Progress Schedule will be acceptable to Engineer if it provides an orderly progression of the Work to completion within the Contract Times. Such acceptance will not impose on Engineer responsibility for the Progress Schedule, for sequencing, scheduling, or progress of the Work, nor interfere with or relieve Contractor from Contractor's full responsibility therefor.
 2. Contractor's Schedule of Submittals will be acceptable to Engineer if it provides a workable arrangement for reviewing and processing the required submittals.
 3. Contractor's Schedule of Values will be acceptable to Engineer as to form and substance if it provides a reasonable allocation of the Contract Price to the component parts of the Work.
 4. If a schedule is not acceptable, Contractor will have an additional 10 days to revise and resubmit the schedule.

2.06 *Electronic Transmittals*

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

ARTICLE 3—CONTRACT DOCUMENTS: INTENT, REQUIREMENTS, REUSE

3.01 *Intent*

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

3.02 *Reference Standards*

A. *Standards Specifications, Codes, Laws and Regulations*

1. Reference in the Contract Documents to standard specifications, manuals, reference standards, or codes of any technical society, organization, or association, or to Laws or Regulations, whether such reference be specific or by implication, means the standard specification, manual, reference standard, code, or Laws or Regulations in effect at the time of opening of Bids (or on the Effective Date of the Contract if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.
2. No provision of any such standard specification, manual, reference standard, or code, and no instruction of a Supplier, will be effective to change the duties or responsibilities of Owner, Contractor, or Engineer from those set forth in the part of the Contract Documents prepared by or for Engineer. No such provision or instruction shall be effective to assign to Owner or Engineer any duty or authority to supervise or direct the performance of the Work, or any duty or authority to undertake responsibility 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:
 1. have or acquire any title to or ownership rights in any of the Drawings, Specifications, or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or its consultants, including electronic media versions, or reuse any such Drawings, Specifications, other documents, or copies thereof on extensions of the Project or any other project without written consent of Owner and Engineer and specific written verification or adaptation by Engineer; or
 2. have or acquire any title or ownership rights in any other Contract Documents, reuse any such Contract Documents for any purpose without Owner's express written consent, or violate any copyrights pertaining to such Contract Documents.
- B. The prohibitions of this Paragraph 3.05 will survive final payment, or termination of the Contract. Nothing herein precludes Contractor from retaining copies of the Contract Documents for record purposes.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

4.01 *Commencement of Contract Times; Notice to Proceed*

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

4.02 *Starting the Work*

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

4.03 *Reference Points*

- A. Owner shall provide engineering surveys to establish reference points for construction which in Engineer's judgment are necessary to enable Contractor to proceed with the Work. Contractor shall be responsible for laying out the Work, shall protect and preserve the 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;
 2. 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;
 2. identify and communicate with the owner of the Underground Facility; prepare recommendations to Owner (and if necessary issue any preliminary instructions to Contractor) regarding the Contractor's resumption of Work in connection with the Underground Facility in question;
 3. obtain any pertinent cost or schedule information from Contractor; determine the extent, if any, to which a change is required in the Drawings or Specifications to reflect and document the consequences of the existence or location of the Underground Facility; and
 4. advise Owner in writing of Engineer's findings, conclusions, and recommendations.

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

- D. *Owner's Statement to Contractor Regarding Underground Facility:* After receipt of Engineer's written findings, conclusions, and recommendations, Owner shall issue a written statement to Contractor (with a copy to Engineer) regarding the Underground Facility in question addressing the resumption of Work in connection with such Underground Facility, indicating whether any change in the Drawings or Specifications will be made, and adopting or rejecting Engineer's written findings, conclusions, and recommendations in whole or in part.
- E. *Early Resumption of Work:* If at any time Engineer determines that Work in connection with the Underground Facility may resume prior to completion of Engineer's review or Owner's issuance of its statement to Contractor, because the Underground Facility in question and conditions affected by its presence have been adequately documented, and analyzed on a preliminary basis, then the Engineer may at its discretion instruct Contractor to resume such Work.
- F. *Possible Price and Times Adjustments*
1. Contractor shall be entitled to an equitable adjustment in the Contract Price or Contract Times, to the extent that any existing Underground Facility at the Site that was not shown 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 in question, then Owner may remove and remediate the Hazardous Environmental Condition, and impose a set-off against payments to account for the associated costs.
- F. Contractor shall not resume Work in connection with such Hazardous Environmental Condition or in any affected area until after Owner has obtained any required permits related thereto, and delivered written notice to Contractor either (1) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (2) specifying any special conditions under which such Work may be resumed safely.
 - G. If Owner and Contractor cannot agree as to entitlement to or on the amount or extent, if any, of any adjustment in Contract Price or Contract Times, as a result of such Work stoppage, such special conditions under which Work is agreed to be resumed by Contractor, or any costs or expenses incurred in response to the Hazardous Environmental Condition, then within 30 days of Owner's written notice regarding the resumption of Work, Contractor may submit a Change Proposal, or Owner may impose a set-off. Entitlement to any such adjustment is subject to the provisions of Paragraphs 4.05.D, 4.05.E, 11.07, and 11.08.
 - H. If, after receipt of such written notice, Contractor does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special 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.
 - 1. If Engineer in its sole discretion determines that an item of equipment or material proposed by Contractor is functionally equal to that named and sufficiently similar so that no change in related Work will be required, Engineer will deem it an “or equal” item. For the purposes of this paragraph, a proposed item of equipment or material will be considered functionally equal to an item so named if:
 - a. in the exercise of reasonable judgment Engineer determines that the proposed item:
 - 1) is at least equal in materials of construction, quality, durability, appearance, strength, and design characteristics;
 - 2) will reliably perform at least equally well the function and achieve the results imposed by the design concept of the completed Project as a functioning whole;
 - 3) has a proven record of performance and availability of responsive service; and
 - 4) is not objectionable to Owner.
 - b. Contractor certifies that, if the proposed item is approved and incorporated into the Work:
 - 1) there will be no increase in cost to the Owner or increase in Contract Times; and
 - 2) the item will conform substantially to the detailed requirements of the item named in the Contract Documents.
- B. *Contractor’s Expense:* Contractor shall provide all data in support of any proposed “or equal” item at Contractor’s expense.
- C. *Engineer’s Evaluation and Determination:* Engineer will be allowed a reasonable time to evaluate each “or-equal” request. Engineer may require Contractor to furnish additional data about the proposed “or-equal” item. Engineer will be the sole judge of acceptability. No “or-

equal” item will be ordered, furnished, installed, or utilized until Engineer’s review is complete and Engineer determines that the proposed item is an “or-equal,” which will be evidenced by an approved Shop Drawing or other written communication. Engineer will advise Contractor in writing of any negative determination.

- D. *Effect of Engineer’s Determination:* Neither approval nor denial of an “or-equal” request will result in any change in Contract Price. The Engineer’s denial of an “or-equal” request will be final and binding, and may not be reversed through an appeal under any provision of the Contract.
- E. *Treatment as a Substitution Request:* If Engineer determines that an item of equipment or material proposed by Contractor does not qualify as an “or-equal” item, Contractor may request that Engineer consider the item a proposed substitute pursuant to Paragraph 7.06.

7.06 *Substitutes*

- A. *Contractor’s Request; Governing Criteria:* Unless the specification or description of an item of equipment or material required to be furnished under the Contract Documents contains or is followed by words reading that no substitution is permitted, Contractor may request that Engineer authorize the use of other items of equipment or material under the circumstances described below. To the extent possible such requests must be made before commencement of related construction at the Site.
 - 1. Contractor shall submit sufficient information as provided below to allow Engineer to determine if the item of material or equipment proposed is functionally equivalent to that named and an acceptable substitute therefor. Engineer will not accept requests for review of proposed substitute items of equipment or material from anyone other than Contractor.
 - 2. The requirements for review by Engineer will be as set forth in Paragraph 7.06.B, as supplemented by the Specifications, and as Engineer may decide is appropriate under the circumstances.
 - 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
 - 3) all information relative to Contractor's responsibilities for means, methods, techniques, sequences, and procedures of construction, and safety precautions and programs incident thereto;
 - c. confirm that the Submittal is complete with respect to all related data included in the Submittal.
2. Each Shop Drawing or Sample must bear a stamp or specific written certification that Contractor has satisfied Contractor's obligations under the Contract Documents with respect to Contractor's review of that Submittal, and that Contractor approves the Submittal.
3. With each Shop Drawing or Sample, Contractor shall give Engineer specific written notice of any variations that the Submittal may have from the requirements of the Contract Documents. This notice must be set forth in a written communication separate from the Submittal; and, in addition, in the case of a Shop Drawing by a specific notation made on the Shop Drawing itself.

- B. *Submittal Procedures for Shop Drawings and Samples:* Contractor shall label and submit Shop Drawings and Samples to Engineer for review and approval in accordance with the accepted Schedule of Submittals.

1. *Shop Drawings*

- a. Contractor shall submit the number of copies required in the Specifications.

- b. Data shown on the Shop Drawings must be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show Engineer the services, materials, and equipment Contractor proposes to provide, and to enable Engineer to review the information for the limited purposes required by Paragraph 7.16.C.

2. *Samples*

- a. Contractor shall submit the number of Samples required in the Specifications.
 - b. Contractor shall clearly identify each Sample as to material, Supplier, pertinent data such as catalog numbers, the use for which intended and other data as Engineer may require to enable Engineer to review the Submittal for the limited purposes required by Paragraph 7.16.C.
3. Where a Shop Drawing or Sample is required by the Contract Documents or the Schedule of Submittals, any related Work performed prior to Engineer's review and approval of the pertinent submittal will be at the sole expense and responsibility of Contractor.

C. *Engineer's Review of Shop Drawings and Samples*

1. Engineer will provide timely review of Shop Drawings and Samples in accordance with the accepted Schedule of Submittals. Engineer's review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, comply with the requirements of the Contract Documents, and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents.
2. Engineer's review and approval will not extend to means, methods, techniques, sequences, or procedures of construction, or to safety precautions or programs incident thereto.
3. Engineer's review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.
4. Engineer's review and approval of a Shop Drawing or Sample will not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has complied with the requirements of Paragraph 7.16.A.3 and Engineer has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample. Engineer will 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 conclusion of the mediation, as determined by the mediator.
 3. Owner and Contractor shall each pay one-half of the mediator's fees and costs.
- E. *Partial Approval*: If the party receiving a Claim approves the Claim in part and denies it in part, such action will be final and binding unless within 30 days of such action the other party invokes the procedure set forth in Article 17 for final resolution of disputes.
- F. *Denial of Claim*: If efforts to resolve a Claim are not successful, the party receiving the Claim may deny it by giving written notice of denial to the other party. If the receiving party does not take action on the Claim within 90 days, then either Owner or Contractor may at any time thereafter submit a letter to the other party indicating that as a result of the inaction, the Claim is deemed denied, thereby commencing the time for appeal of the denial. A denial of the Claim will be final and binding unless within 30 days of the denial the other party invokes the procedure set forth in Article 17 for the final resolution of disputes.
- G. *Final and Binding Results*: If the parties reach a mutual agreement regarding a Claim, whether through approval of the Claim, direct negotiations, mediation, or otherwise; or if a Claim is approved in part and denied in part, or denied in full, and such actions become final and binding; then the results of the agreement or action on the Claim will be incorporated in a Change Order or other written document to the extent they affect the Contract, including the Work, the Contract Times, or the Contract Price.

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

13.01 *Cost of the Work*

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

- 1) In establishing included costs for materials such as scaffolding, plating, or sheeting, consideration will be given to the actual or the estimated life of the material for use on other projects; or rental rates may be established on the basis of purchase or salvage value of such items, whichever is less. Contractor will not be eligible for compensation for such items in an amount that exceeds the purchase cost of such item.
- c. *Construction Equipment Rental*
- 1) Rentals of all construction equipment and machinery, and the parts thereof, in accordance with rental agreements approved by Owner as to price (including any surcharge or special rates applicable to overtime use of the construction equipment or machinery), and the costs of transportation, loading, unloading, assembly, dismantling, and removal thereof. All such costs will be in accordance with the terms of said rental agreements. The rental of any such equipment, machinery, or parts must cease when the use thereof is no longer necessary for the Work.
 - 2) Costs for equipment and machinery owned by Contractor or a Contractor-related entity will be paid at a rate shown for such equipment in the equipment rental rate book specified in the Supplementary Conditions. An hourly rate will be computed by dividing the monthly rates by 176. These computed rates will include all operating costs.
 - 3) With respect to Work that is the result of a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price (“changed Work”), included costs will be based on the time the equipment or machinery is in use on the changed Work and the costs of transportation, loading, unloading, assembly, dismantling, and removal when directly attributable to the changed Work. The cost of any such equipment or machinery, or parts thereof, must cease to accrue when the use thereof is no longer necessary for the changed Work.
- d. Sales, consumer, use, and other similar taxes related to the Work, and for which Contractor is liable, as imposed by Laws and Regulations.
 - e. Deposits lost for causes other than negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, and royalty payments and fees for permits and licenses.
 - f. Losses and damages (and related expenses) caused by damage to the Work, not compensated by insurance or otherwise, sustained by Contractor in connection with the performance of the Work (except losses and damages within the deductible amounts of builder’s risk or other property insurance established in accordance with Paragraph 6.04), provided such losses and damages have resulted from causes other than the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses include settlements made with the written consent and approval of Owner. No such losses, damages, and expenses will be included in the Cost of the Work for the purpose of determining Contractor’s fee.
 - g. The cost of utilities, fuel, and sanitary facilities at the Site.

- h. Minor expenses such as communication service at the Site, express and courier services, and similar petty cash items in connection with the Work.
- i. The costs of premiums for all bonds and insurance that Contractor is required by the Contract Documents to purchase and maintain.

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

1. Payroll costs and other compensation of Contractor's officers, executives, principals, general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expeditors, timekeepers, clerks, and other personnel employed by Contractor, whether at the Site or in Contractor's principal or branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in Paragraph 13.01.B.1 or specifically covered by Paragraph 13.01.B.4. The payroll costs and other compensation excluded here are to be considered administrative costs covered by the Contractor's fee.
2. The cost of purchasing, renting, or furnishing small tools and hand tools.
3. Expenses of Contractor's principal and branch offices other than Contractor's office at the Site.
4. Any part of Contractor's capital expenses, including interest on Contractor's capital employed for the Work and charges against Contractor for delinquent payments.
5. Costs due to the negligence of Contractor, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of defective Work, disposal of materials or equipment wrongly supplied, and making good any damage to property.
6. Expenses incurred in preparing and advancing Claims.
7. Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in Paragraph 13.01.B.

D. *Contractor's Fee*

1. When the Work as a whole is performed on the basis of cost-plus-a-fee, then:
 - a. Contractor's fee for the Work set forth in the Contract Documents as of the Effective Date of the Contract will be determined as set forth in the Agreement.
 - b. for any Work covered by a Change Order, Change Proposal, Claim, set-off, or other adjustment in Contract Price on the basis of Cost of the Work, Contractor's fee will be determined as follows:
 - 1) When the fee for the Work as a whole is a percentage of the Cost of the Work, the fee will automatically adjust as the Cost of the Work changes.
 - 2) When the fee for the Work as a whole is a fixed fee, the fee for any additions or deletions will be determined in accordance with Paragraph 11.07.C.2.
2. When the Work as a whole is performed on the basis of a stipulated sum, or any other basis other than cost-plus-a-fee, then Contractor's fee for any Work covered by a Change 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.
 1. If it is found that the uncovered Work is defective, Contractor shall be responsible for all claims, costs, losses, and damages arising out of or relating to such uncovering, exposure, observation, inspection, and testing, and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and pending Contractor's full discharge of this responsibility the Owner shall be entitled to impose a reasonable set-off against payments due under Article 15.
 2. If the uncovered Work is not found to be defective, Contractor shall be allowed an increase in the Contract Price or an extension of the Contract Times, directly attributable to such uncovering, exposure, observation, inspection, testing, replacement, and reconstruction. If the parties are unable to agree as to the amount or extent thereof, then Contractor may submit a Change Proposal within 30 days of the determination that the Work is not defective.

14.06 *Owner May Stop the Work*

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

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

- or involved detailed inspections of the Work beyond the responsibilities specifically assigned to Engineer in the Contract; or
- b. there may not be other matters or issues between the parties that might entitle Contractor to be paid additionally by Owner or entitle Owner to withhold payment to Contractor.
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
 - l. Other items entitle Owner to a set-off against the amount recommended.
2. If Owner imposes any set-off against payment, whether based on its own knowledge or on the written recommendations of Engineer, Owner will give Contractor immediate written notice (with a copy to Engineer) stating the reasons for such action and the specific amount of the reduction, and promptly pay Contractor any amount remaining after deduction of the amount so withheld. Owner shall promptly pay Contractor the amount so withheld, or any adjustment thereto agreed to by Owner and Contractor, if Contractor remedies the reasons for such action. The reduction imposed will be binding on Contractor unless it duly submits a Change Proposal contesting the reduction.
3. Upon a subsequent determination that Owner's refusal of payment was not justified, the amount wrongfully withheld will be treated as an amount due as determined by Paragraph 15.01.D.1 and subject to interest as provided in the Agreement.

15.02 *Contractor's Warranty of Title*

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

15.03 *Substantial Completion*

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

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SECTION 00 73 00

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

1.01 *Defined Terms*

SC-1.01.A10 Modify paragraph 1.01.A.10.a as follows:

In the second line after "set forth herein," delete "seeking an adjustment of Contract Price or Contract Times;" and in the fifth line after "under the Contract Documents;" add "or" and place a period after "regarding a Change Proposal;" and delete the remainder of the paragraph.

SC-1.01.A27 Add the following language at the end of the definition of Milestone:

Not applicable.

SC-1.01.A42 Add the following language at the end of the definition of Substantial Completion:

The Work is considered Substantially Complete when the following have been completed:

All work except demobilization and final road maintenance is complete.

1.02 *Terminology*

SC-1.02 Add the following new paragraph immediately after Paragraph 1.02.G

- H. The Specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

ARTICLE 2—PRELIMINARY MATTERS

2.02 *Copies of Documents*

SC-2.02 Amend the first sentence of Paragraph 2.02.A. to read as follows:

Owner shall furnish to Contractor **one** printed copies of the Contract Documents (including one fully signed counterpart of the Agreement), and **one** in electronic portable document format (PDF).

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

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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 \$200 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

3.03 *Reporting and Resolving Discrepancies*

SC-3.03 Add the following after paragraph 3.03.B.1

1. The precedent of the Construction Documents is in the following sequence:
 - a. Addenda and Modifications to the Drawings, Specifications take precedence over the original Construction Documents.
 - b. Should there be a conflict within the Specifications, on the Drawings or between the Specifications and the Drawings, the Engineer will decide which stipulation will provide the best installation and its decision will be final.
 - c. In the Drawings, the precedent shall be drawings of larger scale over those of smaller scale, figured dimensions over scaled dimensions and noted materials over graphic indications.

ARTICLE 4—COMMENCEMENT AND PROGRESS OF THE WORK

No Supplementary Conditions in this Article

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, and specifically identifies the Technical Data in the report upon which Contractor may rely:

Report Title	Date of Report	Technical Data
No Such Report		None

- 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), and specifically identifies the Technical Data upon which Contractor may rely:

Drawings Title	Date of Drawings	Technical Data
No Such Drawings		None

- G. Contractor may examine copies of reports and drawings identified in SC-5.03.E and SC-5.03.F that were not included with the Bidding Documents by requesting copies from Engineer.

5.06 *Hazardous Environmental Conditions*

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

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

Report Title	Date of Report	Technical Data
No Such Report		None

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
No Such Drawings		None

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:

- Required Performance Bond Form:* The performance bond that Contractor furnishes will be in the form of EJCDC® C-610, Performance Bond (2018 edition), or a similar bond form if approved by Owner.
- Required Payment Bond Form:* The payment bond that Contractor furnishes will be in the form of EJCDC® C-615, Payment Bond (2018 edition), or a similar bond form if approved by Owner.

6.02 *Insurance—General Provisions*

SC-6.02 Add the following paragraph immediately after Paragraph 6.02.B:

- 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. *Other Additional Insureds:* As a supplement to the provisions of Paragraph 6.03.C of the General Conditions, the commercial general liability, automobile liability, umbrella or excess, pollution liability, and unmanned aerial vehicle liability policies must include as additional insureds (in addition to Owner and Engineer) the following: **Not Applicable**
- E. *Workers’ Compensation and Employer’s Liability:* Contractor shall purchase and maintain workers’ compensation and employer’s liability insurance, including, as applicable, United States Longshoreman and Harbor Workers’ Compensation Act, Jones Act, stop-gap employer’s liability coverage for monopolistic states, and foreign voluntary workers’ compensation (from available sources, notwithstanding the jurisdictional requirement of Paragraph 6.02.B of the General Conditions).

Workers’ Compensation and Related Policies	Policy limits of not less than:
Workers’ Compensation	
State	Statutory
Applicable Federal (e.g., Longshoreman’s)	Statutory
Foreign voluntary workers’ compensation (employer’s responsibility coverage), if applicable	Statutory
Jones Act (if applicable)	
Bodily injury by accident—each accident	Not Applicable
Bodily injury by disease—aggregate	Not Applicable
Employer’s Liability	
Each accident	\$1,000,000
Each employee	\$1,000,000
Policy limit	\$1,000,000
Stop-gap Liability Coverage	
For work performed in monopolistic states, stop-gap liability coverage must be endorsed to either the worker’s compensation or commercial general liability policy with a minimum limit of:	Not Applicable

- F. *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.

- G. *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 coverages.
 - 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.
- H. *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.

I. *Commercial General Liability—Minimum Policy Limits*

Commercial General Liability	Policy limits of not less than:
General Aggregate	\$2,000,000
Products—Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$1,000,000
Bodily Injury and Property Damage—Each Occurrence	\$2,000,000

- J. *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	\$1,500,000
Each Accident	\$1,500,000
Property Damage	
Each Accident	\$1,500,000
[or]	
Combined Single Limit	
Combined Single Limit (Bodily Injury and Property Damage)	\$2,000,000

- K. *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	\$1,500,000
General Aggregate	\$1,500,000

- L. *Using Umbrella or Excess Liability Insurance to Meet CGL and Other Policy Limit Requirements:* Contractor may meet the policy limits specified for employer’s liability, commercial general liability, and automobile liability through the primary policies alone, or through combinations of the primary insurance policy’s policy limits and partial attribution of the policy limits of an umbrella or excess liability policy that is at least as broad in coverage as that of the underlying policy, as specified herein. If such umbrella or excess liability policy was required under this Contract, at a specified minimum policy limit, such umbrella or excess policy must retain a minimum limit of \$2,000,000 after accounting for partial attribution of its limits to underlying policies, as allowed above.

- M. *Contractor's Pollution Liability Insurance:* Contractor shall purchase and maintain a policy covering third-party injury and property damage, including cleanup costs, as a result of pollution conditions arising from Contractor's operations and completed operations. This insurance must be maintained for no less than two years after Substantial completion.

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

- N. *Contractor's Professional Liability Insurance:* If Contractor will provide or furnish professional services under this *Contract*, through a delegation of professional design services or otherwise, then Contractor shall be responsible for purchasing and maintaining applicable professional liability insurance. This insurance must cover negligent acts, errors, or omissions in the performance of professional design or related services by the insured or others for whom the insured is legally liable. The insurance must be maintained throughout the duration of the Contract and for a minimum of two years after Substantial Completion. The retroactive date on the policy must pre-date the commencement of furnishing services on the Project.

Contractor's Professional Liability	Policy limits of not less than:
Each Claim	\$2,000,000
Annual Aggregate	\$2,000,000

- O. *Railroad Protective Liability Insurance:* Not Applicable

- P. *Unmanned Aerial Vehicle Liability Insurance:* If Contractor uses unmanned aerial vehicles (UAV—commonly referred to as drones) at the Site or in support of any aspect of the Work, Contractor shall obtain UAV liability insurance in the amounts stated; name Owner, Engineer, and all individuals and entities identified in the Supplementary Conditions as additional insureds; and provide a certificate to Owner confirming Contractor's compliance with this requirement. Such insurance will provide coverage for property damage, bodily injury or death, and invasion of privacy.

Unmanned Aerial Vehicle Liability Insurance	Policy limits of not less than:
Each Claim	\$1,000,000
General Aggregate	\$1,000,000

- Q. *Other Required Insurance:* Not Applicable

6.04 *Builder's Risk and Other Property Insurance*

SC-6.04 Delete Paragraph 6.04.A and insert the following in its place:

- A. Owner 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

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Laws and Regulations). The specific requirements applicable to the builder's risk insurance are set forth in the Supplementary Conditions.

SC-6.04 Supplement Paragraph 6.04 with the following provisions after Paragraph 6.04.E

- F. The Builder's Risk Insurance required herein shall apply to projects involving construction of structures and buildings only. The requirements of this Section shall be waived on projects involving only underground utilities, grading, street improvements, and similar construction work but any damage or loss to property shall be at the sole responsibility of the Contractor and maintain such insurance at least until the Work is complete, as set forth in Paragraph 15.06.D of the General Conditions.

ARTICLE 7—CONTRACTOR'S RESPONSIBILITIES

7.03 Labor; Working Hours

SC-7.03 Add the following new subparagraphs immediately after Paragraph 7.03.C:

1. Regular working hours will be 7:00 A.M to 7:00 P.M Monday through Friday, unless prior arrangements are made with Owner.
2. Owner's legal holidays during project timeframe are: Good Friday, Memorial Day, Juneteenth, Independence Day, Labor Day and Columbus Day. Work should not be planned on said days, unless prior arrangements are made with owner.

7.07 Concerning Subcontractors and Suppliers

SC-7.07 Add the following new paragraphs immediately after Paragraph 7.07M

- N. Pursuant to Minnesota Statute, the Contractor shall be fully responsible for paying subcontractors, suppliers, and other utilities within 10 days of the Contractor's receipt of payment for undisputed services provided by the subcontractor, supplier, or other entity. The Contractor shall pay interest of 1-1/2 percent per month or any part of a month to the subcontractor, supplier, or other entity on any amount not paid on time to the subcontractor, supplier, or other entity. The minimum monthly interest penalty payment for an unpaid balance of \$100 or more is \$10. For an unpaid balance of less than \$100, the Contractor shall pay the actual penalty due to the subcontractor, supplier, or other entity. A subcontractor, supplier, or other entity who prevails in a civil action to collect interest penalties from a Contractor must be awarded its costs and disbursements, including attorney's fees included in bringing the action.

7.10 Taxes

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

- A. Owner is exempt from payment of sales and compensating use taxes of the State of Minnesota and of cities and counties thereof on all materials to be incorporated into the Work.
 1. Owner will furnish the required certificates of tax exemption to Contractor for use in the purchase of supplies and materials to be incorporated into the Work.

2. Owner's exemption does not apply to construction tools, machinery, equipment, or other property purchased by or leased by Contractor, or to supplies or materials not incorporated into the Work.

7.13 *Safety and Protection*

SC-7.13 Insert the following after the second sentence of Paragraph 7.13.G:

The following Owner safety programs are applicable to the Work: **See Health and Safety Specification.**

ARTICLE 8—OTHER WORK AT THE SITE

8.02 *Coordination*

SC-8.02 Add the following new Paragraph 8.02.C immediately after Paragraph 8.02.B:

- C. Owner intends to contract with others for the performance of other work at or adjacent to the Site.
 1. **OWNER** shall have authority and responsibility for coordination of the various contractors and work forces at the Site;
 2. The following specific matters are to be covered by such authority and responsibility: **Landfill and other Site Operations];**
 3. The extent of such authority and responsibilities is: **Owner's landfill operations shall not be impeded by construction efforts. Sludge is hauled to the open landfill up to 20 times daily and leachate is removed from the leachate loadout underground tanks throughout the day as well.**
 4. With the airport in close proximity, Federal Aviation Administration rules may apply such as flags on top of boom/bucket on excavator.

ARTICLE 9—OWNER'S RESPONSIBILITIES

9.13 *Owner's Site Representative*

SC-9.13 Add the following new paragraph immediately after Paragraph 9.12 of the General Conditions:

- A. Owner reserves the right to furnish an "Owner's Site Representative" to represent Owner at the Site and assist Owner in observing the progress and quality of the Work. The Owner's Site Representative is not Engineer's consultant, agent, or employee.

ARTICLE 10—ENGINEER'S STATUS DURING CONSTRUCTION

10.03 *Resident Project Representative*

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

- C. The Resident Project Representative (RPR) will be Engineer's representative at the Site to assist Engineer in observing progress and quality of the Work. The RPR may provide full time

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representation or may provide representation to a lesser degree. 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 duties and responsibilities of the RPR are limited to those of the Engineer in the Agreement with the Owner and in the Contract Documents and are further limited and described as follows. The RPR will:

1. *General:* RPR is Engineer's agent at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions. RPR's dealings in matters pertaining to the Contractor's work in progress shall in general be with Engineer and Contractor, keeping Owner advised as necessary. RPR's dealings with subcontractors shall only be through or with the full knowledge and approval of Contractor. RPR shall generally communicate with Owner with the knowledge of and under the direction of Engineer.
2. *Schedules:* Review the progress schedule, schedule of Submittals, and schedule of values prepared by Contractor and consult with Engineer concerning acceptability.
3. *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.
4. *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.
5. *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.
6. *Interpretation of Contract Documents:* Report to Engineer when clarifications and interpretations of the Contract Documents are needed and transmit to Contractor clarifications and interpretations as issued by Engineer.
7. *Shop Drawings and Samples*
 - a. Record date of receipt of Samples and approved Shop Drawings.
 - b. Receive Samples, which are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.
 - c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal for which RPR believes that the submittal has not been approved by Engineer.

8. *Modifications:* Consider and evaluate Contractor's suggestions for modifications in Drawings or Specifications and report with RPR's recommendations to Engineer. Transmit to Contractor in writing decisions as issued by Engineer.
9. *Review of Work; Rejection of 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.
 - d. Report to Engineer whenever RPR believes that any part of Contractor's work in progress will not produce a completed Project that conforms generally to the Contract Documents or will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated in the Contract Documents, or has been damaged, or does not meet the requirements of any inspection, test or approval required to be made; and advise Engineer of that part of work in progress that RPR believes should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.
10. *Inspections, Tests and System Startups*
 - 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. Consult with Engineer in advance of scheduled major inspections, tests, and systems startups of important phases of the Work.
 - c. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate Owner's personnel, and that Contractor maintains adequate records thereof.
 - d. Observe, record, and report to Engineer appropriate details relative to the test procedures and systems startups.
 - e. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections, and report to Engineer.
11. *Records*
 - a. Maintain at the Site orderly files for correspondence, reports of job conferences, reproductions of original Contract Documents including all Change Orders, Field Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Contract, Engineer's clarifications and interpretations of the Contract Documents, progress reports, Shop Drawing and Sample submittals received from and delivered to Contractor, and other Project related documents.

- b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of observing test procedures; and send copies to Engineer.
- c. Record names, addresses and telephone numbers of Contractor, subcontractors, and major suppliers of materials and equipment.
- d. Maintain records for use in preparing Project documentation.
- e. Upon completion of the Work, furnish original set of all RPR Project documentation to Engineer.

12. *Reports*

- a. Furnish to Engineer periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Submittals.
- b. Draft and recommend to Engineer proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.
- c. Furnish to Engineer and Owner copies of all inspection, test, and system startup reports.
- d. Report immediately to Engineer the occurrence of any Site accidents, any Hazardous Environmental Conditions, emergencies, or acts of God endangering the Work, and property damaged by fire or other causes.

13. *Payment Requests:* Review Applications for Payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to Engineer, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

14. *Certificates, Operation and Maintenance Manuals:* During the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Specifications to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Contract Documents, and have these documents delivered to Engineer for review and forwarding to Owner prior to payment for that part of the Work.

15. *Completion*

- a. Before Engineer issues a Certificate of Substantial Completion, submit to Contractor a list of observed items requiring completion or correction.
- b. Participate in Engineer's visits regarding Substantial Completion.
- c. Observe whether Contractor has arranged for inspections required by Laws and Regulations, including but not limited to those to be performed by public agencies having jurisdiction over the Work.
- d. Participate in a final inspection in the company of Engineer, Owner, and Contractor and prepare a final list of items to be completed or corrected.

- e. Observe whether all items on final list have been completed or corrected and make recommendations to Engineer concerning acceptance and issuance of the Notice of Acceptability of the Work.
- 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, Suppliers, or Contractor’s superintendent.
 - 4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of construction unless such advice or directions are specifically required by the Contract Documents.
 - 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. Accept Shop Drawing or Sample submittals from anyone other than Contractor.
 - 8. Authorize Owner to occupy the Project in whole or in part.

ARTICLE 11—CHANGES TO THE CONTRACT

No Supplementary Conditions in this Article.

ARTICLE 12—CLAIMS

1. Claims

SC-12.01.A: Delete the phrase “Owner or”. Add the following sentence: “Nothing in this Section is intended to apply or in any way limit the Owner’s right to make claims, if any, relating to or arising out of the Contract.”

SC-12.01.A Modify Paragraph 12.01.A.2 as follows:

Delete “Owner” and substitute “Contractor”.

SC-12.01.A Add the following Paragraph after 12.01.A.4:

5. Notwithstanding any Contract language to the contrary, Owner shall not be subject to subparagraph 12.01.A.2 above.

SC-12.01.B Delete Paragraph 12.01.B in its entirety and insert the following in its place:

- B. Submittal of Claim: The party submitting a Claim shall deliver written notice of it to the Engineer and the other party to the Contract promptly (but in no event later than 3 days) after the start of the event giving rise thereto. The responsibility to substantiate a Claim shall

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rest with the party making the Claim. Written notice of the amount or extent of the Claim, with supporting data shall be delivered to the Engineer and the other party to the Contract within 30 days after the start of such event (unless the Engineer allows additional time for claimant to submit additional or more accurate data in support of such Claim). In the case of a Claim by the Contractor seeking a change in Contract Price or Contract Time, the 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 the Contractor's knowledge and belief the amount of time or money requested accurately reflects the full amount to which the Contractor is entitled. Cost of Work; Allowances, Unit Price Work

SC-12.01.C Modify Paragraph 12.01.C as follows:

In the first line delete "party receiving a Claim" and substitute "Owner" and after "shall review" delete "it" and substitute "the Claim" and in the second line delete "two parties" and substitute "Owner and Contractor" and after "seek to resolve" delete "the" and substitute "its" and in the last line delete "other party" and substitute "Owner".

SC-12.01.E Modify Paragraph 12.01.E as follows:

In the first line delete "the party receiving a Claim" and substitute "Owner" and in the second line delete "other party" and substitute "Contractor".

SC-12.01.F Modify Paragraph 12.01.F as follows:

In the first line delete "party receiving the Claim" and substitute "Owner" and in the second line delete "other party" and substitute "Contractor" and in the second line delete "receiving party" and substitute "Contractor" and in the third line delete "either" and delete "or Contractor" and in the fourth line delete "other party" and substitute "Contractor" and in the sixth line delete "either party" and substitute "Contractor".

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

1. Cost of the Work

SC-13.01 Supplement Paragraph 13.01.B.5.c.(2) by adding the following sentence:

The equipment rental rate book that governs the included costs for the rental of machinery and equipment owned by Contractor (or a related entity) under the Cost of the Work provisions of this Contract is the most current edition of Rental Rate Blue Book for Construction Equipment. Costs will include 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, shall cease to accrue when the use thereof is no longer necessary for the changed Work.

SC-13.01 Supplement Paragraph 13.01.C.2 by adding the following definition of small tools and hand tools:

- a. For purposes of this paragraph, "small tools and hand tools" means any tool or equipment whose current price if it were purchased new at retail would be less than \$1000.

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. Payment for the Bid Items on a Unit Price basis under this Contract shall be on the basis of quantities actually used in the construction, regardless of the estimated quantities shown in the Bid Form. No revision to the Contract Unit Prices for the Bid Items shall be considered or allowed due to variations of the actual quantities from the estimated amounts.

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

14.05 *Uncovering Work*

SC-14.05 Delete Paragraph SC 14.05.C.2 in its entirety.

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

15.01 *Progress Payments*

SC-15.01 Add the following new Paragraph immediately after Paragraph 15.01.B.4

5. When an out-of-state Contractor enters into a Contract that exceeds \$50,000, Minnesota law requires the Owner to deduct and withhold 8-percent of payments made to the Contractor and forward it to the Department of Revenue.
 - a. The Contractor may apply for an Exemption of this additional withholding by submitting Form SDE, *Exemption from Surety Deposits for Non-Minnesota Contractors*, to the Minnesota Department of Revenue.
 - b. Proof of exemption is required to be submitted to Owner.

SC-15.01 Delete Paragraph 15.01.C.6.a in its entirety and insert the following in its place:

- a. the Work is defective, or completed Work has been damaged, requiring correction or replacement;

SC-15.01 Add the following new Paragraph immediately after Paragraph 15.01.C.6.e

- f. Contractor's failure to make acceptable submittals in accordance with the accepted schedules.

SC-15.01 Delete Paragraph 15.01.D.1 in its entirety and insert the following in its place:

All payments to the Contractor shall be governed by the Municipal Prompt Payment Act, Minnesota Statutes, Section 471.425 ("PPA"). The interest rate for payments due to Contractor but unpaid shall be four (4%) percent per annum. Pursuant to Section 471.425 subd. 4a of the PPA, the Contractor must pay any subcontractor within ten days of the Contractor's receipt of payment from Owner for undisputed services provided by the subcontractor. Contractor must pay the subcontractor interest of one and one half percent per month or any part of a month on any undisputed amount not timely paid under subdivision 4a. The minimum monthly interest penalty for nonpayment on \$100 or

more is \$10. For an unpaid balance of less than \$100, Contractor shall pay the actual penalty due to the subcontractor. A subcontractor who prevails in a civil action to collect interest penalties from the Contractor must be awarded its costs and disbursements, including attorney's fees, incurred in bringing the action.

SC-15.01 Add the following new Paragraph 15.01.F:

- F. For contracts in which the Contract Price is based on the Cost of Work, if Owner determines that progress payments made to date substantially exceed the actual progress of the Work (as measured by reference to the Schedule of Values), or present a potential conflict with the Guaranteed Maximum Price, then Owner may require that Contractor prepare and submit a plan for the remaining anticipated Applications for Payment that will bring payments and progress into closer alignment and take into account the Guaranteed Maximum Price (if any), through reductions in billings, increases in retainage, or other equitable measures. Owner will review the plan, discuss any necessary modifications, and implement the plan as modified for all remaining Applications for Payment.

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.

SC-15.03 Add the following new Paragraph 15.03.G:

All retainage will be released to Contractor no later than sixty (60) days after substantial completion. "Substantial Completion" shall be determined by Engineer consistent with the definition herein and in Minnesota Statutes, Section 541.051, subd. 1(a). After Substantial Completion, Owner may withhold: (1) 250% of the cost to correct or complete work known at the time of Substantial Completion; and (2) one (1%) percent of the value of the contract or \$500, whichever is greater, pending completion and submission of all final paperwork by Contractor. If Owner withholds payment for final paperwork, it will provide a written statement to Contractor detailing the amount and basis of the withholding. Owner will pay any amounts withheld under clause (1) within sixty (60) days after completion of the work, as determined by Engineer. Owner will pay any amounts withheld under clause (2) after submission of all final paperwork, as determined by Owner.

15.04 *Partial Use of Occupancy*

SC-15.04 Add the following new Paragraph 15.04.A.5:

Occupancy and use by the Owner shall not constitute, in itself, acceptance of the Work.

15.06 *Final Payment*

SC-15.06 Add the following new paragraph after Paragraph 15.06.A.2.e

- f. A copy of Form IC134, certified by the Minnesota Department of Revenue. No State Agency or Local Government Unit can make final payment to a Contractor until this Affidavit certifying withholding of income tax on wages at the source, has been received.

15.07 *Waiver of Claims*

SC-15.07 Modify Paragraph 15.07.A as follows:

Delete the first sentence in its entirety and modify the second sentence by adding at the beginning of the sentence “Unless expressly waived in writing by Owner,” and deleting “other”.

15.08 *Correction Period*

SC-15.08 Add the following new Paragraph 15.08.G:

- G. The correction period specified as one year after the date of Substantial Completion in Paragraph 15.08.A of the General Conditions is hereby revised to be the number of years set forth in SC-6.01.B.1; or if no such revision has been made in SC-6.01.B, then the correction period is hereby specified to be 2 years after Substantial Completion.

ARTICLE 16—SUSPENSION OF WORK AND TERMINATION

No suggested Supplementary Conditions in this Article.

ARTICLE 17—FINAL RESOLUTIONS OF DISPUTES

17.02 *Arbitration*

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

- 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.

- 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

18.08 *Assignment of Contract*

SC-18.08 Add the following new paragraph immediately after Paragraph 18.08.A:

- B. The contract dated **[date]** between Owner as “buyer” and **[identify seller]** as “seller” for procurement of goods and special services (“procurement contract”) **[is hereby] [will be]** assigned to Contractor by Owner, and Contractor **[accepts] [will accept]** such assignment. A form documenting the assignment is attached as an exhibit to this Contract.
 - 1. This assignment will occur on the **[Effective Date of the Contract]**, and will relieve the Owner as “buyer” from all further obligations and liabilities under the procurement contract.
 - 2. Upon assignment, the “seller” will be a Subcontractor or Supplier of the Contractor, and Contractor will be responsible for seller’s performance, acts, and omissions, as set forth in Paragraph 7.07 of the General Conditions just as Contractor is responsible for all other Subcontractors and Suppliers.
 - 3. Notwithstanding this assignment, all performance guarantees and warranties required by the procurement contract will continue to run for the benefit of the Owner and, in addition, for the benefit of the Contractor.
 - 4. Except as noted in the procurement contract, all rights, duties and obligations of Engineer to “buyer” and “seller” under the procurement contract will cease **[upon the assignment to Contractor]**.

SC-18 Add the following after Paragraph 18.10:

18.11 *Record Keeping—Availability and Retention*

- A. Pursuant to Minnesota Statutes, Section 16C.05, subd. 5, Contractor agrees that the books, records, documents and accounting procedures and practices of Contractor, that are relevant to the Contract or transaction, are subject to examination by the Owner and the state auditor for a minimum of six (6) years. Contractor shall maintain such records for a minimum of six (6) years after final payment.

18.12 *Data Practices*

- A. Pursuant to Minnesota Statutes, Section 13.05, subd. 11, all of the data created, collected, received, stored, used, maintained, or disseminated by Contractor in performing this contract is subject to the requirements of the Minnesota Government Data Practices Act (“MGDPA”), Minnesota Statutes Chapter 13, and Contractor must

EJCDC® C-800, Supplementary Conditions of the Construction Contract.

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comply with those requirements as if it were a government entity. The remedies in Minnesota Statutes, Section 13.08 apply to Contractor. Contractor does not have a duty to provide access to public data to the public if the public data are available from the Owner, except as required by the terms of this contract.

18.13 *Non-Discrimination*

- A. Pursuant to Minnesota Statutes, Section 181.59, the Contractor will take affirmative action to ensure that applicants are selected, and that employees are treated during employment, without regard to their race, color, creed, religion, national origin, sex, sexual orientation, marital status, status with regard to public assistance, membership or activity in a local civil rights commission, disability or age. The Contractor agrees to be bound by the provisions of Minnesota Statutes, Section 181.59, that prohibits certain discriminatory practices and the terms of said section are incorporated into this contract.

18.14 *Covid-19*

- A. Notwithstanding any other provision in the Contract Documents to the contrary, Contractor understands that it will not be able to submit a claim for extra work or for monetary damages (for delay or otherwise), or request an extension of time to complete the work, for any reason arising out of or relating to: (1) the COVID-19 pandemic; or (2) any national, state, or local declaration, resolution, or order relating to the COVID-19 pandemic. If a future declaration, resolution or order relating to the COVID-19 pandemic unequivocally prohibits work on the Project, the completion dates shall be extended for the period of the required stoppage but without any claim for delay damages. The Contractor acknowledges that it has considered all factors relating to the COVID-19 pandemic situation in calculating its bid for the Project.

SECTION 01 10 00
SUMMARY OF WORK

PART 1 GENERAL

1.01 CONTRACT DOCUMENTS

- A. The Contract Documents are as defined in the Proposal Form. The terms of the contract documents apply to these Specifications as fully as though repeated herein.
- B. The format of these Specifications is based upon the CSI MASTERFORMAT. However differences in format and subject matter location do exist. It is the Contractor's sole responsibility to thoroughly read and understand these Specifications and request written clarification of those portions which are unclear.
- C. Division of the Work as made in these Contract Documents is for the purpose of specifying and describing work which is to be completed. There has been no attempt to make a classification according to trade or agreements which may exist between Contractor, Subcontractors, or trade unions or other organizations. Such division and classification of the Work shall be the Contractor's sole responsibility.

1.02 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Contract comprises general construction of the modified final cover system at the Grand Rapids Public Utility (GRPUC) Landfill Phases 1-4 and Kettle D in Grand Rapids, MN.
- B. Work specifically included in this contract includes:
 - 1. Initial grading of the final cover area to the design grades shown in the drawings. Preparing the subgrade surface to receive geomembrane.
 - 2. Contracting and coordinating with geosynthetic installer to furnish and install geomembrane final cover component.
 - 3. Furnish, reusing, and/or installing final cover soil materials per the plans and specifications.
 - 4. Extending existing gas ventilation pipes as shown on the drawings.
 - 5. Temporary construction stormwater management, and permit compliance.
 - 6. Site restoration of all disturbed areas.
- C. It is the intent of the Contract Documents to cover all aspects of the Project. Should there be some item or items not shown on the Drawings or not described in these Specifications which are required for the Work, those items and the furnishing of all labor, materials, and equipment shall be considered incidental to the Work and no additional compensation will be provided.
- D. The Work includes the furnishing of all labor, equipment, tools, machinery, materials, and other items required for the construction of a complete Project as specified. Equipment furnished shall be in safe operating condition and of adequate size, capacity, and condition for the performance of the Work. Contractor shall obtain all measurements necessary for the Work and shall be responsible for establishing all dimensions, levels, and

layout of the Work. Contractor shall be solely responsible for the coordination of its activities with regard to the Project and the activities of Subcontractors and Owner.

1.03 FORM OF SPECIFICATIONS

- A. Some Work described in these specifications use systems approach to identify systems of structure or facility.
 - 1. System components either specified in system specifications or by reference to another section.
- B. Term "provide" or "provided" shall mean "furnish and install in-place."

1.04 CONTRACTS

- A. Perform Work under a contract with OWNER that shall include full compensation for labor, equipment, materials, and other items (not specifically mentioned) required to complete the Work in accordance with the Plans and Specifications for the base bid Work.
- B. Provide supplemental unit prices for the bid items as indicated on the Bid Proposal Form.

1.05 PERMITS

- A. Contractor shall obtain and comply with construction and other permits, as necessary.

1.06 WORK BY OWNER

- A. Owner will provide known benchmark locations and coordinate information necessary for construction of the Work. Once provided, it is Contractor's responsibility to protect the information. Contractor shall request such information from Owner a minimum of five days prior to the time when such information is needed.

1.07 WORK BY OTHERS

- A. Work on project which will be or has been executed prior to start of this Contract and may be concurrent to this Contract, but which is excluded from this Contract, is as follows:
 - 1. No work by OTHERS.

1.08 CONTRACTOR USE OF PREMISES

- A. Definition of Site: The Site is defined as the area within the property lines and construction limits shown on the Drawings. Contractor shall limit operations, including material and equipment storage, to within those boundaries.
- B. Hours of Operation:
 - 1. Contractor's operations shall be limited to the hours of 7:00 a.m. to 7:00 p.m. (local time), Monday through Saturday, unless prior arrangements are made with Owner 48 hours in advance of proposed change.
 - 2. Contractor shall reimburse the Owner for additional engineering and/or inspection costs incurred as a result of overtime work in excess of the regular working hours stipulated herein. At Owner's option, overtime costs may either be deducted from the Contractor's monthly payment request or deducted from the Contractor's retention prior to release of final payment. Overtime costs for the Owner's personnel shall be based on the individual's current overtime wage rate. Overtime costs for personnel

employed by the Engineer or Owner's independent testing laboratory shall be calculated in accordance with the terms of their respective contracts with the Owner.

- C. Protection and Repair of Existing Facilities and Utilities: Contractor shall perform operations carefully and in such a manner as to protect existing facilities and utilities. Obstructions not shown on the Drawings may exist and shall be exposed by Contractor without damage. Contractor shall be responsible for damage to existing facilities and utilities resulting from Contractor's operations, and shall repair or replace damaged items to Owner's satisfaction. Groundwater monitoring wells shall be protected during construction.
- D. Unfavorable Construction Conditions:
 - 1. When unfavorable weather, soil, drainage, or other unsuitable construction conditions exist, Contractor shall confine operations to work which will not be adversely affected by such conditions. No portion of the Work shall be constructed under conditions which would adversely affect the quality of the Work, unless special means or precautions are taken to perform the Work in a proper and satisfactory manner.
- E. Survey Markers: Contractors shall conduct operations so as to preserve benchmarks, survey reference points, and stakes existing or established by Owner for the construction. Contractor will be charged the expense of repairing or replacing survey markers and shall be responsible for mistakes or lost time that results due to damage or destruction of survey markers due to Contractor's operations.

1.09 SEQUENCE OF WORK

- A. Contractor shall determine the sequence of Work to meet the requirement of the Contract Documents and Construction Stormwater Permit.

1.10 EXISTING SITE CONDITIONS AND USES

- A. The GRPUC Kettle D/Phase 1-4 Landfill is an inactive landfill site. However, the access road adjacent to the site leads to a separate, active landfill. All access roads will be shared with users of the site.
- B. Groundwater monitoring wells are present, sampled regularly, and must be protected unless otherwise specified.
- C. Leachate collection system piping, headers, manholes, and associated infrastructure are present and must be protected.
- D. All trucks hauling will observe all state, county, and local traffic rules and weight limits.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 GENERAL

1.01 SUMMARY

- A. Work under this section includes descriptions of the measurement and payment methods for each bid item including directing the CONTRACTOR which work items shall have their prices merged and which are considered incidental to the project.

1.02 MEASUREMENT AND PAYMENT

A. General

1. Work under the following specification sections are considered incidental to the project, and no further compensation will be made.
 - a. Section 01 31 00 – Project Management and Coordination
 - b. Section 01 35 23 - Owner Safety Requirements
 - c. Section 01 31 19 – Project Meetings
 - d. Section 01 33 00 – Submittal Procedures
 - e. Section 01 45 29 - Testing Laboratory Services
 - f. Section 01 35 43 – Environmental Procedures
 - g. Section 01 60 00 – Product Requirements
2. Measurement and payment criteria applicable to portions of the work performed.
3. Defect assessment and non-payment for rejected work.
4. Unit Quantities Specified:
 - a. Quantities and measurements indicated in the Bid Schedule are for bidding and contract purposes.
 - b. A Change Order may be submitted if the scope of work changes. Change Order approval will be required from the OWNER.
5. Measurement and Quantities:
 - a. Measurement of quantities expressed as volume are based upon a neat plan line projection to the work limits as determined on the Bid Schedule for each item with no additional allowances for shrinkage, swelling, or creep.
 - 1) In computing volumes of excavation and fill, the average end area method or other methods, is used.
 - b. Measurements of quantities expressed as area shall be based upon square dimensions using mean length and width or radius.
 - c. Measurement of quantities expressed as linear foot shall be based on the length projected in plan view based on survey points (i.e., slopes projected flat).
 - d. Lump Sum/Price Measurement: Items measured by volume, area, or linear means or combinations, as appropriate, as a completed item or unit of work.

6. Payment:
 - a. Payment for each lump sum and unit price stated in the itemized bill shall constitute full compensation for all required labor, products, tools, equipment, plant, transportation, services, and incidentals: erections, application on installation of an item of the work required to complete all work specified under that particular item including cleanup, and all costs for doing related work as set forth in these specifications and/or on the Drawings or implied in carrying out their intent.
 - 1) The price bid sum stated in the itemized bid shall be deemed to include an allowance for overhead and profit.
 - b. Final payment for work governed will be made on the basis of bid quantities accepted by OWNER.
 - c. Requests for payment shall be in accordance with the General Conditions of the Construction Agreement.
 - d. Payment will be made to the limits as specified in the Contract Documents and as shown on the Drawings. The payment for quantities that exceed the contract quantities can only be obtained through an approved Change Order before contract quantities are exceeded. Change Orders shall only be approved in the scope of work specified in the Contract Documents and Drawings.
 - e. No partial payments shall be made for the installation of items which have not been tested and approved.
 - f. Payment for unit price items will be made monthly until completion of each unit price based on quantity estimated by CONTRACTOR, and verified by OWNER. Final payment will be based on actual field measured quantities. Subject to retainage and other requirements as outlined in the Supplemental General Conditions of this Project Manual.
7. Defect Assessment:
 - a. Replace the work, or portions of the work, not conforming to specified requirements.
 - b. If, in the opinion of OWNER, it is not practical to remove and replace the work, OWNER will direct one of the following remedies:
 - 1) The defective work may remain, but the unit/price will be adjusted to a new sum/price at the discretion of OWNER.
 - 2) The defective work will be partially repaired to the instructions of OWNER, and the unit/sum price will be adjusted to a new sum/price at the discretion of the OWNER.
 - c. The individual specification sections may modify these options or may identify a specific formula or percentage sum/price reduction.
 - d. The authority of OWNER to assess the defect and identify payment adjustment, is final.
8. Non-Payment for Rejected Products:
 - a. Payment will not be made for any of the following:
 - 1) Products wasted or disposed of in a manner that is not acceptable.
 - 2) Products determined as unacceptable before or after placement.
 - 3) Products not completely unloaded from the transporting vehicle.
 - 4) Products placed beyond the lines and levels of the required work.
 - 5) Products remaining on hand after completion of the work.
 - 6) Loading, hauling, and disposing of rejected products.

B. Contractor Bid Items:

1. Bid Item 1: Mobilization and Demobilization
 - a. Basis of Measurement: There will be no measurement of this item.

6. Bid Item 6: Anchor Trench
 - a. Basis of Measurement: By the lineal foot of anchor trench.
 - b. Basis of Payment: According to the unit price as shown on the Bid Schedule. Work includes the following:
 - 1) Excavation and backfill of the geomembrane anchor trench as shown on the Drawings. Any repairs required due to damage which may occur to the existing base liner or other infrastructure during anchor trench excavation shall be considered incidental.
 - 2) Maintain anchor trench in dry and stable condition until backfill. Incidentals related to this item include temporary anchorage requested by geosynthetic installer.
7. Bid Item 7: Furnish and Install 40-mil Smooth LLDPE Geosynthetic Material
 - a. Basis of Measurement: By the square foot in-place, to the limits shown on the OWNER prepared Record Drawings with no additional allowances for slopes. Material included for anchor trenches, proper overlap and scrap is considered incidental.
 - b. Basis of Payment: According to the unit price as stated on the Bid Form, includes loading hauling and installing CONTRACTOR supplied geomembrane, seaming, quality control testing, repairs, boots to the gas vents and pipe penetrations and temporary anchoring. Offsite disposal of scrap material and other debris is also included.
8. Bid Item 8: Furnish and Install Granular Drainage Layer - 12" Thick in-place
 - a. Basis of Measurement: Placement of the drainage layer actually performed and within the limits specified will be measured in square feet based on OWNER prepared Record Drawings. The area will be measured planimetrically to the limits shown on the Record Drawings to the thickness of 12 inches with no additional allowances for placement of material on slopes (PLAN QUANTITY).
 - b. Basis of Payment: The unit price per square foot for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) supplying,
 - 2) loading,
 - 3) hauling,
 - 4) placing, and
 - 5) grading the CONTRACTOR supplied granular drainage layer in accordance with the Specifications and in conformance with the lines, grades, and cross-sections shown on the Drawings.
9. Bid Item 9: Install Salvaged Rooting Zone Soil – 6" Thick In-Place
 - a. Basis of Measurement: Placement of the rooting zone layer actually performed and within the limits specified will be measured in square feet based on OWNER prepared Record Drawings. The area will be measured planimetrically to the limits shown on the Record Drawings to the thickness of 6 inches with no additional allowances for placement of material on slopes (PLAN QUANTITY).
 - b. Basis of Payment: The unit price per square foot for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) Reuse of salvaged material,
 - 2) loading,
 - 3) hauling,
 - 4) placing, and
 - 5) grading the rooting zone layer in accordance with the Specifications and in conformance with the lines, grades, and cross-sections shown on the Drawings.

10. Bid Item 10: Furnish Topsoil
 - a. Basis of Measurement: Measured by the CUBIC YARD by CONTRACTOR provided load ticket. All salvaged topsoil to be used prior to supplementing topsoil with CONTRACTOR provided borrow material to reach design thickness.
 - b. Basis of Payment: The unit price per cubic yard for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) supplying,
 - 2) loading, and
 - 3) hauling.
11. Bid Item 11: Install Topsoil – 6" Thick In-Place
 - a. Basis of Measurement: Placement of the topsoil layer actually performed and within the limits specified will be measured in square feet based on OWNER prepared Record Drawings. The area will be measured planimetrically to the limits shown on the Record Drawings to the thickness of 6 inches with no additional allowances for placement of material on slopes or berms (PLAN QUANTITY).
 - b. Basis of Payment: The unit price per square foot for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) placing, and
 - 2) grading the topsoil layer (either salvaged or imported material) in accordance with the Specifications and in conformance with the lines, grades, and cross-sections shown on the Drawings.
12. Bid Item 12: Drain Tile System
 - a. Basis of Measurement: By the linear foot as shown on the OWNER prepared drawings
 - b. Basis of Payment: The unit price per lineal foot for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) supplying, and
 - 2) installing pipe, geotextile and aggregate in accordance with the Specifications and in conformance with details shown on the Drawings.
13. Bid Item 13: Drain Tile Outlets
 - a. Basis of Measurement: By the EACH as shown on the OWNER prepared drawings
 - b. Basis of Payment: The unit price per each for this item as stated on the Bid Proposal Form shall be payment in full for:
 - 1) supplying, and
 - 2) installing pipe, casing, and rip rap in accordance with the Specifications and in conformance with details shown on the Drawings.
14. Bid Item 14: Gas Vent Extensions
 - a. Basis of Measurement: By the EACH based on Owner prepared drawings.
 - b. Basis of Payment: According to Unit Price as stated on the Bid Schedule. Work includes supply and installation of passive gas vent pipe extensions as shown on the drawings.
15. Bid Item 15: Site Restoration/Turf Establishment
 - a. Basis of Measurement: By the acre, measured planimetrically to the limits shown on the Record Drawings with no additional allowances for placement of material on slopes or berms.
 - b. Basis of Payment: According to the Unit Price as shown on the Bid Schedule. Includes furnishing, and placing seed, erosion control blanket and fertilizer on final cover and surrounding disturbed areas.

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

SECTION 01 31 00

PROJECT MANAGEMENT AND COORDINATION

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. The CONTRACTOR shall coordinate material supply, material delivery/unloading, construction, and inspection to assure efficient and orderly completion of the Work.
- B. The CONTRACTOR shall notify the OWNER, in writing, when coordination of the OWNER'S or other CONTRACTOR'S activities are required.
- C. The CONTRACTOR shall coordinate with OWNER'S geosynthetic installer. Coordination includes but is not limited to providing unloading and storage when geosynthetics are delivered.

1.02 PROJECT PERSONNEL

- A. The Project Manager is:

Mr. Steve Mattson
Water and Wastewater Manager
500 SE 4th St.
Grand Rapids, MN 55744
(w) (218) 326-7195
(c) (218) 244-5092

- B. The Technical Representative and Construction Project Manager is:

Mr. Kyle Morberg, P.E.
Stantec Consulting Services, Inc.
11 East Superior Street
Suite 330
Duluth, MN 55802
(w) (218) 591-0790

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 31 19

PROJECT MEETINGS

PART 1 GENERAL

1.01 SUMMARY

- A. OWNER will schedule and conduct preconstruction conference in accordance with Agreement.
- B. ENGINEER shall schedule and administer weekly construction progress meetings, and specially called meetings throughout progress of Work. ENGINEER'S responsibilities include:
 - 1. Prepare agenda for meetings.
 - 2. Make physical arrangements for meetings.
 - 3. Preside at meetings.
 - 4. Record minutes; include significant proceedings and decisions.
 - 5. Prepare formal minutes and distribute within three (3) days after each meeting.
 - a. To participants in meeting.
 - b. To parties affected by decisions made at meeting.
- C. Representatives of CONTRACTOR, subcontractors, and suppliers attending meetings shall be qualified and authorized to act on behalf of party each represents.

1.02 PRECONSTRUCTION AND PREWORK CONFERENCE

- A. After OWNER issues Notice to Proceed, CONTRACTOR shall meet with OWNER for preconstruction conference.
- B. Location will be selected by OWNER.
- C. Purpose of Conference:
 - 1. Make additional appropriate modifications to the CQA Plan if needed.
 - 2. Safety programs.
 - 3. Review submittals.
 - 4. Review the responsibilities of each party.
 - 5. Address CONTRACTORS' questions.
 - 6. Review lines of authority and communication.
 - 7. Review principal features of Work.
 - 8. Review methods for documenting and reporting, and for distributing documents and reports.
 - 9. Establish protocols for testing.
 - 10. Establish protocols for handling deficiencies, repairs, and retesting.
 - 11. Review the time schedule for construction.
 - 12. Review progress schedules.
 - 13. Payrolls and labor relations.
 - 14. Environmental protection.
 - 15. Payment and procurement of materials.
 - 16. Establish soil stockpiling locations (if any).

- D. Attendance:
 - 1. CONTRACTOR'S superintendent.
 - 2. Quality control supervisor.
 - 3. Safety personnel.
 - 4. Major subcontractors' job superintendents.
 - 5. Owner
 - 6. Contractor's Health and Safety Manager
 - 7. ENGINEER

- E. Specifics of CONTRACTOR'S health, safety, and emergency plan shall be discussed so emergency procedures and safety requirements are understood by those directly related to site Work.

1.03 PROGRESS MEETINGS

- A. ENGINEER shall schedule and administer progress meetings at a minimum of once per week after completion of subgrade preparation and such additional meetings as required, or as requested by OWNER.

- B. Attendance:
 - 1. OWNER or OWNER'S representative.
 - 2. CONTRACTOR'S superintendent.
 - 3. CONTRACTOR'S quality control supervisory ENGINEER.
 - 4. CONTRACTOR'S safety and emergency coordinator.
 - 5. Subcontractors as appropriate to agenda.
 - 6. Suppliers as appropriate to agenda.

- C. General Meeting Requirements:
 - 1. ENGINEER shall administer following general requirements for progress meetings.
 - a. Prepare agenda for meetings.
 - b. Make physical arrangements for meetings.
 - c. Preside at meetings.
 - d. Record significant proceedings and decisions of meeting.
 - 2. The ENGINEER will reproduce and distribute copies of meeting record within three (3) days after each meeting to participants in meeting and to parties affected by decisions made at meeting. Furnish electronic copies of minutes to OWNER, OWNER'S site representative, and CONTRACTOR.

- D. Suggested Agenda:
 - 1. Review and approval of record of previous meeting.
 - 2. Review of Work progress since previous meeting.
 - 3. Field observations, problems, and conflicts.
 - 4. Problems impeding Work schedule.
 - 5. Review of off-site delivery schedules.
 - 6. Corrective measures and procedures to regain projected schedule.
 - 7. Revisions to project schedule.
 - 8. Planned progress during Work period.
 - 9. Coordination of schedule.
 - 10. Review submittal schedules; expedite as required.
 - 11. Maintenance of quality and safety standards.
 - 12. Pending changes and substitutions.

13. Review proposed changes for effect on construction schedule and completion date, and on other contracts of project.
14. Compliance with site SWPPP and NPDES permit.
15. Other business.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOTE USED)

END OF SECTION

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SECTION 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

- A. This section contains requirements for submittals of construction progress schedules, shop Drawings, test results, operation and maintenance data, construction photographs, and other submittals required by Contract Documents.
- B. Submittal for Review:
 - 1. Submit required materials for ENGINEER'S review in accordance with requirements of Contract Documents.
- C. Submittal for Record:
 - 1. Submit required materials for inclusion into OWNER'S records. Submittal materials may or may not be reviewed by ENGINEER or OWNER.

1.02 CONSTRUCTION PROGRESS SCHEDULES

- A. Prepare and submit construction progress schedule in accordance with requirements of General Conditions.
- B. No Work shall be done between 7:00 p.m. and 7:00 a.m., nor on Sundays or legal holidays without written permission of OWNER. However, emergency Work may be done without prior permission.
- C. Night Work may be established by CONTRACTOR as regular procedure with written permission of OWNER. Such permission, however, may be revoked at any time by OWNER.
- D. Prepare schedules in form of horizontal bar chart.
 - 1. Provide separate horizontal bar for each operation.
 - 2. Horizontal Time Scale: Identify first Workday of each week.
 - 3. Scale and spacings to allow space for notations and future revisions.
 - 4. Arrange listings in order of start of each item of Work.
- E. Construction Progress Schedule:
 - 1. Show complete sequence of construction by activity.
 - 2. Show dates for beginning and completion of each major element of construction and installation dates for major items. Elements shall include, but not be limited to:
 - a. Site preparation.
 - b. Shop Drawing receipt from supplier/manufacturer, submittal to ENGINEER, review and return to supplier/manufacturer.
 - c. Material and equipment order, manufacturer, delivery.
 - d. Performance tests and supervisory services activity.
 - e. Final Cover Construction at the GRPUC Kettle D/Phase 1-4 Landfill;
 - 1) Subgrade
 - 2) Geosynthetic liners (LLDPE)
 - 3) Gas Vent Pipe Extensions

- 4) Drainage layer
 - 5) Rooting Zone
 - 6) Topsoil
 - f. Perimeter Grading and Surface Water Control.
 - g. Site Restoration.
 - 3. Show projected percentage of completion for each item as of first day of each month.
- F. Schedule Revisions:
- 1. Every 30 days to reflect changes in progress of Work.
 - 2. Indicate progress of each activity at date of submittal.
 - 3. Show changes occurring since previous submittal of schedule.
 - a. Major changes in scope.
 - b. Activities modified since previous submittals.
 - c. Revised projections of progress and completion.
 - d. Other identifiable changes.
 - 4. Provide narrative report as needed to define:
 - a. Problem areas, anticipated delays, and impact on schedule.
 - b. Corrective action recommended and its effect.
 - c. Effect of changes on schedule of other CONTRACTORS.

1.03 SHOP DRAWINGS AND SAMPLES

- A. Submit shop Drawings and samples required in individual specification sections.
- B. CONTRACTOR'S responsibilities shall include:
 - 1. Review shop Drawings and samples prior to submittal.
 - 2. Determine and verify:
 - a. Field measurements.
 - b. Field construction criteria.
 - c. Catalog numbers and similar data.
 - d. Conformance with specifications
 - 3. Coordinate each submittal with requirements of Work and of Contract Documents.
 - 4. Notify ENGINEER in writing, at time of submittal, of deviations in submittals from requirements of Contract Documents.
 - 5. Begin no fabrication or Work which requires submittals until return of submittals with ENGINEER approval.
 - 6. Designate in construction progress schedule, dates for submittal and receipt of reviewed shop Drawings and samples.
- C. Submittals shall contain:
 - 1. Date of submittal and dates of previous submittals.
 - 2. Project title and number.
 - 3. Contract identification.
 - 4. Names of:
 - a. CONTRACTOR
 - b. Supplier
 - c. Manufacturer
 - 5. Identification of product, with identification numbers, and Drawings and specification section numbers.
 - 6. Field dimensions, clearly identified.
 - 7. Identify details required on Drawings and in specifications.

8. Show manufacturer and model number, give dimensions, and provide clearances.
 9. Relation to adjacent or critical features of Work or materials.
 10. Applicable standards, such as ASTM or Federal Specification numbers. Identification of deviations from Contract Documents.
 11. Identification of revisions on resubmittals.
 12. 8-inch by 3-inch blank space for CONTRACTOR or ENGINEER stamps.
 13. CONTRACTOR'S stamp, signed, certifying to review of submittal, verification of products, field measurement, field construction criteria, and coordination of information within submittal with requirements of Work and Contract Documents.
- D. Resubmittal requirements shall include:
1. Corrections or changes in submittals required by ENGINEER. Resubmittals are required until approved.
 2. Shop Drawings and product data:
 - a. Revise initial Drawings or data and resubmit as specified for initial submittal.
 - b. Indicate changes which have been made other than those requested by ENGINEER.
 3. Submit new samples as required for initial submittal.
- E. Distribute reproductions of shop Drawings and copies of product data which carry ENGINEER'S stamp approval to:
1. Record documents file.
 2. Subcontractors.
 3. Supplier or fabricator.
- F. ENGINEER'S duties include:
1. Review submittals with reasonable promptness and in accordance with schedule.
 2. Affix stamp and signature, and indicate requirements for resubmittal or approval of submittal.
 3. Return submittals to CONTRACTOR for distribution or for resubmittal.

1.04 OPERATION AND MAINTENANCE (O&M) DATA

- A. Compile product data and related information appropriate for OWNER'S maintenance and operation of products furnished under Contract. Prepare O&M data as specified in this section and as referenced in other pertinent sections of Specifications.
- B. Provide product data in 3-ring binder with cover titled "Operating and Maintenance Instructions."
- C. Product Data:
1. Include only those sheets pertinent to specific products.
 2. Annotate each sheet to:
 - a. Identify specific product or part installed.
 - b. Identify data applicable to installation.
 - c. Delete references to inapplicable information.
 3. Provide table of contents.
 4. Project installation schedule listing dates and locations of products installed.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 SUBMITTAL REQUIREMENTS

- A. Provide complete copies of required submittals as follows:
 - 1. Construction progress schedule:
 - a. Two copies of initial schedule.
 - b. Two copies of each revision.
 - 2. Shop Drawings: three (3) copies.
 - 3. Test results: Three (3) copies.
 - 4. Other required submittals:
 - a. Three (3) copies if required for review.
 - b. Three (3) copies if required for record.
- B. Electronic copies may be submitted in lieu of hard copy.
- C. Deliver required copies of submittals to ENGINEER.

END OF SECTION

SECTION 01 35 23

OWNER SAFETY REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION OF WORK

- A. Construction activities at landfills or at other waste disposal sites may place CONTRACTOR'S personnel, personnel of other CONTRACTORS hired by OWNER to perform Work at the site, and public in potentially hazardous situations due to exposure to industrial landfill refuse, leachate, and gases.
- B. CONTRACTOR shall be responsible for implementation and enforcement of safe Work practices, including, but not limited to personnel monitoring, personnel exposure to industrial waste refuse, leachate and gases, use of trenching, sheeting, and shoring, scaffolding; materials handling and drilling; operation of equipment; and safety of public during progress of Work.

1.02 QUALITY ASSURANCE

- A. Requirements of Regulatory Agencies:
 - 1. CONTRACTOR shall plan for and ensure personnel comply with basic provisions of OSHA Safety and Health Standards (29 CFR 1910) and General Construction Standards (29 CFR 1926) as appropriate.
 - 2. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property.

1.03 OPERATIONS AND EQUIPMENT SAFETY

- A. CONTRACTOR shall be responsible for initiating, maintaining, and supervising safety precautions and programs in connection with Work. CONTRACTOR shall take necessary precautions for safety of employees on project site and other persons and organizations who may be affected by the project.
- B. CONTRACTOR'S duties and responsibilities for safety in connection with Work shall continue until such time as all Work is completed and ENGINEER has issued notice to CONTRACTOR that Work is complete.

1.04 HEALTH AND SAFETY

- A. CONTRACTOR is responsible for implementation and enforcement of health and safety requirements and shall take necessary precautions and provide protection for:
 - 1. All personnel working on or visiting project site, irrespective of employer. Work and materials or equipment to be incorporated in Work area whether on- or off-site.
 - 2. Other property at or adjacent to project site.
 - 3. Public exposed to job-related operations or potential release of toxic materials.
- B. CONTRACTOR shall prepare a site-specific health and safety plan (HASP). If CONTRACTOR does not have the capability to prepare HASP, CONTRACTOR shall employ consultants with appropriate capability. CONTRACTOR is solely responsible for the adequacy of the

HASP's preparation, monitoring, management, and enforcement. At a minimum, CONTRACTOR'S HASP shall address:

1. Site description and history.
2. Project activities and coordination with other CONTRACTORS.
3. Hazard evaluation.
4. On-site safety responsibilities.
5. Work zones.
6. Personnel training.
7. Atmospheric monitoring.
8. Personal protection, cloth and equipment.
9. Emergency procedures.

- C. If OWNER contracts with others for Work on the site, CONTRACTOR shall amend the HASP to include provisions for Work of others. CONTRACTOR shall also manage, enforce, and monitor the health and safety activities and other CONTRACTORS during duration of other CONTRACTORS' Work.

1.05 SUBMITTALS

- A. Submit copies of HASP to OWNER and ENGINEER.
1. Submit HASP to OWNER and ENGINEER within 7 days after Notice to Proceed. Work on-site shall not proceed until the HASP has been submitted to ENGINEER.
 - a. Submittal of CONTRACTOR'S Health and Safety Plan to ENGINEER is to inform ENGINEER and OWNER so they can comply with HASP during performance of their on-site responsibilities as described in Contract Documents.
 - b. Submittal of CONTRACTOR'S Health and Safety Plan shall neither impose on ENGINEER'S or OWNER'S responsibility for adequacy of HASP nor relieve CONTRACTOR from full responsibility, therefore.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 35 43

ENVIRONMENTAL PROCEDURES

PART 1 GENERAL

1.01 DESCRIPTION

- A. CONTRACTOR, in executing Work, shall maintain Work areas on- and off-site free from environmental pollution that would be in violation of any federal, state or local regulations.
- B. CONTRACTOR shall obtain and comply with any and all applicable state, federal and local guidelines.

1.02 SUBMITTALS

- A. Submit erosion control plan in accordance with Section 01300 - Submittals.

1.03 PROTECTION OF WATERWAYS

- A. Observe rules and regulations of State of Minnesota and agencies of
- B. U.S. government prohibiting pollution of any lake, stream, river or wetland by dumping of refuse, rubbish, dredge material or debris therein.
- C. CONTRACTOR(S) are specifically cautioned that disposal of materials into any waters of state must conform with requirements of U.S. Army Corps of Engineers. Permits, if needed, shall be obtained by CONTRACTOR at CONTRACTOR'S cost.
- D. Provide holding ponds or approved method which will divert flows, including storm flows and flows created by construction activity, so as to prevent excessive silting of waterways or flooding damage to property.
- E. Comply with procedures outlined in U.S. EPA manuals entitled, "Guidelines for Erosion and Sedimentation Control Planning and Implementation," Manual EPA-72-015 and "Processes, Procedures, and Methods to Control Pollution Resulting from All Construction Activity," manual EPA 43019-73-007.

1.04 STORMWATER DISCHARGE

- A. The Owner holds an NPDES/SDS General Permit for Industrial Stormwater Discharge (General Permit) for the Grand Rapids Public Utilities Landfill SW-210, which covers the construction activities included under this Contract. The Owner maintains a Stormwater Pollution Prevention Plan (SWPPP) in accordance with the General Permit. The Contractor shall comply with the SWPPP as defined in Contract Documents.
- B. Implement best management practices and erosion/sediment control as required for compliance with the construction SWPPP and NPDES permit requirements.
 - 1. ENGINEER shall inspect construction site and make corrections or repairs required.
 - 2. CONTRACTOR shall keep records on-site during the contract time, available for review by MPCA, in accordance with the NPDES permit and construction SWPPP requirements.

3. CONTRACTOR shall keep log of weather and response actions as required by NPDES permit and construction SWPPP
4. CONTRACTOR shall stabilize disturbed areas as designated.

1.05 EROSION AND SEDIMENT CONTROL

- A. Apply appropriate soil conservation measures to protect project area and adjacent lands. These measures may include, but not be limited to, mulching, rapid growth vegetation, fabric mat, hay bales, filter barriers, sediment traps, and basins.
- B. Select methods of erosion and sediment control in field to meet conditions encountered.
- C. Prepare and submit erosion control plan to ENGINEER. Plan shall include:
 1. Limits of disturbance.
 2. Type(s) of stabilization to be used.
 3. Existing and proposed culverts, storm drains, and outfalls.
 4. Location of stabilized construction entrance.
 5. Location of proposed sediment control measures.
 6. Details of sediment traps and basins and other sediment control measures.
 7. Sequence of construction as it relates to installation, phasing, and removal of sediment control measures.
- D. Provide erosion control measures, in-place, before commencing work on project site.
 1. Maintain erosion control measure during course of construction.
 2. Remove erosion control measures upon establishment of permanent, surface stabilization.

1.06 DISPOSAL OF EXCESS EXCAVATED AND OTHER WASTE MATERIALS

- A. Dumping of waste oil or fuel at this site will be unacceptable. Accidental fuel or oil spills will require excavation of contaminated soils and disposal at an authorized facility. CONTRACTOR shall be responsible for cleanup.

1.07 PROTECTION OF AIR QUALITY

- A. Minimize air pollution by requiring use of properly operating combustion emission control devices on construction vehicles and equipment used by CONTRACTORS, and encouraging shutdown of motorized equipment not actually in use.
- B. Trash burning will not be permitted on construction site.
- C. If temporary heating devices are necessary for protection of Work, they shall be of type that will not cause air pollution.

1.08 USE OF CHEMICALS

- A. Chemicals used during project construction or furnished for project operation, whether herbicide, pesticide, disinfectant, polymer, reactant, or of other classification, must show approval of either U.S. EPA or U.S. Department of Agriculture or any other applicable regulatory agency.
- B. Use of such chemicals and disposal of residues shall be in conformance with manufacturer's instructions.

1.09 NOISE AND DUST CONTROL

- A. Conduct operations to cause least annoyance to residents in vicinity of Work, and comply with applicable local ordinances.
- B. Equip compressors, hoists, and other apparatus with such mechanical devices as may be necessary to minimize noise and dust. Equip compressors with silencers on intake lines.
- C. Equip gasoline or oil-operated equipment with silencers or mufflers on intake and exhaust lines.
- D. Line storage bins and hoppers with material that will deaden sounds.
- E. Conduct operation of dumping rock and of carrying rock away in trucks so as to cause minimum of noise and dust.
- F. Route vehicles with axle weights greater than 5 ton over such streets as will cause least annoyance to public and do not operate on public streets between hours of 7:00 p.m. and 7:00 a.m., or on Sundays, or legal holidays unless approved by ENGINEER
- G. Provide approved dust preventative or water treatment periodically on unpaved streets, roads, detours or haul roads to minimize dust. Applicable environmental regulations for dust prevention will be enforced. No chemicals will be allowed for dust control. Water used for dust control will be potable water.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 DUST CONTROL

- A. Apply water to roads used by CONTRACTOR'S equipment as directed by OWNER or ENGINEER to control dust generated by wind or by CONTRACTOR'S vehicle traffic.
- B. Apply water to ground surfaces, site roads, and other areas as directed by OWNER or ENGINEER to control dust generated by CONTRACTOR'S activities at the site.
- C. Sweep black-topped roadway near site access as directed by OWNER or ENGINEER to control dust generated by wind and vehicle traffic.
- D. Water final cover area as directed by OWNER or ENGINEER to control dust migration.

3.02 EROSION CONTROL

- A. Install erosion control devices as directed by OWNER or ENGINEER where soil erosion and sediment transport from the site may occur due to CONTRACTOR'S activities. Comply with the requirements of the site SWPPP (Appendix B).
- B. Install temporary erosion control devices during the progress of the work and maintain them until permanent erosion control (turf establishment, aggregate surfacing, etc.) has been established.

- C. Following construction, repair any eroded areas, remove sediment as necessary, replace eroded soils, and establish turf in accordance with these Contract Documents.
- D. Silt fences shall be installed at all locations to prevent sediment from leaving the site and entering waters of the state.
- E. Horizontal slope grading and slope roughening practices shall be performed to reduce the amount of erosion on the slopes. These practices include using bulldozers or other equipment to make tracks perpendicular to the direction of surface water runoff. Temporary cover materials may also be used along the slopes and along the ditch channels if excess erosion is expected to occur.

3.03 STORM WATER CONTROL PLAN

- A. A Minnesota Pollution Control Agency (MPCA) General Construction Storm Water Permit (Permit) is required for construction areas that disturb one or more acres of land. The CONTRACTOR is responsible for obtaining this Permit. The CONTRACTOR must sign this Permit and is responsible for meeting all requirements outlined in the Permit. The following sections give only a brief summary of the Permit requirements and the Permit should be referred to for compliance.
- B. The requirements of the Permit include a Temporary Erosion and Sediment Control Plan to be developed to keep sediment from entering "waters of the state" during construction and Permanent Erosion and Sediment Control Plan to prevent erosion and keep sediment from entering "waters of the state" after construction is completed. All activities except for surface water diversion berms, if specified, shall be completed before construction begins.
- C. These Specifications and the Drawings incorporate by reference the requirements of the Temporary and Permanent Erosion and Sediment Control Plans and must be available at the construction site. They must also be available to federal, state, and local officials for inspection for the duration of the Permit. Records of all inspections and rainfall events must also be available at the construction site. The inspection records shall include:
 - 1. Date and time of inspections.
 - 2. The findings of inspections.
 - 3. Corrective actions taken (including dates and times).
 - 4. Documentation of changes to the plans made during construction.
 - 5. Date of all rainfall events.
- D. The Work covered by this section consists of furnishing all labor and materials and performing all operations necessary to implement temporary erosion and sediment control procedures on the site during construction activities. These procedures include, but are not limited to site grading, slope roughening, and perimeter sediment control such as silt fences or straw bales.
- E. The CONTRACTOR shall be responsible for conducting the required inspections and maintenance requirements. The construction site shall be inspected once every seven (7) days and within 24 hours after every rain event which results in runoff leaving the construction site or entering waters of the state. All erosion and sediment control features shall be inspected and repaired if any damage has occurred or the structure is otherwise ineffective.

- F. The OWNER and CONTRACTOR are responsible for complying with their respective portions of this Permit until construction is complete, all maintenance activities are complete, the site has undergone final stabilization, and a Notice of Termination is submitted to the MPCA.

END OF SECTION

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SECTION 01 45 29

TESTING LABORATORY SERVICES

PART 1 GENERAL

1.01 REQUIREMENTS INCLUDED

- A. CONTRACTOR shall employ and pay for services of an independent testing laboratory to perform specified source testing as described in respective sections.
- B. OWNER will employ and pay for services of an independent testing laboratory to perform specified in-place testing as described in respective sections of specifications.
 - 1. CONTRACTOR shall cooperate with laboratory to facilitate execution of its required services.
 - 2. Employment of laboratory shall in no way relieve CONTRACTOR'S obligation to perform Work of Contract.
- C. Related requirements in other parts of project Manual:
 - 1. Inspections and testing required by laws, ordinances, rules, regulations, orders or approvals of public authorities: Conditions of Contract.

1.02 LABORATORY DUTIES

- A. Cooperate with ENGINEER and CONTRACTOR; provide qualified personnel to perform Work after due notice to proceed.
- B. Perform specified inspections, secure samples, and test materials.
 - 1. Comply with specified standards.
 - 2. Ascertain compliance of materials with Contract Documents.
- C. Promptly notify ENGINEER and CONTRACTOR of observed irregularities or deficiencies of Work, equipment, or material.
- D. Promptly submit written report of each test and inspection: one copy each to ENGINEER, OWNER, material supplier, and CONTRACTOR, and one copy to record document file. Each report shall include:
 - 1. Date issued.
 - 2. Project title and number.
 - 3. Testing laboratory name, address, and telephone number.
 - 4. Name and signature of laboratory inspector.
 - 5. Date and time of sampling or inspection.
 - 6. Record of temperature and weather conditions if test is performed in field.
 - 7. Date of test. Identification of product and specification section.
 - 8. Location of sample or test in project.
 - 9. Type of inspection or test.
 - 10. Results of tests and compliance with Contract Documents.
 - 11. Interpretation of test results, when requested by ENGINEER.
- E. Perform additional tests as required by ENGINEER.

1.03 LIMITATIONS OF AUTHORITY OF TESTING LABORATORY

- A. Laboratory is not authorized to:
 - 1. Release, revoke, alter, or enlarge on requirements of Contract Documents.
 - 2. Approve or accept any portion of Work.
 - 3. Perform any duties of CONTRACTOR

1.04 CONTRACTOR RESPONSIBILITIES

- A. Cooperate with laboratory personnel and provide access to Work.
- B. Furnish copies of product test reports.
- C. Furnish Identical Labor and Facilities:
 - 1. To provide access to Work to be tested.
 - 2. To obtain and handle samples at project site or at source of product to be tested.
 - 3. To facilitate inspections and tests.
- D. Notify laboratory and ENGINEER sufficiently in advance of operations to allow for laboratory assignment of personnel and scheduling of tests.
 - 1. When tests or inspections cannot be performed after such notice, reimburse OWNER for laboratory personnel and travel expenses incurred due to CONTRACTOR'S negligence.
- E. Make arrangements with laboratory and pay for additional samples and tests required for CONTRACTOR'S convenience.
- F. Employ and pay for services of testing laboratory to perform additional inspections, sampling, and testing required when initial tests indicate Work does not comply with Contract Documents.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 GENERAL

1.01 DESCRIPTION

- A. Material and Equipment Incorporated into Work:
 - 1. Conform to applicable specifications and standards.
 - 2. Comply with size, make, type, and quality specified or as specifically approved by Shop Drawing, ENGINEER, or other submittal.

- B. Manufactured and Fabricated Materials and Equipment:
 - 1. Design, fabricate, and assemble in accordance with engineering and shop practices standard with industry.
 - 2. Manufacture like parts of duplicate units to standard sizes and gauges, to be interchangeable.
 - 3. Two or more items of same kind shall be identical, by same manufacturer.
 - 4. Material and equipment shall be suitable for service conditions.
 - 5. Equipment capabilities, sizes, and dimensions shown or specified shall be adhered to, unless variations are specifically approved, in writing, in accordance with General Conditions.
 - 6. Equipment shall be adapted to best economy in power consumption and maintenance. Parts and components shall be proportioned for stresses occurring during continuous or intermittent operation, and for any additional stresses occurring during fabrication or installation.
 - 7. Design shall be such that working parts readily accessible for inspection and repair, easily duplicated and replaced.

- C. Do not use material or equipment for any purpose other than for which it is designed or specified.

1.02 SUBSTITUTIONS

- A. Substitutions:
 - 1. CONTRACTOR'S requests for changes in equipment and materials from those required by Contract Documents are considered "requests for substitutions" and subject to CONTRACTOR'S representations and review provisions of Contract Documents when one of following conditions are satisfied:
 - a. Where request directly related to "or equal" clause or other language of same effect in Specifications.
 - b. Where required equipment or material cannot be provided within Contract Time, but not as result of CONTRACTOR'S
 - c. failure to pursue Work promptly or coordinate various activities properly.
 - d. Where required equipment or material cannot be provided in manner compatible with other materials of Work, or cannot be properly coordinated therewith.
 - 2. CONTRACTOR'S Options:
 - a. Compatibility of Options: Where more than one choice available as options for CONTRACTOR'S selection of equipment or material, select option compatible with other equipment and materials already selected.

- b. Standards, Codes, and Regulations: Where compliance with imposed standard, code or regulation required, select from among products which comply with requirements of those standards, codes, and regulations.
 - c. "Or Equal": For material or equipment specified by naming one or more equipment manufacturer and "or equal", CONTRACTOR shall submit request for substitution for any equipment or manufacturer not specifically named. Submit in accordance with Article 6 of General Conditions and these General Requirements.
 - d. Two or More Manufacturers: For equipment or material specified by naming several manufacturers, select any one of manufacturers named. Do not provide or offer to provide unnamed manufacturer or equipment.
 - e. Single Manufacturer or Material: For equipment or material specified by naming only one manufacturer or material and followed by words indicating no substitution, there is no option.
- B. Conditions which are not substitutions:
- 1. Requirements for substitutions do not apply to CONTRACTOR options on materials and equipment provided for in Specifications.
 - 2. Revisions to Contract Documents, where requested by OWNER or ENGINEER, are "changes" not "substitutions."
 - 3. CONTRACTOR'S determination of and compliance with governing regulations and orders issued by governing authorities do not constitute substitutions or basis for Change Orders, except as provided for in Contract Documents.

1.03 MANUFACTURER'S INSTRUCTIONS

- A. Installation of equipment and materials shall comply with manufacturer's instructions. Obtain and distribute printed copies of such instructions to parties involved in installation, including two copies to ENGINEER.
- 1. Maintain one set of complete instructions at job site during installation and until completion of Work.
- B. Handle, install, connect, clean, condition, and adjust materials and equipment in accordance with manufacturer's written instructions and in conformity with Specifications.
- 1. Should job conditions or specified requirements conflict with manufacturer's instructions, consult ENGINEER for further instructions.
 - 2. Do not proceed with Work without written instructions.

1.04 TRANSPORTATION AND HANDLING

- A. CONTRACTOR shall arrange deliveries of materials and equipment in accordance with Construction Progress Schedule, coordinate to avoid conflict with Work and conditions at site.
- 1. Deliver materials and equipment in undamaged condition, in manufacturer's original containers or packaging, with identifying labels intact and legible.
 - 2. Protect bright machined surfaces, such as shafts and valve faces, with heavy coat of grease prior to shipment.
 - 3. Immediately upon delivery, inspect shipments to ensure compliance with Contract Documents and approved submittals, and products have been protected and are undamaged.
- B. Provide equipment and personnel to handle materials and equipment by methods recommended by manufacturer to prevent soiling or damage to materials or equipment, or packaging.

1.05 STORAGE, PROTECTION, AND MAINTENANCE

- A. OWNER assumes no responsibility for materials and equipment stored in buildings or on-site or at another location approved in writing. CONTRACTOR assumes full responsibility for damage due to storage of materials and equipment.
- B. Interior Storage:
 - 1. Store materials and equipment in accordance with manufacturer's instructions, with seals and labels intact and legible.
 - 2. Store materials and equipment subject to damage by elements in weathertight enclosures.
 - 3. Maintain temperature and humidity within ranges required by manufacturer's instructions.
- C. Exterior Storage:
 - 1. Store fabricated materials and equipment above ground, on blocking or skids, to prevent soiling or staining. Cover materials and equipment subject to deterioration with impervious sheet coverings, provide adequate ventilation to avoid condensation.
 - 2. Store loose granular materials in well-drained area on solid surfaces to prevent mixing with foreign matter.
 - 3. Materials such as pipe, reinforcing and structural steel, and equipment shall be stored on pallets or racks, off ground.
- D. Inspection and Maintenance:
 - 1. Arrange storage in manner providing easy access for inspection, maintenance, and inventory.
 - 2. Make periodic inspections of stored materials and equipment to ensure materials and equipment maintained under specified conditions and free from damage or deterioration, and coverings in place and in condition to provide required protection.
 - 3. Perform maintenance on stored material and equipment in accordance with manufacturer's written instructions and in presence of OWNER or ENGINEER.
 - a. Notify ENGINEER 24 hours before performance of maintenance.
 - b. Submit report of completed maintenance and condition of coverings to ENGINEER with each Application for Payment.
 - c. Failure to perform maintenance, to notify ENGINEER of intent to perform maintenance or to submit maintenance report may result in rejection of material or equipment.
- E. CONTRACTOR shall assume responsibility for protection of completed construction and repair and restore damage to completed Work equal to original condition.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

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SECTION 01 71 13

MOBILIZATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes preparatory work and operations, including, but not limited to those necessary for the movement, to and from the project site, of personnel, equipment, supplies, and incidentals; for the establishment of all CONTRACTOR offices and buildings or other facilities necessary for work on the Project.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 STAGE EQUIPMENT AND GEOSYNTHETICS IN OWNER DESIGNATED LOCATIONS.

END OF SECTION

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SECTION 01 71 23
FIELD ENGINEERING

PART 1 GENERAL

1.01 PRIMARY CONTROL MONUMENT

- A. Benchmarks will be provided by OWNER to establish primary vertical control.
- B. Monuments or references for primary horizontal control will be provided by OWNER for construction of Work.
- C. CONTRACTOR shall preserve and maintain primary control monuments.

1.02 PRIMARY LINE AND GRADE

- A. CONTRACTOR shall provide primary line and grade. For all work including but not limited to:
 - 1. Establish primary line and grade of:
 - a. Service and access roads.
 - b. Kettle D/Phase 1-4 Final Cover Area
 - c. Piping, culverts, etc.
 - d. Other as requested by OWNER'S REPRESENTATIVE and as required in the Project Plans.
 - 2. Arrange operations to avoid interference with primary lines and grades.
 - 3. Check accuracy of line and grade by visual inspection, checks between stakes, and periodic checks (with surveying equipment) between primary control monuments and stakes.
 - 4. Responsible for protection and preservation of stakes.

1.03 CONSTRUCTION LINE AND GRADE

- A. CONTRACTOR shall bear sole responsibility for correct transfer of construction lines and grades from primary line and grade points and for correct alignment and grade of completed Work based upon lines and grades shown on Drawings.
- B. CONTRACTOR shall transfer line and grade for open cut construction of utilities from primary line and grade stakes to Work by means of grade boards, laser beam or other approved methods.

1.04 DOCUMENTATION SURVEY

- A. ENGINEER to provide documentation survey in accordance with subsequent specification.
- B. ENGINEER shall provide all documentation survey information to owner within 2 working days of each survey component being documented.

- C. The documentation survey shall verify and include, at minimum:
 - 1. Elevation tolerances for the earthwork according to the design shall be +0.0 to -0.2 ft on the subgrade. Elevation tolerances on the granular drainage layer shall be -0.0 to +0.2 ft. Thickness tolerance for the rooting zone and topsoil layer shall be 0.0 feet to +0.2 feet.
 - 2. The major components of the survey for the Kettle D/Phase 1-4 Final Cover Modification shall include the following:
 - a. Top of subgrade
 - b. Top of drainage layer
 - c. Top of rooting zone
 - d. Top of topsoil (final grades)
 - e. Drainage control berms
 - f. Drain tile system.
 - 3. Survey shall be conducted on a 50 ft. x 50 ft. grid with survey points at all major breaks in slope (i.e., top and toe of slope) as indicated in the construction plans. The grid will be extended vertically to enable calculation of vertical thicknesses of the liner or cover component.
 - 4. Construction survey shall be presented to Engineer rounded to two decimal places.

1.05 LOT CORNERS AND SURVEY MONUMENTS

- A. Reimburse OWNER for expenses related to replacement of lot corners and/or survey monuments disturbed by construction operations.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION (NOT USED)

END OF SECTION

SECTION 02 20 10
GRANULAR DRAINAGE LAYER

PART 1 GENERAL

1.01 SUMMARY

- A. Work under this section includes descriptions and requirements for the installation of the granular drainage layer placed as part of the Final Cover System as shown on the drawings.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D422 - Standard Method for Particle Size Analysis of Soils
 2. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft³).
 3. ASTM D1140 – Standard Test Methods for Determining the Amount of Material in Soils Finer than No. 200 (75- μ m) Sieve by Washing.
 4. ASTM D2434 – Standard Test Method for Permeability of Granular Soils (Constant Head).
 5. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

1.03 SUBMITTALS

- A. Location of off-site source of materials.
- B. Name, address, telephone number and contact person of independent soils laboratory.
- C. Method of off-site source soils material sampling and analyses.
- D. Off-site source material quality control analyses shall be submitted at least 14 days prior to installation.
- E. Proposed haul road planned for transportation of all off-site materials to the project site.

1.04 SOIL MATERIAL QUALITY ASSURANCE

- A. Granular drainage material to be obtained from CONTRACTOR borrow location.

B. Source testing to be performed by CONTRACTOR:

Property	Test Method	Frequency
Constant Head Permeability	ASTM D2434	1 test/2,000 cy, min. 1 test/source, min. 13 tests total
Grain Size Analysis	ASTM D422/D1140	1 test/5,000 cy, min. 1 test/source, min. 5 tests total
USCS Soil Classification	ASTM D2487	1 test/2,000 cy, min. 1 test/source, min. 13 tests total
Standard Proctor	ASTM D698	1 test / source

PART 2 PRODUCTS

2.01 GRANULAR DRAINAGE LAYER: DURABLE, COARSE ROUNDED TO SUBANGULAR GRAVEL EXHIBITING THE FOLLOWING:

- A. Grain Size: 99 percent passing 3/8-inch sieve and maximum 5 percent by weight which passes the #200 Sieve.
- B. Minimum permeability: Minimum permeability of 1×10^{-3} cm/s for cover system at 90 percent of standard proctor density.
- C. Uniformity Coefficient: Less than 6 (guideline, not requirement).

PART 3 EXECUTION

3.01 FILL USAGE

- A. Final Cover System construction: Directly over final cover geomembrane as shown on Drawings.

3.02 PREPARATION

- A. CONTRACTOR to receive OWNER'S permission to begin installation of granular drainage layer.
- B. CONTRACTOR shall be responsible for surface water control within construction limits and shall keep the construction and borrow areas well drained and minimize surface water ponding.
- C. Subgrade elevation shall be documented by ENGINEER prior to placement of granular drainage layer material.

3.03 PLACEMENT

- A. Placement of granular materials on geomembrane shall not proceed at ambient temperatures below 5 Degrees C (40 degrees F).

- B. Spread with one pass of low ground pressure tracked equipment or equivalent as approved by ENGINEER prior to placement. Do not allow rubber-tired vehicles on granular blanket after placement. Operation of hauling equipment will be allowed only on areas with a 3-foot minimum thickness on slopes. Spread upslope only.
- C. Do not compact material on geosynthetics.
- D. Protect buried pipes, geotextiles, geosynthetics, and similar installations.
- E. CONTRACTOR shall place granular material by such method as to prevent wrinkling and possible damage to the LLDPE liner. Once the geosynthetic lining system has been accepted by the ENGINEER, it shall be the CONTRACTOR'S responsibility to ensure that the geosynthetics are not damaged. Should they become damaged, the CONTRACTOR shall at his own expense:
 - 1. Immediately notify ENGINEER; and
 - a. Have the geosynthetic installer make any necessary repairs at the CONTRACTOR'S expense.

3.04 FIELD QUALITY CONTROL

- A. Comply with approved Quality Assurance Manual. CONTRACTOR shall cooperate and assist ENGINEER with obtaining required documentation and testing.
- B. Specified soil layers shall be graded to the minimum thicknesses as shown on drawings and specified herein.
- C. Testing:
 - 1. Granular drainage layer in-place testing will be performed by ENGINEER to monitor material parameters.
 - 2. Tests to be performed and frequency of tests specified are in the Quality Assurance Manual.
- D. ENGINEER shall perform documentation survey in accordance with the CQA manual. CONTRACTOR shall assist with determining settlement of surfaces due to construction loads for the ENGINEER to use in preparing the construction certification. Settlement will be determined on a spacing of approximately 2 per acre. Grid points used for settlement correction will be incorporated into the granular drainage layer thickness survey to be performed on an approximate 100-foot grid in accordance with the verification table. At the settlement correction survey locations, the thickness of the granular drainage material will also be surveyed. This survey will be done at the same time the top of granular drainage material survey is completed. CONTRACTOR shall manually excavate down to liner surface at these locations so that the liner surface may be surveyed at the same location and the settlement can be determined. CONTRACTOR is responsible for any damage to the underlying geosynthetics and replacement of granular drainage material during this process. ENGINEER must be present during excavation for settlement verification.

3.05 ADJUSTMENT AND CLEANING

- A. Remove excess material not suitable for use to OWNER designated stockpile area. Grade to drain.

END OF SECTION

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SECTION 02 20 20
COARSE AGGREGATE

PART 1 GENERAL

1.01 SUMMARY

- A. Work under this section includes descriptions and requirements for the installation of the coarse aggregate for construction of toe drain components as shown on the Drawings.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 - 1. ASTM D422- Standard Method for Particle Size Analysis of Soils.
 - 2. ASTM D2487- Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 - 3. ASTM D4373 – Standard Test Method for Rapid Determination of Carbonate Content of Soils
- B. Minnesota Department of Transportation Standard Specifications for Construction, latest edition.

1.03 SUBMITTALS

- A. Location of off-site source of materials.
- B. Name, address, telephone number and contact person of independent soils laboratory.
- C. Method of off-site source soils material sampling and analyses.
- D. Off site source material quality control analyses shall be submitted at least 14 days prior to installation.
- E. Proposed haul road planned for transportation of all off-site materials to the project site.

1.04 SOIL MATERIAL SOURCE QUALITY CONTROL

- A. Independent soils laboratory to be approved by OWNER.
- B. Source testing to be performed by CONTRACTOR at no cost to the OWNER.
- C. Provide the following test results for material test requirements:

Property	Test Method	Frequency
Grain Size Analysis	ASTM D422	3 test results/source
Calcium Carbonate Content	ASTM D4373	1 test result/source*

* Test waived if CONTRACTOR can demonstrate the material source is from quartzite, granite, or other igneous non limestone/dolomite formation.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

- A. Use: Coarse Aggregate to be used for toe drain construction as shown on the Drawings.
- B. Granular material, non-calcareous gravel carbonate content <5 percent.
- C. Grain size: Range from maximum diameter of 1.25-inch to minimum diameter of 0.75-inch (maximum 5% by weight passing 0.75-inch sieve).

PART 3 EXECUTION

3.01 PREPARATION

- A. CONTRACTOR shall receive OWNER or ENGINEER'S permission to begin installation of coarse aggregate.

3.02 PLACEMENT

- A. Transport material in a manner that will not damage underlying soil or synthetic liners, if present. Low ground pressure equipment shall be used and no sharp turns with tracked equipment shall be made on final closure areas.
- B. Do not compact material.

3.03 ADJUSTMENT AND CLEANING

- A. Remove excess material not suitable for use for any part of the project from the site.

END OF SECTION

SECTION 02 20 40

ROOTING ZONE

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes the placement of the rooting zone soils.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D422 - Standard Method for Particle Size Analysis of Soils
 2. ASTM D1140 - Standard Test Methods for Amount of Material in Soils Finer than the No. 200 (75 um) Sieve by Washing
 3. ASTM D2487 - Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)

1.03 QUALITY ASSURANCE

- A. Rooting zone to be obtained from salvaged existing rooting zone material. CONTRACTOR responsible to select suitable material.
- B. OWNER will perform quality control and quality assurance in accordance with the Construction Quality Assurance Manual.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

- A. Rooting Zone:
 1. Friable soil; Horizon B soils, suitable for establishment of rooting system of grass and plants.
 2. Free from gravel, cinders, stone over 1 inch in any dimension and other undesirable material.
 3. Topsoil is an acceptable substitute for Rooting Zone material.

PART 3 EXECUTION

3.01 FILL USAGE

- A. Rooting zone material: Directly on top of granular drainage layer for final cover system construction.

3.02 PREPARATION

- A. Surface Water Control:
 1. CONTRACTOR responsible for surface water control within construction limits.
 2. Keep construction and borrow areas well drained and minimize surface water pooling.

3.03 PLACEMENT OF ROOTING ZONE

- A. Construct to limits and thicknesses as shown on Drawings.
- B. Spread with one pass using tracked equipment.
- C. Spread uphill only.
- D. Rubber-tired vehicles only allowed on areas with a 3-foot minimum thickness when being placed over geosynthetics.

3.04 FIELD QUALITY CONTROL

- A. Comply with approved Quality Assurance Manual. Cooperate with quality control program.
- B. Specified soil layers shall be graded to the minimum thicknesses as shown on drawings and specified herein.
- C. Testing:
 - 1. Tests performed and frequency of tests specified in the Quality Assurance Manual.
 - 2. CONTRACTOR is responsible for all costs related to retests of materials not meeting specifications.
- D. ENGINEER shall perform documentation survey in accordance with the CQA manual. If soil meeting the specifications for topsoil is used, the rooting zone and topsoil layers can be placed as a single 12-inch thick layer; thickness verification survey frequency to be modified accordingly.

3.05 ADJUSTMENT AND CLEANING

- A. Remove excess material not suitable for use to OWNER designated location on-site.

END OF SECTION

SECTION 02 20 60
INTERMEDIATE COVER (BUFFER SOILS)

PART 1 GENERAL

1.01 SUMMARY

- A. This section includes the placement of the buffer soils.

1.02 QUALITY ASSURANCE

- A. In accordance with the Construction Quality Assurance Manual for this project.

PART 2 PRODUCTS

2.01 SOIL MATERIALS

- A. Intermediate Cover/Buffer Soils:
 - 1. Buffer soil material shall be existing in-place sand drainage layer material or cover soils, graded per the design drawings to promote drainage. Contractor shall be responsible for preparing an adequate surface for geosynthetic deployment.
 - 2. Free from gravel, cinders, stone over 1/2 inch in any dimension and other undesirable material.

PART 3 EXECUTION

3.01 FILL USAGE

- A. Intermediate Cover/Buffer soils: Directly on top of the existing sludge barrier layer within the closure area.

3.02 PREPARATION

- A. Surface Water Control:
 - 1. CONTRACTOR responsible for surface water control within construction limits.
 - 2. Keep construction and borrow areas well drained and minimize surface water pooling.

3.03 PLACEMENT OF BUFFER SOILS

- A. Construct to limits and to the elevations as shown on Drawings.
- B. Final surface must be firm and free of stones greater than 1/2 -inch diameter or any other material which would be deleterious to the overlying geomembrane liner.
- C. Smooth drum surface to provide smooth surface for geomembrane installation. Remove and replace excessively soft or wet areas.

3.04 FIELD QUALITY CONTROL

- A. Comply with approved Quality Assurance Manual. Cooperate with quality control program.

- B. Specified soil layers shall be graded to the minimum thicknesses as shown on drawings and specified herein. Tolerance of the buffer soil layer is +0.2 feet elevation.
- C. Survey Requirements: ENGINEER shall perform documentation survey in accordance with the Quality Assurance Manual.

3.05 ADJUSTMENT AND CLEANING

- A. Remove excess material not suitable for use to OWNER designated location on-site.

END OF SECTION

SECTION 02 20 70

CONTROLLED FILL

PART 1 GENERAL

1.01 SUMMARY

- A. Work under this section includes descriptions and requirements of the OWNER-supplied native soils required for construction with controlled fill soils.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D6913- Standard Test Methods for Particle-Size Distribution (Gradation) of Soils using Sieve Analysis.
 2. ASTM D7928- Standard Test Methods for Particle-Size Distribution (Gradation) of Fine-Grained Soils using the Sedimentation (Hydrometer) Analysis.
 3. ASTM D1140- Standard Test Method for Amount of Material in Soils Finer than the No. 200 (75 um) Sieve.
 4. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft³ (600 kN-m/m³)).
 5. ASTM D2216- Standard Test Method for Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures.
 6. ASTM D2487- Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).
 7. ASTM D6938 – Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth).
- B. Minnesota Department of Transportation "Standard Specifications for Construction", latest edition.

1.03 SUBMITTALS

- A. None required.

PART 2 PRODUCTS

2.01 CONTROLLED FILL

- A. Shall consist of mineral soil free from organic materials, loam, wood, trash, and other objectionable materials which may be compressible or which cannot be properly compacted.
- B. Soil used for berms, embankments, backfill, and subgrade excavation replacement where applicable. CONTRACTOR to assist with sample collection for standard proctor testing for completion of project CQA program.
- C. Material free from roots, debris, and stones larger than six (6) inches.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine and verify acceptability of surface to receive installation of material.
- B. Proof-roll and examine surfaces to receive fill and subgrades within influence zone to determine existence of soft areas, areas loosened by frost action or softened by flooding, groundwater or weather or existence of unsuitable materials.

3.02 PREPARATION

- A. Prepare surfaces to receive materials to lines and grades shown on Drawings prior to placement.

3.03 BACKFILLING AND COMPACTION

- A. Notify ENGINEER before placing fill material.
- B. Do not use frozen material or place fill on frozen subgrade.
- C. Where pipes or electrical conduits are located, protect by backfilling influence zone down to undisturbed soil with controlled fill.
- D. Place fill simultaneously on both sides of free-standing structures.
- E. Provide mechanical compaction for cohesive material and vibratory compaction for granular materials. When approved by ENGINEER, jetting, flooding, puddling, or vibroflotation methods may be used for compacting if CONTRACTOR furnishes test results to confirm required degree of compaction being obtained uniformly throughout entire mass.
- F. Lift Thickness and Compaction: Place and compact fill material in maximum lift thickness and to minimum densities listed below. Where "Quality Compaction Method" is listed, reference "Standard Specifications" Section 2106.3.G.2.

	Fill Placement	Maximum Compacted Lift Thickness (inches)	Standard Proctor (%)
1	Controlled Fill for Anchor Trench Backfill and Piping Installation Backfill	6	"Quality Compaction Method"
2	Controlled Fill for Temporary Berm Construction	6	"Quality Compaction Method"
3	Controlled Fill for Subgrade and Berm Construction	8	95
4	Controlled Fill for Unsuitable Material Subcut Replacement	8	100

3.04 FIELD QUALITY CONTROL

- A. In-place testing shall be performed by ENGINEER in accordance with the Construction Quality Assurance manual; any laboratory retesting due to test failure will be paid for by the CONTRACTOR.

3.05 TRANSPORTATION AND HAUL ROADS

- A. Observe State, County, and Local traffic rules and weight restrictions.
- B. All vehicle trips loaded or unloaded shall be on designated haul roads only.
- C. CONTRACTOR to coordinate selection of haul roads with the appropriate governing body and acquire any necessary permits.
- D. On-site road utilized should be left in same or better condition than at start of project.

END OF SECTION

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SECTION 02 21 10

SITE PREPARATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section includes the requirements for general site preparation, salvaged topsoil, and miscellaneous surface features.

1.02 DEFINITIONS

- A. Structures and Surface Features: For purpose of this section, shall mean existing structures and surface features, including but not limited to buildings, pavements, curb and gutter, signs, posts, fences, trees, shrubs, and other landscaped features.
- B. Salvaged Topsoil/Rooting Zone: Natural loam, sandy loam, silt loam, silty clay loam, or clay loam humus-bearing soils available from overlying portions of areas to be excavated for construction.
- C. Unsuitable Material: Topsoil, peat, organic soils, and materials containing slag, cinders, foundry sand, debris, and rubble or soil with less than required bearing capacity as determined by ENGINEER.
- D. Utilities: Existing landfill infrastructure including leachate piping, electric lines; conduits, telephone, and other communication lines; sewer pipe; cable television, other utilities, and appurtenances.

1.03 PROJECT/SITE CONDITIONS

- A. Provide 72-hour notice, prior to beginning construction, to OWNER.
- B. Several leachate lines, landfill gas infrastructure, electrical utilities, and associated features will be located in and adjacent to the project area. Locations of these pipes and utilities are shown on to the extent possible. CONTRACTOR should use caution around such infrastructure as due to landfill conditions, locations may not be exact.

1.04 COORDINATION

- A. Coordinate work with others performing work at project site.
- B. Call Gopher One to check for utilities prior to beginning Work.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 PREPARATION

- A. Provide protection and support during construction for existing utilities, structures, and surface features adjacent to construction area or easements and rights-of-way.

- B. Remove obstructions such as mounds of dirt, stone or debris located within working limits.
- C. Obstructions such as street signs, small culverts, and guard posts located within construction easements of rights-of-way may be removed if promptly replaced to original condition unless otherwise specified.

3.02 SALVAGED TOPSOIL AND ROOTING ZONE

- A. Excavate and temporarily stockpile salvaged topsoil where topsoil exists to restore areas disturbed by construction.
- B. All material stockpile areas shall be stripped of topsoil prior to stockpiling.
- C. Provide transportation of material and sites for stockpiles if adequate areas not available within the construction limits as shown on the Drawings.

3.03 RESTORATION

- A. Restore existing utilities, surface feature, and structures to condition equal to or exceeding condition which existed prior to construction.

END OF SECTION

SECTION 02 22 00

TRENCHING AND EXCAVATION

PART 1 GENERAL

1.01 SUMMARY

- A. Work described in this section includes trenching and excavation for stormwater piping and related infrastructure installation.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D422 - Standard Method for Particle Size Analysis of Soils
 2. ASTM D698 - Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN-m/m³))
 3. ASTM D1140- Standard Test Methods for Amount of Material in Soils Finer than the No. 200 (75- μ m) Sieve by Washing.
 4. ASTM D2487- Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)
 5. ASTM D6938 – Standard Test Methods for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)
- B. Minnesota Department of Transportation "Standard Specifications for Construction", latest edition.

1.03 SUBMITTALS

- A. Shoring, Bracing, and Sheet piling Layout and Details: ENGINEER will review submitted material to ascertain effect on new construction. ENGINEER will not review shoring, bracing, and sheet piling for structural integrity or effect on existing facilities.
- B. Additional soil testing results as may be required.

1.04 QUALITY ASSURANCE

- A. Sheet piling, Shoring, and Bracing:
 1. If determined necessary by CONTRACTOR, sheet piling, shoring, and bracing shall be designed by a Professional Engineer registered in the state of Minnesota.
 2. Sheet piling, shoring, and bracing shall conform to safety requirements of federal, state, or local public agency having jurisdiction over such matters. Most stringent of these requirements shall apply.

1.05 DEFINITIONS

- A. Influence Zone Under Foundations or Pavements: Area below foundation or pavement as bounded by 1 horizontal to 2 vertical slope extending outward from 1 ft beyond outer edges of foundation or pavement.

- B. Influence Zone Around Piping or Electrical Ducts: Area below limits bounded by line 12 in. above pipe or duct and by 1 horizontal to 2 vertical slope extending outward from that line 1 ft beyond outer edge of pipe or duct.
- C. Unsuitable Material: Topsoil, peat, organic soils, and materials containing slag, cinders, foundry sand, debris, and rubble or soil with less than required bearing capacity as determined by ENGINEER.

1.06 FIELD MEASUREMENTS

- A. Verify control monuments and intended elevations for Work as shown on Drawings.

PART 2 PRODUCTS (NOT USED)

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine and verify acceptability and condition of surfaces to perform Work.

3.02 PREPARATION

- A. Identify required lines, grades, levels, contours, and datum.
- B. Protect benchmarks, structures, equipment, and partially completed Work.
- C. Notify corporations, companies, individuals, or authorities owning above- or belowground conduits, wires, pipes, or other utilities running to property or encountered during excavating operations.
- D. Cap or remove and relocate services in accordance with instructions by owners of services.
- E. Protect, support, and maintain conduits, wires, pipes, and other remaining utilities in accordance with requirements of owners of said services.
- F. Keep construction site free-draining.
- G. Fill settled areas where excavations or trenches were backfilled and holes made by demolition, tree removal, and site preparation Work.

3.03 TRENCHING

- A. Excavate to elevations and dimensions necessary to complete construction.
- B. Place spoils pile upgradient of trench such that runoff from pile would drain to trench.
- C. Comply with OSHA Health and Safety Standards.
- D. Trenching Tolerances:
 - 1. Excavate so pipes, ducts, and conduits can be laid straight at uniform grade, without sags or humps, between elevations shown on Drawings.

2. Maximum width of excavation on top of pipe shall be outside diameter of pipe plus 24 inches or as shown on the Drawings. When stringers and sheathing required, width of trench may be increased to allow for their use, provided provisions for this excess width of trench are met.
 3. Where trench width for that portion of trench depth between trench bottom and outside top of pipe barrel, for any reason within CONTRACTOR'S control, exceeds specified limits, CONTRACTOR, at his expense, shall furnish pipe with strength adequate for actual trench width.
- E. Do not advance excavation of trenches more than 150 feet ahead of completed pipe installation.
 - F. For gas system piping as noted on Drawings, plastic pipeline warning ribbon shall be installed in trench approximately 24" above the top of pipe during backfill.
 - G. CONTRACTOR shall be aware that trenches may be wet.
 - H. CONTRACTOR shall temporarily cover any excavated waste material or contaminated soils at the end of each working day. CONTRACTOR shall also cover any open excavations with exposed waste at the end of each working day. TEMPORARY COVER REQUIREMENTS WILL BE STRICTLY ENFORCED.
 - I. Excess excavated waste shall be hauled to the active working face of the appropriate disposal area and disposed of in OWNER designated areas. Daily cover of such waste, if required, shall be coordinated with the OWNER. CONTRACTOR shall not perform waste excavation outside of normal landfill operating hours without prior approval from the OWNER.

3.04 COMMON EXCAVATION

- A. Excavations shall conform to lines and grades as staked, and as shown on Drawings.
- B. Excavations beyond those lines and grades without the ENGINEER's authorization will be considered unauthorized Work.
- C. Method of excavation shall be consistent with soil types encountered and result in competent subgrade.
- D. Remove stumps, roots, debris, large stones or boulders, and any other deleterious material from excavated materials to be used in embankments.
- E. Do not excavate within influence zone of existing footings or foundations without prior approval of ENGINEER.
- F. Upon completion of excavation, notify ENGINEER before proceeding with further Work.

3.05 ADJUSTMENT AND CLEANING

- A. Stockpile excess excavated material suitable for backfill on site in OWNER designated location and grade to drain.
- B. Haul excavated material not suitable for backfilling and unsuitable materials to OWNER designated location within the active working face.

END OF SECTION

SECTION 02 27 60

EROSION CONTROL

PART 1 GENERAL

1.01 SUMMARY

- A. Work includes the furnishing of the permanent and temporary erosion control as shown on the Drawings and as directed by the OWNER for compliance with the site's NPDES Industrial Stormwater permit and site specific SWPPP (available for review from OWNER).
- B. Sediment control logs and heavy-duty silt fence shall be installed for erosion control where required.
- C. Erosion control blanket shall be installed as detailed on the Drawings.
- D. CONTRACTOR is responsible to comply with the OWNER's NPDES Industrial Stormwater permit and site specific SWPPP (available for review from OWNER).

1.02 REFERENCES

- A. MNDOT Standard Specifications for Construction, latest edition.

1.03 SUBMITTALS

- A. Manufacturer's certificates indicating specification conformance test results of furnished material.

PART 2 PRODUCTS

2.01 SILT FENCE

- A. Machine sliced (MS) silt fence shall conform to "Standard Specification" Section 3886: Silt Fence.

2.02 EROSION CONTROL BLANKET

- A. Category 20 and 50 in accordance with the "Standard Specification" Section 3885: Rolled Erosion Control Products.

2.03 SEDIMENT CONTROL LOGS

- A. In accordance with "Standard Specification" Section 3897.2.B: Wood Fiber.

PART 3 EXECUTION

3.01 USAGE

- A. Silt fence where required by the SWPPP and/or as directed by OWNER.

- B. Erosion Control Blanket: Category 20 ECB on the final cover sideslopes. Category 50 ECB in drainage berms and other surface water drainage features as shown on Drawings.
- C. Sediment control log where required by the SWPPP and/or as directed by OWNER.

3.02 SILT FENCE INSTALLATION

- A. Erosion control measures to be installed prior to site disturbance.
- B. Silt fence shall be trenched in with a minimum of 6 inches of fabric buried.
- C. Silt fence to be installed using the static slicing method or approved equivalent installation method.
- D. CONTRACTOR shall be responsible for maintenance and repair of silt fence until final acceptance of the project.

3.03 REMOVAL OF SILT FENCE

- A. CONTRACTOR shall remove and dispose of silt fence after completion of project and the establishment of vegetation.

3.04 EROSION CONTROL BLANKET INSTALLATION

- A. Place in accordance with Manufacturer's recommendations.
- B. At a minimum, anchor upstream edges of all materials at least 4 inches into the soil to prevent underflow.
- C. Shingle materials downslope.
- D. Overlaps shall be as follows:
- E. End lap – 24 inches minimum.
- F. Edges – 4 inches minimum.

3.05 SEDIMENT CONTROL LOG

- A. Place in accordance with Manufacturer's recommendations.
- B. Wood Stakes to be in accordance with "Standard Specification" Section 3897.2.I.

END OF SECTION

SECTION 02 48 60
TURF RESTORATION

PART 1 GENERAL

1.01 SUMMARY

- A. This section contains requirements for topsoil, seeding, fertilizing, and mulching.
- B. Seed all areas disturbed by construction activities at the site.

1.02 REFERENCES

- A. Minnesota Department of Transportation (MNDOT) Standard Specifications for Construction, latest edition. (Standard Specifications)
- B. Minnesota Department of Transportation (MNDOT) Seeding Manual, 2024 edition

1.03 SUBMITTALS

- A. Location of offsite sources of materials, if applicable.
- B. Name, address, telephone number and contact person of independent soils laboratory.
- C. Method of offsite source soils material sampling and analyses.
- D. Offsite source material quality control analyses shall be submitted at least 14 days prior to installation.
- E. Proposed haul road planned for transportation of all offsite materials to the project site.
- F. Test Results:
 - 1. Suppliers analysis for standard products.
 - 2. Copy of source testing soil results, including fertilizer and lime requirement before seeding work begins.
- G. Seed mix.

1.04 DELIVERY, STORAGE, AND HANDLING

- A. Delivery:
 - 1. Deliver fertilizer to site in original, unopened containers bearing manufacturer's guaranteed chemical analysis, name, trade name, trademark, and conformance to state law.
 - 2. Deliver seed to site in unopened, original bags bearing supplier's name and address, type of seed contained, percentage of purity and germination, percentage of hard seed if any, and percentage of inert material.
 - 3. Fertilizer and seed delivered to site shall be stored in a waterproof location as directed by OWNER.
 - 4. Locate mulch on site where indicated by OWNER.

1.05 GUARANTEE

- A. Guarantee seeded area for duration of one year after seeding to be alive and in satisfactory growth at end of guarantee period.
 - 1. For purpose of establishing acceptable standard, scattered bare spots, none larger than 1 square foot will be allowed up to maximum of 3 percent of seeded area.
 - 2. Acceptance will be based upon meeting this standard one year after initial seeding or reseeded.

PART 2 PRODUCTS

2.01 TOPSOIL

- A. Topsoil will be OWNER supplied material available from onsite stockpile/borrow areas. Topsoil and/or amended topsoil shall meet requirements of "Standard Specification" 3877.2.A. OWNER shall provide source testing of the material as follows:

Test	Frequency
Particle Size ASTM D422	1 per source
Soil Classification ASTM D2487	1 per source
Nutrient Content, Organic Content, pH*	1 per source

*Topsoil testing per University of Minnesota Soil Testing Laboratory regular series for turf.

- B. CONTRACTOR shall place topsoil at a thickness of 6 inches.
- C. OWNER will perform quality control/quality assurance in accordance with the Construction Quality Assurance Manual.

2.02 FERTILIZER

- A. In accordance with MNDOT Standard Specification 3881: Fertilizer at the ratio recommended by the soil testing lab after submittal of a topsoil sample.

2.03 GRASS SEED

- A. General
 - 1. Local nursery grown seed sources in the specified seed mix.
 - 2. Weeds shall not exceed 0.25 percent.
 - 3. Comply with current U.S. Department of Agriculture rules and regulations.
 - 4. Seed mix shall be Bee Lawn Mix from Shooting Star Native Seeds, or approved shallow rooted equal. Seed Mix shall be specified:

Creeping Red Fescue	@ 24.07%
Chewing Fescue	@ 24.07%
Hard Fescue	@ 24.07%
Sheeps Fescue	@ 24.07%
White Dutch Clover	@ 1.66%
Creeping Thyme	@ 0.24%
Self Heal	@ 1.81%

- 5. Apply seed at recommended rate for specified mix.

2.04 WATER

- A. CONTRACTOR shall be responsible for water.

2.05 MULCH

- A. Type 1 or Type 5 per Standard Specifications 3882.

PART 3 EXECUTION

3.01 INSPECTION

- A. Do not begin ground preparation until boulders, debris, and similar materials have been removed, depressions and ruts filled, and area to be seeded is shaped, trimmed, and finished uniformly to grades and cross-sections shown on Drawings, or to match original grade.

3.02 SITE PREPARATION FOR SEEDING

- A. Topsoil
 1. Place topsoil directly on top of rooting zone material for final cover system construction. Construct to limits and thicknesses as shown on Drawings.
 - a. Spread with one (1) pass using tracked equipment.
 - b. **Spread uphill only.**
 - c. Rubber tired vehicles only allowed on areas with a three (3) foot minimum thickness when being placed within the final cover limits (over geosynthetics).
 2. No topsoil shall be placed or worked in frozen or muddy condition.
 3. Prepare areas to be seeded to required depth of approximately three (3) inches by disking, rototilling, harrowing or other approved means.
 4. Remove and dispose of rock, trash, or other materials brought to surface from preparation activities.

3.03 TOPSOIL/FINISH GRADING

- A. Topsoil/Finish grade is established final grade as shown on Drawings. Grades not otherwise indicated are uniform levels or slopes between points where elevations are given or between such points and existing finished grades. Finish grade shall be approved by the ENGINEER prior to seeding.
- B. Grade, rake, and roll with roller weighing not more than 100 lbs./lf and not less than 25 lbs./lf.
- C. Maximum allowable variation from correct elevation is 2 in. in 10 ft.

3.04 APPLYING FERTILIZER

- A. Apply fertilizer uniformly over the designated area using mechanical spreading devices. Mix thoroughly with disk into upper 2 inches of soil. Apply in two passes at right angles to each other.
- B. Apply at a rate recommended by the soil testing as defined in Section 2.02.A.
- C. Apply fertilizer no more than 48 hours prior to seeding.

3.05 SEEDING

- A. Do not seed on saturated or frozen soil.

- B. Do not seed when wind velocity exceeds 6 mph.
- C. Seed all areas disturbed by construction.
- D. The grass seed shall be broadcasted according to methods in "MNDOT's Seeding Manual", 2024 edition. A rake or other implement shall be used to drag topsoil over the seed. Alternately, the grass seed may be drilled horizontally across the slope.
- E. Do not seed if surface has been compacted by recent rain event.

3.06 MULCHING

- A. Mulch seeded areas not designated to receive erosion control blanket within 24 hrs after seeding is complete.
- B. Application rate shall be 2 tons per acre or no more than 1 inch in depth.
- C. Mulch shall be spread uniformly in a continuous blanket. Mulch shall be started on the windward side of relatively flat area or on the upper part of a steep slope and continued uniformly until area is covered. The mulch shall not be bunched.
- D. Do not mulch during periods of excessively high winds.
- E. Immediately following the spreading of the mulch, the material shall be anchored securely into the soil a minimum of 3-inches by means of a mulch anchoring machine equipped with large coulter-type discs spaced on approximate 8-inch centers. All anchoring shall be at right angles to slope. Edges of the discs shall be dull to prevent cutting of the mulching and equipment operation shall be such as to embed the mulch to the required depth. In areas where equipment cannot be used, mulch shall be secured by shallow covering of earth or by embedding with approved hand methods, including straight-bladed spade with dull edge.
- F. Mulch in accordance with MNDOT Section 2575: Establishing Vegetation and Controlling Erosion.

3.07 CLEANUP

- A. Paved surface and other site areas shall be kept clean of seeding, fertilizing, and mulching materials.
- B. Clean up shall occur at the end of each work-day or as required by OWNER. Pavement shall be swept with a street sweeper as directed by ENGINEER throughout the project.
- C. Restore existing utilities, surface features, and structures to condition equal to condition which existed prior to construction.
- D. Replace to original condition or better, damaged vegetation or landscape work.
- E. Complete project punch-list prepared by ENGINEER.

3.08 MAINTENANCE OF SEEDED AREA

- A. Maintenance of seeded areas shall begin immediately following last seeding application. Continue until Work is accepted.
- B. Maintain seeded area by watering, mowing, and replanting as necessary to produce uniform stand of grass until Work is accepted.
- C. Rework/replace topsoil where original topsoil has eroded or washed away as directed by OWNER.
- D. Remulch any areas where the original mulch has washed away as directed by the OWNER.
- E. Implement erosion control measures as required to keep area free of rutted and eroded soils and protection fences and barriers as necessary.

3.09 RESEEDING AND REPAIR

- A. Reseed areas that fail to show more than 75 plants/square feet and open areas or gaps larger than 6 inches in diameter.
- B. Where plant density is less than 50 plants/square foot, refill and reseed areas in accordance with seeding and maintenance requirements.

3.10 ACCEPTANCE OF SEEDED AREAS

- A. CONTRACTOR shall notify OWNER in writing 7 days prior to inspecting seeded area for acceptance.
- B. CONTRACTOR and OWNER shall inspect seeded areas for contract compliance and acceptance of work. Upon completion of inspecting seeded areas, OWNER shall provide written acceptance or rejection to CONTRACTOR with further requirement for completing the seeding work. Seeding work remaining to be completed shall be reinspected by OWNER before final acceptance.

3.11 SURVEY QUALITY CONTROL

- A. Topsoil shall be graded to the minimum thicknesses as shown on Drawings and specified herein. Elevation tolerance shall be +0.2 foot.
- B. ENGINEER shall perform documentation survey in accordance with CQA manual. CONTRACTOR shall assist with determining settlement of surfaces due to construction loads for the ENGINEER to use in preparing the construction certification. Settlement will be determined at a frequency of approximately 2 locations per acre. Grid points used for settlement correction will be incorporated into the thickness survey to be performed on an approximate 100-foot grid in accordance with the verification table. At the settlement correction survey locations, the combined thickness of the rooting zone and topsoil material will be surveyed. This survey will be done at the same time the top of final cover survey is completed. CONTRACTOR shall manually excavate down to the top of the granular drainage layer at these locations so that the surface may be surveyed at the same location and the settlement can be determined. CONTRACTOR is responsible for any

damage to the underlying geosynthetics and replacement of cover soils during this process. ENGINEER must be present during excavation for settlement verification.

- C. If soil meeting the specifications for topsoil is used for rooting zone, the rooting zone and topsoil layers can be placed as one 12-inch thick layer; thickness verification survey frequency to be modified accordingly. If rooting zone material does not meet topsoil specifications, topsoil thickness will be verified during excavation for settlement correction detailed part 3.11.B above.

END OF SECTION

SECTION 02 62 30

PERFORATED AND NON-PERFORATED PIPE

PART 1 GENERAL

1.01 DESCRIPTION

- A. Furnish and install perforated and non-perforated corrugated polyethylene pipe (CPEP) and appurtenances as shown on Drawings.

1.02 REFERENCES

- A. American Association of State Highway and Transportation Officials (AASHTO).
 - 1. AASHTO M252 – Standard Specification Corrugated Polyethylene Drainage Pipe
- B. American Society for Testing and Materials (ASTM)
 - 1. ASTM F667/F667M – Standard Specification for 3 through 24 in. Corrugated Polyethylene Pipe and Fittings.

1.03 SEQUENCING AND SCHEDULING

- A. Include piping activities in the project schedule.

1.04 SUBMITTALS

- A. The CONTRACTOR shall submit to the OWNER the manufacturer's literature that describes the physical characteristics of the pipe provided, the recommended installation procedures, and allowable pipe bend radius.

PART 2 PRODUCTS

2.01 CORRUGATED POLYETHYLENE PIPE, DRAINAGE TUBING (CPEP), AND FITTINGS

- A. CPEP and fittings shall meet the requirements of ASTM F405/F667/F667M or AASHTO M252. The pipe shall meet the dimensional requirements indicated on the Contract Drawings and be manufactured by Prinsco, ADS, Hancor, or other approved manufacturer.
- B. CPEP used for surface water control (culverts or piping) shall be of double-wall construction with a smooth inner bore and shall have watertight gasketed joints.
- C. All CPEP used for surface water control (culverts) shall have flared end sections, both ends.
- D. Perforated pipe shall be factory perforated with a minimum inlet area of 1 square inch/ft.
- E. Fittings shall be from the same manufacturer as the pipe.
- F. See Section 02921 Geotextile for drainage tubing wrap.

PART 3 EXECUTION

3.01 CPEP AND FITTINGS

- A. Install perforated and non-perforated CPEP of the size and in the locations and to the elevations and grades shown on the Drawings.
- B. Do not install pipe with bends of smaller radius than the minimum recommended by the manufacturer.
- C. Install marker posts at the end of each outlet.
- D. Extreme care shall be taken to prevent crushing or deflecting the pipe by construction equipment traffic. If damage to installed piping is suspected by OWNER to have occurred, CONTRACTOR may be required to investigate/repair.

3.02 FILL PLACEMENT AROUND PIPES

- A. CONTRACTOR shall mechanically tamp bedding material around the piping in lifts.
- B. The CONTRACTOR shall notify OWNER before placing fill around pipes.
- C. Do not use frozen fill material or place on frozen subgrade.
- D. Pipe installed outside the boundaries of the geomembrane:
 - 1. Install bedding and cover soils making sure pipe haunches are properly shaped.

3.03 FIELD QUALITY CONTROL

- A. Pipe and pipe installation will be subject to rejection for any of the following reasons:
 - 1. Failure to conform to the SPECIFICATIONS, particularly compaction under and around the pipe.
 - 2. Fractures or cracks passing through pipe wall or socket.
 - 3. Cracks which, in the opinion of OWNER or OWNER'S On-Site Representative, may impair strength, durability, or serviceability of pipe.
 - 4. Defects indicating improper proportioning, mixing, or molding.
 - 5. Damaged ends where such damage would prevent making a satisfactory joint.
- B. Survey Requirements:
 - 1. CONTRACTOR to provide survey information for all inverts and alignments of piping.

END OF SECTION

SECTION 02 92 10

GEOTEXTILE

PART 1 GENERAL

1.01 SUMMARY

- A. Under this section, Work includes manufacture; fabrication (if needed); furnishing; installation of geotextile as shown on the Drawings.

1.02 REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D3776/D3776M — Standard Test Method of Mass per Unit Area (Weight) of Fabric.
 2. ASTM D4632/D4632M — Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
 3. ASTM D4751—Standard Test Methods for Determining Apparent Opening Size of a Geotextile.
 4. ASTM D5261 – Standard Test Method for Measuring Mass per Unit Area of Geotextiles.
 5. ASTM D6241 – Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe.
- B. Minnesota Department of Transportation (MNDOT) Standard Specifications for Construction, latest edition

1.03 SUBMITTALS

- A. Manufacturer's certificates indicating conformance test results of furnished material to Specifications.

1.04 QUALITY ASSURANCE AND MATERIAL HANDLING

- A. Roll Identification:
 1. Provide geotextiles in rolls wrapped in relatively impermeable and opaque protective covers and marked or tagged with following information:
 - a. Manufacturer's name.
 - b. Product identification.
 - c. Lot number.
 - d. Roll number.
 - e. Roll dimensions.
 2. Indicate special handling marked on geotextile itself, e.g., "This Side Up".
 3. Conformance testing to indicated conformance with specifications.
- B. Handle geotextiles in such manner as to insure geotextiles are not damaged.

PART 2 PRODUCTS

2.01 GENERAL

- A. Unless otherwise noted on Drawings, furnish materials whose minimum average roll values as defined by Federal Highway Administration (FHWA), meet or exceed Geotextile Fabric Properties.
- B. Except when specifically authorized, supplier shall not furnish special run or value added products.
- C. Orient polymeric yarns or fibers into stable network to retain relative structure during handling placement, and long-term service.
- D. Unless longer durability is specified, geotextiles shall be capable of withstanding direct exposure to sunlight for 30 days with no measurable deterioration.

2.02 GEOTEXTILE FABRIC MINIMUM PROPERTIES: ALL PROPERTIES LISTED ARE MINIMUM AVERAGE ROLL VALUES (MARV)

- A. Riprap underlayment
 - 1. Minimum general.
 - a. Nonwoven MNDOT Type 5.
 - b. Polypropylene.
 - c. or as shown on drawings.
- B. Drainage tubing wrap
 - 1. ADS Sock synthetic wrap or approved equivalent.
- C. Woven Geotextile (reinforcement fabric)
 - 1. Shall be a Type 5, Woven, Polypropylene Fabric in accordance with Standard Specifications Section 3733, or as shown on drawings.
- D. Drain Trench Geotextile
 - 1. Minimum general.
 - a. Nonwoven.
 - b. Polypropylene.
 - c. Mass/unit area – 6 ounces per square yard (ASTM D3776).
 - 2. Minimum permeability/filtration.
 - a. Apparent opening size - 70 U.S. Standard Sieve (ASTM D4751).
 - 3. Minimum mechanical.
 - a. CBR Puncture strength - 410 pounds (ASTM D6241).
- E. US160NW or approved equal.

PART 3 EXECUTION

3.01 GEOTEXTILES INSTALLATION

- A. General
 - 1. On Slopes, roll down slope in such manner as to continually keep geotextile sheet in tension.

2. In presence of wind, weight geotextiles with sandbags or equivalent. Install sandbags during placement and keep in place until replaced with cover materials.
 3. Take necessary precautions to prevent damage to underlying layers during placement of geotextile.
 4. During placement of geotextiles, care shall be taken not to entrap in geotextile, stones, excessive dust or moisture that could damage geomembrane or hamper subsequent seaming.
 5. Do not expose geotextiles to precipitation prior to being installed and do not expose to direct sunlight for more than 15 days, unless otherwise specified.
- B. Seams and Overlaps:
1. On slopes steeper than 10 horizontal/1 vertical, seam geotextiles.
 - a. Seam by sewing, adhesive, fusion or other approved means.
 - b. Continuously seam; do not spot seam.
 - c. Overlap geotextile 6 inches prior to seaming.
 - d. Sew horizontal seams along slope, not across slope.
 - e. Using polymeric thread with properties equal to or exceeding those of geotextile.
 2. On slopes less than 10 horizontal/1 vertical, seam or overlap geotextile.
 - a. Overlap 12 inches.
 - b. Spot seaming when overlapping may be considered as measure against wind uplift.
 - c. Orient overlaps in direction of earth filling.

END OF SECTION

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SECTION 02 92 20

LINEAR LOW DENSITY POLYETHYLENE GEOMEMBRANE (LLDPE)

PART 1 GENERAL

1.01 SUMMARY

- A. Work includes manufacture, fabrication (if needed), supply, and installation of the linear low density polyethylene (LLDPE) geomembrane liner system. Smooth 40-mil Geomembrane shall be furnished and installed.

1.02 DEFINITIONS/REFERENCES

- A. American Society for Testing and Materials (ASTM):
 1. ASTM D751 - Standard Test Methods for Coated Fabrics
 2. ASTM D792 - Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
 3. ASTM D1004 - Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting.
 4. ASTM D1238 - Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer.
 5. ASTM D1505 - Standard Test Method for Density of Plastics by the Density-Gradient Technique.
 6. ASTM D1603 - Standard Test Method for Carbon Black Content in Olefin Plastics.
 7. ASTM D3895 - Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry.
 8. ASTM D4218 - Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique.
 9. ASTM D4437/D4437M - Standard Practice for Nondestructive Testing (NDT) for Determining the Integrity of Seams Used in Joining Flexible Polymeric Sheet Geomembranes.
 10. ASTM D4833/D4833M - Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products.
 11. ASTM D5199 - Standard Test Method for Measuring Nominal Thickness of Geosynthetics.
 12. ASTM D5397 - Standard Test Method for Evaluation of Stress Crack Resistance of Polyolefin Geomembranes Using Notched Constant Tensile Load Test.
 13. ASTM D5596 - Standard Test Method for Microscopic Evaluation of the Dispersion of Carbon Black in Polyolefin Geosynthetics.
 14. ASTM D5641 - Standard Practice for Geomembrane Seam Evaluation by Vacuum Chamber.
 15. ASTM D5721 - Standard Practice for Air-Oven Aging of Polyolefin Geomembranes.
 16. ASTM D5885/D5885M - Standard Test Method for Oxidative Induction Time of Polyolefin Geosynthetics by High Pressure Differential Scanning Calorimetry.
 17. ASTM D5994/D5994M - Standard Test Method for Measuring the Core Thickness of Textured Geomembranes.
 18. ASTM D6365 - Standard Practice for the Nondestructive Testing of Geomembrane Seams Using the Spark Test.
 19. ASTM D6392 - Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods.

20. ASTM D6693 - Standard Test Method for Determining Tensile Properties of Nonreinforced Polyethylene and Nonreinforced Flexible Polypropylene Geomembranes.
 21. ASTM D6747 - Standard Guide for Selection of Techniques for Electrical Leak Location of Leaks in Geomembranes.
 22. ASTM D7002 - Standard Practice for Electrical Leak Location on Exposed Geomembranes Using the Water Puddle Method.
 23. ASTM D7007 - Standard Practices for Electrical Methods for Locating Leaks in Geomembranes Covered with Water or Earthen Materials.
 24. ASTM D7238 - Standard Test Method for Effect of Exposure of Unreinforced Polyolefin Geomembrane Using Fluorescent UV Condensation Apparatus.
 25. ASTM D7466/D7466M - Standard Test Method for Measuring Asperity Height of Textured Geomembranes.
- B. Geosynthetic Research Institute (GRI) Standards:
1. GRI GM 9 - Cold Weather Seaming of Geomembranes.
 2. GM 14 - Selecting Variable Intervals for Taking Geomembrane Destructive Seam Samples Using the Method of Attributes.
 3. GRI GM 17 - Test Methods, Test Properties, and Testing Frequency for Linear Low Density Polyethylene (LLDPE) Smooth and Textured Geomembranes.
 4. GRI GM 19a: Seam Strength and Related Properties of Thermally Bonded Homogeneous Polyolefin Geomembranes.
- C. U.S. Environmental Protection Agency Technical Guidance Document "Quality Control Assurance and Quality Control for Waste Containment Facilities," EPA/600/R-93/182, September 1993, 305 pgs.

1.03 SUBMITTALS

- A. The following submittals shall be provided to and approved by OWNER prior to delivery of geomembrane to the site or mobilization of the geomembrane INSTALLER'S crew or equipment:
1. INSTALLER shall supply information from the resin manufacturer regarding the resin type, properties as specified herein, and production dates of the resin used for this project. The resin type identification shall include the cell classification of the resin.
 2. INSTALLER shall submit from the geomembrane sheet manufacturer, test methods and results defining physical properties as specified herein, of the geomembrane to be used for this project. Test results at the frequency specified in the GRI standards of geomembrane furnished for this project shall be submitted, and test results shall be reported with corresponding roll identification numbers.
 3. INSTALLER shall supply a statement of the geomembrane manufacturer's quality control procedures, identification of any resin admixtures, frequency of sampling, methods of material transportation and storage, and acceptance criteria for roll goods delivered to the site.
 4. INSTALLER shall provide submittals describing the geomembrane sheet manufacturer's details of any factory seaming process proposed. Roll test results which may not be available prior to construction (i.e., environmental stress crack) shall be presented as preliminary prior to construction, with final test results submitted or affected rolls within the construction time frame.
 5. INSTALLER shall submit from the extrudate weld rod manufacturer, verification that the weld rod was manufactured using the same resin as was used in the geomembrane sheets prior to using material.

6. INSTALLER shall submit a proposed panel and seam layout diagram specifying the type and location of all field and factory seams. The layout diagram shall be to scale and used as a construction Plan and shall include all necessary dimensions and details. The layout diagram shall be compatible with the panel and seam layout requirements specified in this Section.
 7. INSTALLER shall submit an installation schedule.
 8. INSTALLER shall submit a list of personnel performing field supervision, and quality control, along with experience records and resumes.
 9. INSTALLER shall submit a list of equipment types proposed to be used in panel layout, membrane seaming, and destructive and nondestructive testing.
- B. The INSTALLER shall remit the following during geomembrane Installation:
1. INSTALLER shall, at the end of each working day provide a detailed report of work completed that day, including:
 - a. Panel Placement.
 - b. Trial Welds Results.
 - c. Subgrade Acceptance Form.
 - d. Seams.
 - e. Seam Testing (air and vacuum tests).
 - f. Destructive Tests.
 - g. Repair Log.
 2. ENGINEER shall review with the INSTALLER and sign the above report at the end of each day. ENGINEER shall be provided with a copy not more than 24 hours from the date of the report.
- C. INSTALLER shall update their liner layout drawings on a daily basis. The drawings shall include all panel locations and numbering, seam locations and numbering, and test locations and numbering. The INSTALLER shall maintain a current liner layout drawing on the construction site at all times. At the request of OWNER or ENGINEER a copy of the current liner layout drawing will be submitted with 24 hours.
- D. INSTALLER shall submit final as-built liner layout drawing(s) to ENGINEER within 14 calendar days of completion of the liner work. Drawings shall be submitted in paper and digital form.
- E. Quality control certificates indicating resin type, properties as specified herein, and production dates shall be provided with each shipment of extrudate rods delivered to the site no later than the time of delivery.
- F. Prior to the installation of any geomembrane, the INSTALLER shall submit INSTALLER'S certification in writing that the surface upon which the geomembrane is to be installed is acceptable (complete form contained at end of this Section).
- G. Submit material delivery and installation schedule for incorporation into the Project schedule.

1.04 EXPERIENCE

- A. The geomembrane installation shall be performed under the direct supervision of a single field supervisor who must remain on-site throughout installation, including inspection of the surface upon which the geomembrane is to be installed, geomembrane handling and storage, panel layout and placement, seaming, seam testing, panel and seam repair, installation of appurtenances, anchorage and other geomembrane-related work. The

field supervisor shall have a personal geomembrane installation record totaling at least 2 million square feet.

1.05 PRE-INSTALLATION MEETING

- A. Representatives of the INSTALLER shall attend a meeting prior to installation of the geomembrane to discuss details of the proposed design, installation, and schedule.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Raw Materials:
 - 1. Smooth and textured LLDPE geomembrane, and extrudate rods used for this project shall be manufactured of new, first quality resins, designed specifically for use in flexible membrane liner installations.
 - 2. LLDPE resin used in manufacturing geomembranes used for this Project shall meet requirements set forth in the latest revision of the Geosynthetics Research Institute (GRI) for LLDPE (GRI GM 17).
 - 3. Recycled Polymer shall not be added to the resin. However, the resin may contain polymer reclaimed during the manufacturing process if reclaimed polymer content does not exceed 10 percent by weight.
- B. Geomembrane Roll Goods:
 - 1. LLDPE geomembrane sheets used for this project shall meet the requirements set forth in the latest revision of the Geosynthetics Research Institute (GRI) for LLDPE, both smooth and textured (GRI GM 17).
 - 2. The geomembranes shall consist of unreinforced high density polyethylene containing at a maximum 3 percent by weight additives, fillers, or extenders.
 - 3. The geomembranes shall be free of holes, blisters, striations, undispersed raw material, and contamination by foreign matter.
 - 4. The geomembranes shall be supplied as a continuous sheet with no factory seams in rolls. Each roll shall be identified and labeled with the thickness of the geomembrane, length and width, manufacturer, lot number, and roll identification number. This identification number shall be used to identify roll location on the panel layout as-built drawing.
- C. Extrudate: Resin used in the polyethylene extrudate shall be the same as that used to manufacture the geomembrane sheets. Extrudate rods are to be delivered in original containers with the manufacturer's labeling. Extrudate rods shall be free of dirt, grease, moisture, other contaminants, and shall be free of damage.
- D. Neoprene Foam: Closed cell, weatherproof, black neoprene foam with adhesive backing suitable for long-term sun and liquid exposure. Dimensions shall be as specified on the DRAWINGS.
- E. Clamped Boots: Boots required to seal the LLDPE geomembrane to the structures passing through it shall be made of the same materials as the geomembrane. The boots shall be fabricated so that all field assembly, welding, and seam testing can be accomplished using equipment and procedures regularly employed in the field for equipment and LLDPE geomembrane installation. Smooth geomembrane shall be used in all geomembrane boots.

- F. Banding Straps (if required): Type 302 stainless steel banding straps suitable for use on the pipe diameters shown on the DRAWINGS. Banding strap dimensions shall be as specified on the DRAWINGS. All surfaces of the banding straps shall be machined smooth to prevent tearing or puncturing of the LLDPE pipe boots. Outer lip of boot shall be sealed with silicone sealant as shown on Drawings.
- G. Bentonite: Bentonite shall be used to fill the annular space between boot and the pipe penetrating the liner as shown on the Drawings.

2.02 EQUIPMENT

- A. Extruding equipment shall be equipped with a temperature gauge at the barrel and nozzle.
- B. Fusion equipment shall be equipped with a temperature gauge capable of continuous monitoring.
- C. Provide digital or dial continuous temperature recording instruments, in satisfactory working condition, with each welding unit. Welding equipment shall not be operated without functioning temperature recording instruments for measuring geomembrane sheet temperature.
- D. A coupon cutter and a calibrated tensiometer shall be provided for in-field seaming pre-qualification testing and destructive sample testing.
- E. Store, transport, and operate all equipment to avoid damage to geomembranes.
- F. Glass top of each vacuum box must be clear and free of scratches for easy reading of pressure gauge. The sealing gasket shall be intact and functioning to form close seals during testing.
- G. OWNER or ENGINEER reserves the right to order the INSTALLER to remove any equipment that in OWNER or ENGINEER'S opinion is not satisfactory. The INSTALLER will remove the equipment promptly from the construction site and replace the unsatisfactory equipment with suitable equipment within 24 hours.

PART 3 EXECUTION

3.01 SUBGRADE INSPECTION

- A. Protect from.

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APPENDIX A

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Construction Quality Assurance Program

Grand Rapids Public Utilities
Commission

Phases 1-4 and Kettle D Final Cover
Modifications

January 2026

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1.0 INTRODUCTION

This manual outlines Construction Quality Assurance (CQA) procedures for the installation of the Grand Rapids Public Utilities Commission Phases 1-4 and Kettle D Final Cover Modifications facility near Grand Rapids in Itasca County, Minnesota. This manual addresses survey requirements, soils, piping, and geosynthetic components of the final cover systems and is to be used as the basis of the overall CQA program.

The overall goal of this CQA program is to ensure that proper construction techniques and procedures are used and to verify that the materials and installation techniques used meet the project design requirements. At completion of the work, the program will culminate in a certification report which documents that the project has been constructed in substantial accordance with the design standards and specifications.

1.1 DEFINITIONS

Quality Assurance: Means and actions employed by Owner to assure conformity of the materials and installation with the approved drawings, specifications, and other project requirements.

Quality Control: Actions taken by the product manufacturers, installers, contractor, and subcontractors to ensure that materials and workmanship meet the requirements of the drawings, specifications, and other project requirements.

Final Cover System: Refers to a final cover system.

Technical Specifications: A document produced by the Designer declaring minimum values of performance of construction materials.

Subgrade: The surface of the underlying soil prepared to receive the lining system.

Certification Report: A report documenting construction procedures, and that the construction was carried out according to approved drawings and specifications, and this CQA plan.

1.2 PARTIES

The parties discussed in this section are associated with the ownership, design, supply, manufacture, transportation, installation, and quality assurance of a component of the landfill, such as the final cover system or landfill gas system. The typical parties involved and their functions are described below:

Owner: The party that owns and operates the facility that is responsible for the overall coordination of CQA activities. The Owner is also responsible for selecting the necessary parties associated with construction.



Designer: The firm responsible for preparing the engineering design, associated plans, and specifications for the facility. The Designer for the project shall be a registered professional engineer in the State of Minnesota. The Designer may provide clarification necessitated during construction.

Quality Assurance Contractor (QAC): A firm, independent of the Owner, that observes tests and documents construction activities on behalf of the Owner. The QAC will identify and notify the Owner of any deviations or problems that arise during construction and assist in resolution. The QAC is also responsible for preparation of the construction certification report required for submittal to the Minnesota Pollution Control Agency (MPCA). The QAC will have an individual identified as the CQA Officer. The CQA Officer will be a registered professional engineer in the State of Minnesota. The QAC may also be denoted as the ENGINEER in the Technical Specifications. For this project, the QAC is also responsible for marking and recording the necessary grades. The QAC will provide grade verification of necessary precedent layers thicknesses as well as locations and elevations of gas mitigation components.

Contractor: This firm is mainly responsible for the earthwork preparation and construction of the soil components of the lining system. The Contractor typically prepares the subgrade on which the geosynthetics are placed. The contractor may also be responsible for placing the soil materials over the lining system. In addition, the contractor may install other components associated with the leachate collection system.

Geosynthetic Manufacturer (GM): The GM is the firm or firms responsible for the production and supply of the various geosynthetic components. The geosynthetic manufacturer will be responsible for providing QC documentation that the materials meet the material requirements of the drawings, specifications, and other project requirements. The GM is responsible for the condition of the product until the material is accepted by the Owner on-site.

Geosynthetic Installer (GI): The GI is responsible for field handling, storing, placing, seaming, loading, and other aspects of the installation of geosynthetics.

Quality Assurance Laboratory (QAL): Firm that performs necessary testing on samples taken from the site.



2.0 SUBGRADE AND BERMS

2.1 GENERAL

The subgrade and berms serve as the components on which the improved cover system is to be constructed.

2.2 MATERIAL QUALITY CONTROL

Subgrade soil shall consist of existing final cover soil which is graded to the design contours shown on the project drawings. Vegetation and other deleterious material shall be removed by the CONTRACTOR as part of the subgrade preparation. The subgrade shall meet the Buffer Soil specification provided in the project manual. Material for the precedent soil and berms may either be on-site or imported, depending on use and material availability. Placement of the subgrade soils may either be on-site or imported, depending on use and material availability. Testing may be required prior to use, depending on the source and the designated use. On-site soils are suitable for use as long as there are no foreign objects visible and no organic soils are encountered, which must be removed and replaced with suitable soil.

2.3 OBSERVATION AND DOCUMENTATION

No unsuitable material will be used in the subgrade or in the subsequent soil layers of the final cover system. Construction activities will be documented. The QAC shall document the grades and elevations after surface preparation.

2.4 SURVEY

The survey of specific locations will provide the basis for record drawings. The survey will be performed by the QAC. The survey will be conducted on a grid and at major breaks. Grading tolerances are provided in Table 1.

2.5 TESTING

The material will be tested in accordance with the project requirements. The surface will be prepared to be capable of supporting construction of the overlaying layers. Soil material specifications are provided in Table 2.



3.0 GEOMEMBRANE

3.1 GENERAL

Geomembranes are the geosynthetic component of the composite final cover system. This section is applicable to the Polyethylene (PE) geomembranes used in final cover systems. CQA testing requirements are included in Table 3.

3.2 MATERIAL QUALITY CONTROL

3.2.1 Raw Material

The resin used to make geomembrane sheet shall be tested in accordance with the manufacturer's guidelines. Material ingredients of the geomembrane shall be randomly sampled by the manufacturing plant to ensure compliance with these specifications. Test reports of quality control tests, such as specific grading, melt flow index and carbon black content will be provided.

3.2.2 Geomembrane Material Specifications

The GEOSYNTHETIC MANUFACTURER shall provide the ENGINEER with the following:

1. A quality control certificate indicating conformance with the Geosynthetics Research Institute's (GRI) GEOSYNTHETIC MANUFACTURER 13 for HDPE or GEOSYNTHETIC MANUFACTURER 17 for LLDPE.
2. Certification that property values given in the properties sheet are guaranteed by the GEOSYNTHETIC MANUFACTURER.
3. Certification that 100 percent of every roll has been visually inspected for holes, cracks, thin spots, tears, punctures, blisters, or any other foreign material.

The GEOSYNTHETIC MANUFACTURER shall provide the following information to the ENGINEER for each roll delivered to the site:

- Name of the manufacturer and fabricator
- Name and type of liner
- Thickness of liner
- Batch code
- Date of fabrication
- Physical dimensions
- Panel number
- Location and method of storage at the site

This information shall accompany each roll delivered to the job site.

The ENGINEER will examine results and report any nonconformance to Owner. QC results will be reviewed and accepted or rejected by the ENGINEER prior to deployment.



3.3 SUBGRADE

When the geomembrane is placed, the CONTRACTOR shall be responsible for preparing the subgrade for the geomembrane. The GEOSYNTHETIC INSTALLER shall be responsible for installation of geosynthetic cushion simultaneously with the geomembrane, if applicable. Once complete, the ENGINEER shall examine the surface and verify the adequacy of the documentation completed and any test data required. When the ENGINEER deems the surface acceptable, the ENGINEER shall prepare an acceptance certificate for the Owner. The acceptance certificate shall state the following at a minimum:

- Documentation of the underlying geosynthetics is complete and any necessary tests show satisfactory results.

The GEOSYNTHETIC INSTALLER will also inspect the precedent cover system and will sign the subgrade acceptance forms.

At any time during installation of the geomembrane, the ENGINEER shall inform the owner of any areas that are unacceptable. Such defects in the subgrade shall be corrected by the appropriate contractor such that repaired areas meet the project specifications. If additional work is required on a precedent liner system it is the GEOSYNTHETIC INSTALLER's responsibility to notify the CONTRACTOR and OWNER of such work and also provide this notification to the ENGINEER.

3.4 OBSERVATIONS AND DOCUMENTATION

3.4.1 Roll Inspections

Prior to placement of any lining material, rolls shall be observed for defects and damage by both the ENGINEER and the GEOSYNTHETIC INSTALLER. Storage of the rolls shall be in a location that minimizes on-site handling and the possibility of damage.

Each roll shall have a roll label which clearly identifies the manufacturing information. This information along with the panel number and location/method of on-site storage, shall be recorded by the ENGINEER. The ENGINEER shall also visually observe each roll for imperfections or damage including holes, cracks, thin spots, tears, punctures, blisters, or the presence of foreign material.

3.4.2 Placement

3.4.2.1 Equipment

The installer shall use equipment that does not damage the geomembrane by handling, trafficking, excessive heat, leakage of oils or other means. The method and equipment used to unroll the material shall not cause scratches, crimps, damage, or excessive rutting of the subgrade.



3.4.2.2 Method of Deployment

No personnel working on the geosynthetic liner shall smoke, wear damaging shoes, or engage in other activities that could damage the geomembrane. The method used to place the panels shall minimize wrinkles.

Adequate temporary loading and/or anchoring shall be provided to prevent uplift of the liner by wind. The anchoring system shall not damage the liner.

The installer shall inspect each panel after placement and prior to seaming for damage. Damaged panels or portions of damaged panels that have been rejected shall be marked and their removal from the work area recorded.

3.4.2.3 Crest Anchorage System

The anchor trench shall be excavated to the lines and widths shown on the drawings prior to geomembrane placement. The trench shall be drained to prevent ponding or softening of adjacent soils where trench is open. The corners of the trench shall be slightly rounded to avoid sharp bends in the geomembrane. The trench shall be backfilled and compacted by light compaction equipment to the required grade.

Since backfilling the anchor trench can affect material bridging at the toe of slope, consideration should be given to backfilling the liner at its most contracted state, preferably during the cool of the morning or extended period of overcast skies. Care should be taken when backfilling the trenches to prevent damage to the geosynthetics.

3.4.3 Trial Seams

To verify that seaming conditions are adequate, trial seams shall be performed on fragmented pieces of geomembrane. Trial seams shall be made as follows:

1. Twice per day (typically first thing in the morning and again after lunch).
2. Anytime equipment is turned off.
3. For each seaming apparatus.
4. Other times as deemed necessary by the ENGINEER.

A test weld, long enough to obtain required samples shall be run at the frequency described above (typically at least 5 feet). The test weld shall be recorded on the GEOSYNTHETIC INSTALLER's trial weld log with date, ambient temperature, and welding machine number.

Three adjoining specimens each 1-inch wide shall be cut from the trial seam sample. The specimens shall be tested respectively in shear and in peel using a field tensiometer and they shall not fail in the seam. If any specimen fails, the entire operation shall be repeated. If the additional specimen fails, the seaming apparatus and seamer shall not be accepted and shall not be used for seaming until the



deficiencies are corrected and two consecutive successful full trial welds are achieved. The ENGINEER will observe and document results of trial seam procedures.

3.4.4 Field Seaming

3.4.4.1 Seam Layout

Prior to liner installation, panel layout drawings shall be submitted and approved by the ENGINEER and Owner. Seams should typically be oriented parallel to the line of maximum slope. All seam-numbering and panel-numbering systems shall be agreed upon prior to installation. Individual liner panels shall be laid out and overlapped as required prior to welding. The area to be welded shall be cleaned prior to welding. Panel locations shall be recorded by the ENGINEER on the record drawings.

3.4.4.2 Seaming Equipment and Accessories

The fusion welding apparatus will be an automated, vehicle-mounted device that produces a double seam enclosing a void. This apparatus shall be equipped with gauges permitting a direct reading of the applicable temperatures. The extrusion welding apparatus shall also be equipped with gauges giving the temperatures of the apparatus at the nozzle.

3.4.4.3

Seaming shall not take place during precipitation, in the presence of excess moisture or in the presence of excessive winds. Seaming shall not take place at ambient temperatures less than 40°F unless authorized by the Owner and ENGINEER.

3.4.4.4 General Seaming Procedures

The rolls of geomembrane shall be overlapped as required by the manufacturer's specifications.

A base T-seam shall not be closer than 10 feet from the toe of the slope. Seams shall be aligned with the least possible number of wrinkles and "fish mouths". Excessively large wrinkles and all fish mouths shall be relieved and cap-stripped.

The ENGINEER shall document field seam locations and panel overlaps. Panels that are factory fabricated or factory seamed will undergo the same observation and documentation as panels that are field seamed.

3.5 TESTING

3.5.1 Nondestructive Testing

The installer shall nondestructively test all field fusion seams over their full length by air-pressure testing. Extrusion-welded seams shall be tested by vacuum gauge. All seams must be inspected by the QAC and the Installer, and any defects marked and repaired.



3.5.1.1 Air Pressure Testing

This type of testing will be performed on the majority of the seams since the double fusion-seaming method is the method of choice.

Generally, the equipment shall be comprised of the following:

- An air pump capable of providing the required pressure;
- A rubber hose with fittings and connections;
- A sharp hollow needle or other approved pressure-feed device.

The following procedures shall be followed:

1. Seal both ends of the seam to be tested.
2. Insert needle or other approved pressure-feed device into the tunnel created by the fusion weld.
3. Energize the air pump to 27-40 psi; close the valve and sustain pressure for a minimum of five minutes.

If loss of pressure exceeds 3 psi or does not stabilize, locate the faulty area, repair, and retest (either vacuum or air test).

3.5.1.2 Vacuum Testing

The equipment shall be comprised of the following:

- A vacuum box assembly consisting of a rigid housing, a transparent viewing window, a soft neoprene gasket attached to the bottom, port hole or valve assembly, and a gauge to indicate chamber vacuum;
- A pump assembly equipped with a pressure controller and pipe connections;
- A rubber pressure/vacuum hose with fittings and connections;
- A bucket and wide brush or spray assembly;
- A soapy solution.

The following procedures will generally be followed:

1. Wet a strip of geomembrane approximately 12 inches by 48 inches with the soapy solution.
2. Place the box over the wetted area.
3. Close the bleed valve and open the vacuum valve.
4. Ensure that a leak-tight seal is created.
5. Energize the vacuum pump and reduce the tank pressure to approximately 5 psi.
6. For a period of approximately 10 seconds, examine the geomembrane through the viewing window for the presence of soap bubbles.

If no bubble appears after 10 seconds, close the vacuum valve, and open the bleed valve, move the box over the next adjoining area with a minimum of 1-inch overlap, and repeat the process. Areas where soap bubbles appear shall be marked and repaired in accordance with Section 5.6.

The ENGINEER shall document the following for each non-destructive seam test:



- Date;
- Seam number;
- Welder I.D.;
- Seamer;
- Air Pressure.

3.5.2 Destructive Testing

Destructive seam tests, including extrusion weld seams, shall be performed every 500 lineal feet of seam, or at least one per seaming device per crew per day. This requirement will apply to all seams with the exception of the seam connecting the base liner to the cover system liner. The purpose of these tests is to check that welds are fully integrated with each other and to evaluate seam strength. Seam strength testing shall be done as the seaming work progresses, not at the completion of field seaming.

3.5.2.1 Location and Frequency

The ENGINEER shall select locations where seam samples will be cut. These locations shall be estimated as follows:

1. A minimum frequency of one test location per 500 feet of seam length, or at least one per seaming device per crew per day. This minimum frequency is to be determined as an average taken throughout the entire facility.
2. The seaming technician shall not be informed in advance of the locations where the seam samples will be taken.

3.5.2.2 Sampling Procedure

Sampling shall be cut by the installer as the seaming progresses in order to have laboratory test results before the geomembrane is covered by another material. The GEOSYNTHETIC INSTALLER shall:

1. Cut samples.
2. Assign a number to each sample that is to be based upon seam and sample number and mark it accordingly.
3. Record sample location on construction record drawings.
4. All holes in the geomembrane resulting from destructive seam sampling shall be immediately repaired in accordance with repair procedures described in Section 5.6. The continuity of the new seams in the repaired area shall be tested according to this section.

3.5.2.3 Size of Samples

The samples for field-testing shall be taken by the installer. These samples shall be 1 inch by 12 inches with the seam-centered perpendicular to the length.

If both samples pass the field tensiometer test, the initial samples shall be cut into two parts and distributed as follows:

1. One portion to the installer for laboratory testing (12 inches by 12 inches)
2. One portion to the Owner for archive storage (12 inches by 12 inches)



Final determination of the sample sizes shall be determined prior to liner installation at the preconstruction meeting.

3.5.3 Field Testing

The 1-inch wide strips shall be tested in the field for peel and shear and shall not fail in the seam. If any field test sample fails to pass, then the procedures outlined in this section shall be followed.

3.5.4 Laboratory Testing

Passing tensiometer testing in the field qualifies the sample for laboratory testing.

Destructive test samples shall be packaged and shipped to the geomembrane testing laboratory consultants by overnight mail. The laboratory shall provide test results to the ENGINEER.

Destructive testing involves two techniques: 1) shear testing, and 2) peel testing. Shear testing applies a tensile stress from the top sheet through the weld and into the bottom sheet. Peel testing peels the top sheet back against the overlapped edge of the bottom sheet in order to observe how separation occurs. The peel test indicates whether or not the sheets are continuously and homogeneously connected through the seam. A total of 10 coupons will be subject to testing, for which 5 will be tested in shear and 5 in peel (ASTM 6392). Fusion seam specimens will have both tracks tested in peel.

Both tests (shear and peel) must have a Film Tearing Bond (FTB) type of separation to pass. With an FTB, the polymer material tears indicating a fully integrated connection between top and bottom sheets. It is important that no weld bead/sheet or sheet/sheet interface exists as such an interface might be separated by absorbed chemicals, causing failure of the seam. The criteria for pass/fail are outlined in Table 3.

The ENGINEER shall document the following for each non-destructive seam test:

- Location;
- Seam number;
- Welder I.D.;
- Seamer;
- Sample I.D.

3.5.5 Procedures for Destructive Test Failure

The following procedures shall apply whenever a sample fails a destructive test. The GEOSYNTHETIC INSTALLER has two options:

1. Reconstruct the seam between the two adjacent passed test locations.
2. Trace the welding path to intermediate locations (10 feet minimum from the point of the failed test in each direction) and take a sample for an additional field test at each location. If these additional samples pass the field test, then full laboratory samples shall be taken. If these laboratory samples



pass the tests, then the seam is reconstructed between these locations. If either laboratory sample fails, then the process is repeated to establish the zone in which the seam shall be reconstructed.

All acceptable seams must be bound by two locations from which samples passing laboratory destructive tests have been taken. The GEOSYNTHETIC INSTALLER shall document all actions taken in conjunction with destructive test failures; e.g., capping of failed seam area.

3.6 DEFECT AND REPAIRS

All seams and non-seam areas of the geomembrane shall be examined by the installer for identification of defects, holes, blisters, undispersed raw materials, and any sign of contamination by foreign matter.

3.6.1 Evaluation

Each suspect location both in seam and non-seam areas shall be nondestructively tested using the methods described in this section as appropriate. Each location that fails the nondestructive testing shall be marked by the GEOSYNTHETIC INSTALLER and repaired. Work shall not proceed with any materials that will cover locations that have been repaired until non-destructive test results are recorded.

3.6.2 Repair Procedures

All portions of the geomembrane exhibiting a flaw or failing a destructive or nondestructive test shall be repaired. Several procedures exist for the repair of these areas. The final decision as to the appropriate repair procedure shall be agreed upon between the ENGINEER, GEOSYNTHETIC INSTALLER, and Owner. The procedures available include:

1. Patching: Used to repair large holes, tears, and contamination by foreign matter.
2. Buffing and re-welding: Used to repair small sections of extruded seams.
3. Spot welding or seaming: Used to repair small tears, pinholes, or other minor localized flaws.
4. Capping: Used to repair areas of inadequate seams that have an exposed edge.

In addition, the following provisions shall be satisfied:

1. Surfaces of the geomembrane that are to be repaired shall be abraded no more than one hour prior to the repair.
2. Surfaces must be clean and dry at the time of repair.
3. Seaming equipment used in repairing procedures must be approved.

The repair procedures, materials, and techniques shall be approved in advance of the specific repair by the ENGINEER.

Patches or caps shall extend at least 6 inches beyond the edge of the defect, and all corners of patches shall be rounded with a radius of at least 3 inches.



3.6.3 Verification of Repairs

Each major repair requiring a patch or cap shall be identified in the GEOSYNTHETIC INSTALLER's repair log. Each repair shall use nondestructive test methods described in this section as appropriate. Repairs that pass the nondestructive test shall be taken as an indication of an adequate repair. Failed tests indicate that the repair shall be re-done and re-tested until a passing test result is obtained. The ENGINEER may choose to take a destructive test in an area of repair. The ENGINEER shall document the location of each type of repair and the type of repair made.

3.7 FINAL ACCEPTANCE

The geomembrane must be final observed for completion of liner construction activities. The final inspection shall be performed by the ENGINEER, GEOSYNTHETIC INSTALLER and Owner. The ENGINEER and GEOSYNTHETIC INSTALLER shall document completion or incompleteness. The GEOSYNTHETIC INSTALLER shall repair or complete any testing that has been determined incomplete. The ENGINEER and GEOSYNTHETIC INSTALLER shall then re-inspect the repairs or testing to complete final inspection. GEOSYNTHETIC INSTALLER will submit to ENGINEER results of all testing conducted, including the pre-welding tests, non-destructive tests, and destructive tests performed onsite. GEOSYNTHETIC INSTALLER must provide a report following completion of the project that includes the results for the destructive test samples from an independent laboratory, pre-seaming tests, on-site destructive and non-destructive tests, certificate of completion and an as-built drawing.

Geomembrane material shall be final inspected prior to being covered by overlying geosynthetic materials or soil layers. Vehicle use directly over the geomembrane is prohibited as a standard means of deployment. The geosynthetic lining system shall be accepted when the final observation and documentation is complete and approved by the ENGINEER and Owner.

3.8 CONFORMANCE WITH PROJECT SPECIFICATIONS

The ENGINEER shall document that the installation and necessary repairs were done in accordance with the project specifications.



4.0 GRANULAR DRAINAGE MEDIA

4.1 GENERAL

The granular drainage media consists of natural material used as a drainage layer in a final cover system.

4.2 MATERIAL QUALITY CONTROL

Samples of the granular drainage media will be tested for grain size distribution and hydraulic conductivity. Testing frequencies are provided in Table 2.

The ENGINEER shall examine the results and report any nonconformance to the Owner. QC results shall be reviewed and accepted or rejected by the ENGINEER prior to installation.

4.3 OBSERVATION AND DOCUMENTATION

Observation of the construction work by ENGINEER or Owner include the following:

- Hauling of material to ensure no damage to underlying geosynthetics;
- Spreading of granular drainage media material to ensure excess wrinkling of underlying geosynthetics does not occur;
- Placement of filter aggregates to ensure pipes are properly bedded and covered;
- Documentation will include; laboratory test data, material information, placement methods and thicknesses, and construction procedures used to prevent migration of fines by run-off into the leachate collection system.

4.4 TESTING

Laboratory test methods and frequencies upon which acceptability evaluations can be based are as provided in Table 2.

CQA testing will be conducted on samples taken from the material during the course of construction. Sampling locations will be selected by ENGINEER or Owner according to the number of required tests. Locations of all tests will be documented for report purposes by ENGINEER.

4.5 DAMAGE AND REPAIRS

Granular drainage media that does not meet the requirements of the CQA Plan or the Specifications will be removed and replaced with suitable material.



4.6 SURVEY

The minimum thickness of soil drainage media shall be as shown on the drawings and extending over the lining system. The thickness of granular drainage media shall be verified on a grid using methods that shall not damage the geosynthetic layer. Grading tolerances are provided in Table 1.

4.7 CONFORMANCE WITH PROJECT SPECIFICATIONS

The ENGINEER shall document that the granular drainage media installation was done in accordance with the project specifications.



5.0 PIPING SYSTEMS

5.1 GENERAL

This section addresses the PVC piping installed in the gas vent details as well as the toe drain perforated pipes. Gas pipes shall be extended vertically to ensure correct performance with installation of additional layers. Toe drain pipes shall sloped to outlets as specified in the drawings.

5.2 MATERIAL QUALITY CONTROL

Material for the gas piping system must meet typical Schedule 80 PVC material requirements. Corrugated toe drain pipes must meet requirements listed in the specifications. The CONTRACTOR (or other piping contractor, if applicable) shall inspect all piping and fittings received at the site and shall verify that piping materials are:

1. In accordance with drawings and specifications (size, SDR ratio, schedule, material).
2. Free of material defects.
3. Undamaged.
4. Resistant to corrosion

CONTRACTOR shall be responsible for storing piping materials in a protected location where they will not be damaged. The ENGINEER shall examine the results and report any nonconformance to the Owner. QC results shall be reviewed and accepted or rejected by the ENGINEER prior to installation.

5.3 OBSERVATION AND DOCUMENTATION

CONTRACTOR shall install piping at locations and elevations as shown on drawings. All piping connections shall be made in accordance with manufacturer's recommendations. Installation of backfill around piping shall be done carefully to ensure damage to the piping does not occur. ENGINEER will document piping types installed, methods of connection/fitting types, and backfilling procedures. Documentation of the piping will include information on the method used to join sections of the pipe.

5.4 DAMAGE AND REPAIRS

Damaged or defective portions of the piping, as determined by ENGINEER, will be removed and replaced.

5.5 CONFORMANCE WITH PROJECT SPECIFICATIONS

The ENGINEER shall document that the piping installation was done in accordance with the project specifications.



6.0 ROOTING ZONE SOILS

6.1 GENERAL

The purpose of the rooting zone soil is to provide soil for vegetation to embed roots and prevent against erosion.

6.2 MATERIAL QUALITY CONTROL

Salvaged existing rooting zone in accordance with the specifications in will be used for this layer.

6.3 OBSERVATION AND DOCUMENTATION

Construction of this layer shall be conducted in a way as to not damage the geosynthetic and granular drainage layers. This layer should also not be densely compact. See the project specifications for additional guidelines for construction of this layer.

6.4 SURVEY

The minimum thickness of this layer shall be 6-inches, extending over the sand drainage layer. The thickness of rooting zone and topsoil layers shall be verified on a grid using methods that shall not damage the granular drainage layer. Grading tolerances are provided in Table 1.

6.5 CONFORMANCE WITH PROJECT SPECIFICATIONS

The ENGINEER shall document that the rooting zone soil installation was done in accordance with the project specifications.



7.0 VEGETATIVE SOILS (TOPSOIL)

7.1 GENERAL

The vegetative layer will be topsoil capable of sustaining vegetative grasses on the final cover and any other disturbed areas as designated on the drawings.

7.2 MATERIAL QUALITY CONTROL

Either Salvaged topsoil or CONTRACTOR supplied imported topsoil will be used for this layer.

7.3 OBSERVATION AND DOCUMENTATION

The ENGINEER will observe and document the placement methods of the vegetative soils. The CONTRACTOR (or other contractor, if applicable) shall ensure conformance to the project requirements regarding topsoil quality and placement, fertilizer content and application, seed mixture, seeding operations, mulching, and reseeding/repair work to sustain vegetation.

The ENGINEER shall examine the results and report any nonconformance to the Owner. QC results shall be reviewed and accepted or rejected by the ENGINEER prior to installation.

7.4 DAMAGE AND REPAIR

Seeded areas must be guaranteed by the CONTRACTOR to be alive and in satisfactory growth for a period of 1 year. If areas of non-growth or spotty growth are present, they will be reseeded.



8.0 CONSTRUCTION DOCUMENTATION, DOCUMENTATION REPORT, AND RECORD DRAWINGS

8.1 CONSTRUCTION DOCUMENTATION

The QAC will maintain a daily log of activities of the site. The daily log will generally include the following:

1. Date and weather conditions.
2. List of contractor's equipment and all subcontractors at work at the site.
3. A summary of the work completed during the day, including:
4. Work by contractor / subcontractors
5. Grade verification data collected
6. CQA testing and/or samples collected
7. A description of materials used.
8. A list of personnel who visited the site.
9. A summary of project communications that resulted in decisions impacting the construction activities.
10. A description of any work that deviated from the plans and specifications as well as a summary of communications regarding such work.

Photographs should be collected daily or as construction activities change to document overall progress and to show material and construction procedures used. Photographs should also be used to document discussion items, deviations from the plans and specifications, and/or materials and methods used to rectify construction issues. Photographs should be organized and named appropriately, based on subject.

8.2 DOCUMENTATION REPORT

The documentation report is the summary of the construction activities that were documented throughout the project. The construction portion of the report will include discussion of all documented procedures. The report will include results from field and laboratory tests and summarize survey documentation. A summary of the documentation report is as follows:

1. Summary of relevant construction specifications;
2. Photo documentation of all critical aspects of construction (select photographs, labeled);
3. Narrative description of all as-built variances from the plans and/or specifications;
4. Survey documentation of cover system soil components and/or a table of layer thickness measurements;
5. As-built elevations for all pipe inlets and outlets;
6. All material testing results and a review of the results;
7. Geomembrane installation information.
8. A schedule of major events during construction, including start and finish dates;
9. A list of contractors and subcontractors involved in the project;
10. A summary description of procedures and equipment used;
11. Record drawings

The documentation report will be certified by a professional engineer registered in the State of Minnesota.



TABLES



TABLE 1

System Grading Tolerances

GRPUC - Phases 1-4 and Kettle D Final Cover Modifications

Final Cover System Grading Tolerances				
Soil Layer/Surface	Measurement	Method	Pass/Fail Criteria	Frequency
Top of Subgrade	Elevation	Survey	-0.2' to 0.0'	100' grid*
Top of Drainage Layer	Thickness	Survey	0.0' to +0.2', 1' minimum thickness	100' grid*
Top of Rooting Zone & Topsoil	Thickness	Survey	0.0' to +0.2', 1' minimum thickness	100' grid*
Drain Pipes	Elevation Slope	Survey	-0.2 to +0.2 Per drawings	50-feet*

* Also breaks in grade or change in direction.

TABLE 2

Soils Quality Assurance Testing Requirements

GRPUC - Phases 1-4 and Kettle D Final Cover Modifications

Sand Drainage Layer Testing			
Test	Method	Pass/Fail Criteria	Number of Tests (See Note)
Permeability	D2434	1×10^{-3} cm/sec at 90% Standard Proctor density	1/2,000 cubic yards <i>Estimated # of tests required = 13 tests</i>
Grain Size and USCS Classification	D6913, D1140, D2487	Per Specifications	1/2,000 cubic yards <i>Estimated # of tests required = 13 tests</i>

Note: Testing frequency is for in-place conformance testing requirements. See technical specifications for source testing requirements.

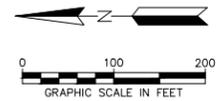
TABLE 3

Geosynthetic Quality Assurance Testing Requirements

GRPUC - Phases 1-4 and Kettle D Final Cover Modifications

Geomembrane Testing		
Test	Reference	Frequency
Material Properties	GRI GM 17	By manufacturer Every roll provided
Visual Inspection	--	Entire sheet
Trial Seam Welding	--	Start of seaming process, any time equipment turned off, at the end of each work day, twice per day minimum, each seamer or seaming apparatus
Non-Destructive Seam Testing	--	All seams/patches
Destructive Seam Strength Test	ASTM D6392; GRI GM 19a	1 test per 500 L.F. seam minimum

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LEGEND

	2030	EXISTING CONTOURS
		PROPERTY LINE
		SECTION LINE
		EXISTING ROADS
		EXISTING TREE LINE
	WP-18	EXISTING MONITORING WELL
	GP-2	EXISTING GAS PROBE
	MH	EXISTING MANHOLE
	GV	EXISTING GAS VENT
	CV	EXISTING CLEANOUT RISER

- NOTES:**
1. TOPOGRAPHIC BASE MAP PREPARED FROM AN AERIAL SURVEY BY HORIZONS, INC. PHOTOGRAPHY ON NOVEMBER 8, 2002. BASE MAP WAS UPDATED WITH A SURVEY BY SEH, INC. ON DECEMBER 15, 2010 OVER PHASES 5, 6, AND 7 AND A GROUND SURVEY BY STANTEC ON APRIL 24, 2023 OVER PHASES 1, 2, 3, 4 AND KETTLE D. KETTLE D PERIMETER ROAD CONTOURS ARE FROM THE KETTLE D FINAL CLOSURE CERTIFICATION REPORT.
 2. HORIZONTAL DATUM IS BASED ON ITASCA COUNTY SOUTH COORDINATE SYSTEM. VERTICAL DATUM IS BASED ON NAVD88.
 3. SPOT ELEVATIONS IN OBSCURED AREAS ARE APPROXIMATE, AND MAY NOT MEET NATIONAL MAP ACCURACY STANDARDS.

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	ISSUED FOR BID	ANN	KAM	01/26/26

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 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: KYLE MORBERG
 SIGNATURE: *[Signature]*
 DATE: 01/26/2026 LICENSE #: 60444

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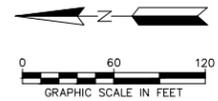
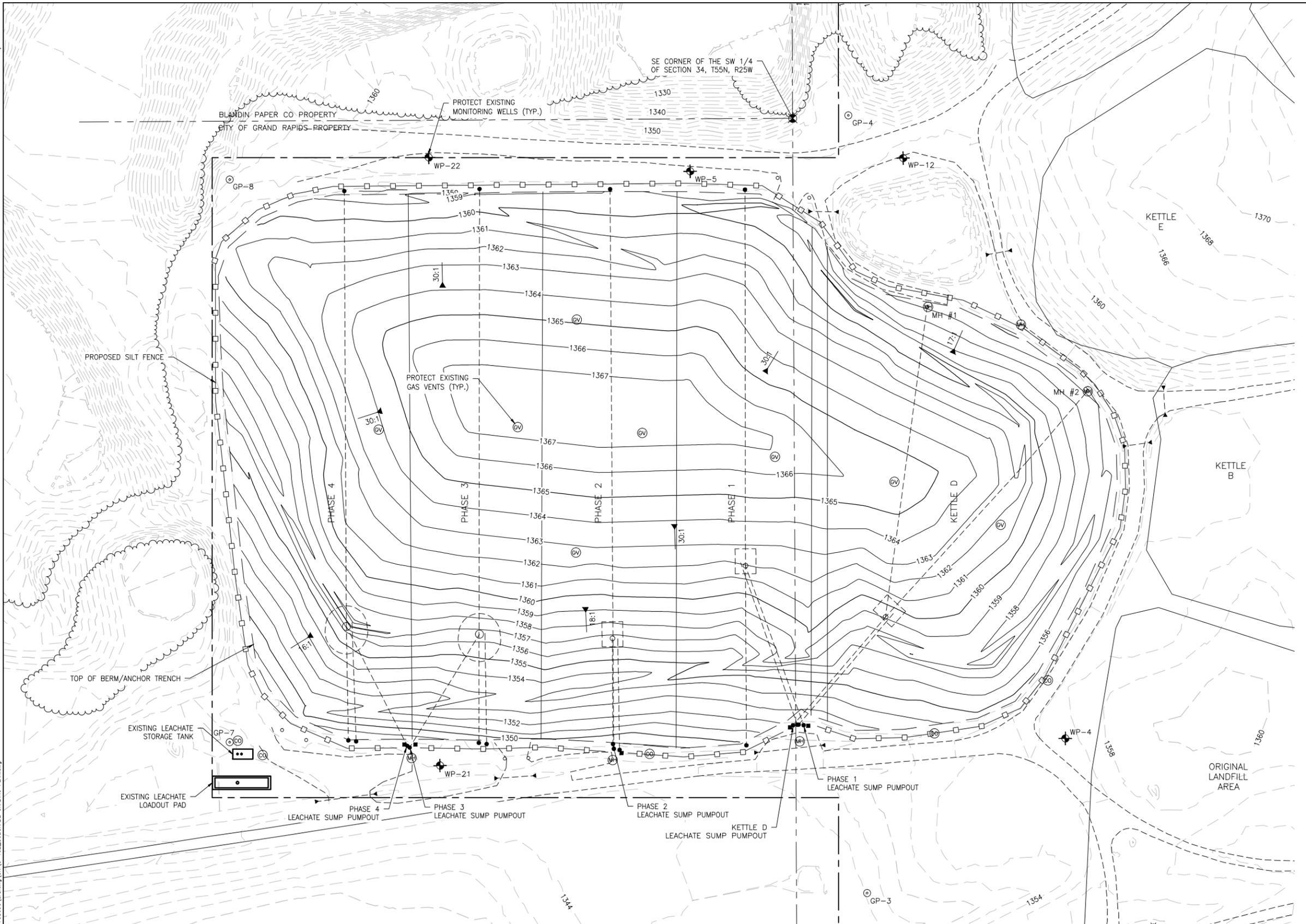
11 East Superior Street, Suite 330
 Duluth, MN 55802
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PROJECT TITLE
 PHASES 1-4 AND KETTLE D
 FINAL COVER MODIFICATIONS

GRAND RAPIDS PUBLIC
 UTILITIES COMMISSION
 SLUDGE LANDFILL FACILITY
 GRAND RAPIDS, MINNESOTA

SHEET TITLE
 EXISTING CONDITIONS

DWN BY ANN	CHK'D EDK	APP'D KAM	DWG DATE JANUARY 2026
PROJECT NO. 227708696	SHEET NO. C-101	SCALE AS SHOWN	REV NO. 0



LEGEND

	2030	EXISTING CONTOURS
	2030	PROPOSED CONTOURS
		PROPERTY LINE
		SECTION LINE
		EXISTING ROADS
		EXISTING TREE LINE
	WP-18	EXISTING MONITORING WELL
	GP-2	EXISTING GAS PROBE
	MH	EXISTING MANHOLE
	GV	EXISTING GAS VENT
	CR	EXISTING CLEANOUT RISER
		PROPOSED SILT FENCE

- NOTES:**
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 4. PROTECT EXISTING UTILITIES (CLEANOUTS, RISERS, PUMPOUTS, BOLLARDS, ELECTRIC PEDISTALS, ETC.).
 5. PROPOSED CONTOURS SHOWN HERE ARE TOP OF GEOMEMBRANE SURFACE.

0	ISSUED FOR BID	ANN	KAM	01/26/26
REV	REVISION DESCRIPTION	DWN	APP	REV DATE

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 PRINT NAME KYLE MORBERG
 SIGNATURE [Signature]
 DATE 01/26/2026 LICENSE # 60444

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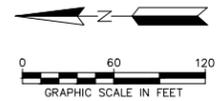
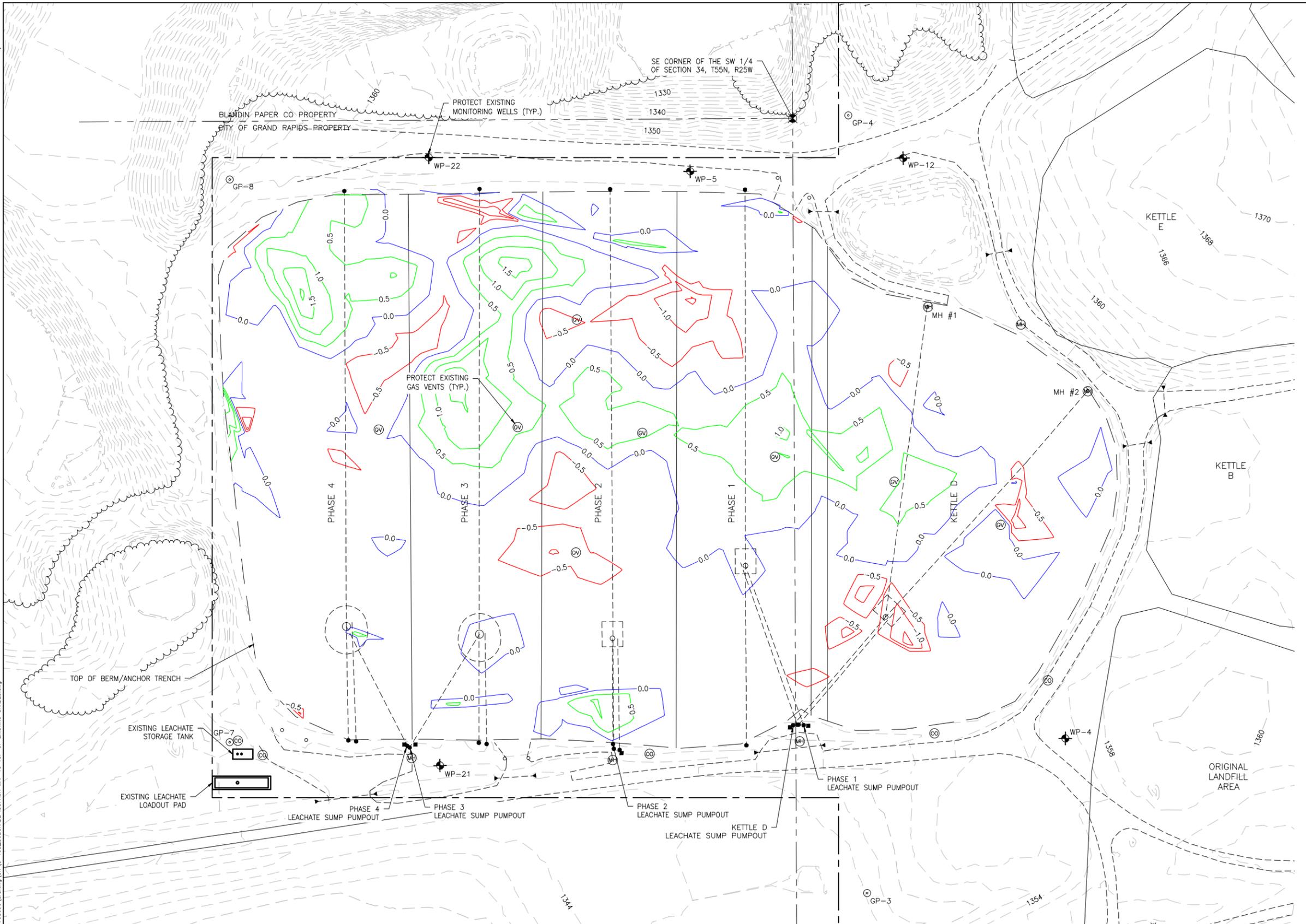
PROJECT TITLE
 PHASES 1-4 AND KETTLE D
 FINAL COVER MODIFICATIONS
 GRAND RAPIDS PUBLIC
 UTILITIES COMMISSION
 SLUDGE LANDFILL FACILITY
 GRAND RAPIDS, MINNESOTA

SHEET TITLE
 SUBGRADE GRADING PLAN

DWN BY	CHK'D	APP'D	DWG DATE
ANN	EDK	KAM	JANUARY 2026
PROJECT NO.	SHEET NO.	SCALE	AS SHOWN
227708696	C-102		
		REV NO.	0

Plot Date & Time: 26 January 2026 11:03 AM

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LEGEND

	1350	EXISTING CONTOURS
	-1	CUT CONTOUR
	1	FILL CONTOUR
	0	EVEN CONTOUR
		PROPERTY LINE
		SECTION LINE
		EXISTING ROADS
		EXISTING TREE LINE
	WP-18	EXISTING MONITORING WELL
	GP-2	EXISTING GAS PROBE
	MH	EXISTING MANHOLE
	GV	EXISTING GAS VENT
	CR	EXISTING CLEANOUT RISER

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 4. PROTECT EXISTING UTILITIES (CLEANOUTS, RISERS, PUMPOUTS, BOLLARDS, ELECTRIC PEDISTALS, ETC.).

VOLUMES	QUANTITY	UNIT
CUT	2,980	CY
FILL	3,145	CY
NET	165	CY

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	ISSUED FOR BID	ANN	KAM	01/26/26

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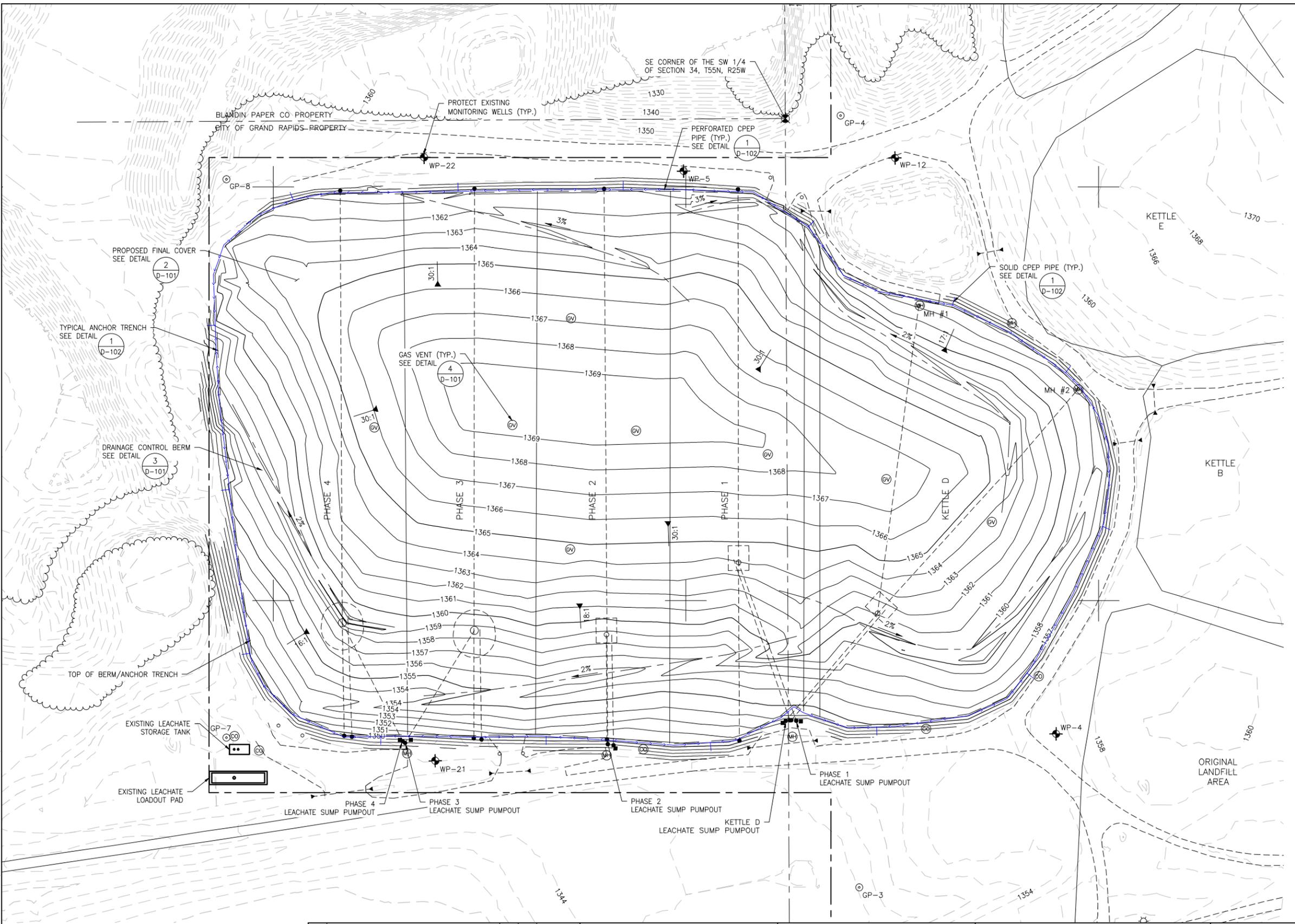
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PROJECT TITLE
 PHASES 1-4 AND KETTLE D
 FINAL COVER MODIFICATIONS
 GRAND RAPIDS PUBLIC
 UTILITIES COMMISSION
 SLUDGE LANDFILL FACILITY
 GRAND RAPIDS, MINNESOTA

SHEET TITLE
 ISOPACH MAP
 TO SUBGRADE

DWN BY ANN	CHK'D EDK	APP'D KAM	DWG DATE JANUARY 2026
PROJECT NO. 227708696	SHEET NO. C-103	SCALE AS SHOWN	REV NO. 0



LEGEND

	2030	EXISTING CONTOURS
	2030	PROPOSED CONTOURS
		PROPERTY LINE
		SECTION LINE
		EXISTING ROADS
		EXISTING TREE LINE
	WP-18	EXISTING MONITORING WELL
	GP-2	EXISTING GAS PROBE
	MH	EXISTING MANHOLE
	GV	EXISTING GAS VENT
	CO	EXISTING CLEANOUT RISER
		DRAINAGE CONTROL BERM
		PROPOSED DRAINTILE

- NOTES:**
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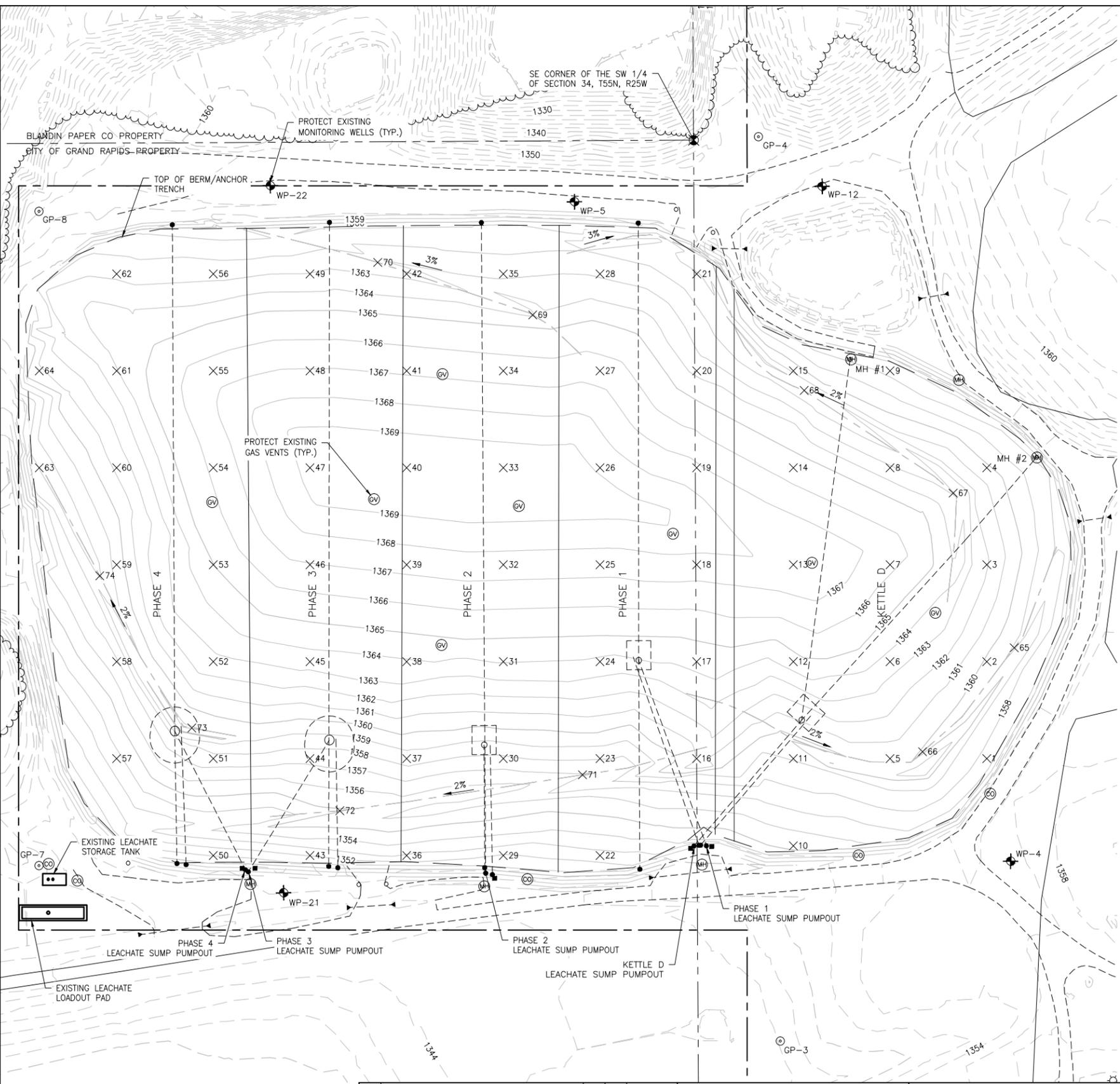
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SHEET TITLE
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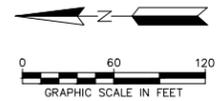
DWN BY	CHK'D	APP'D	DWG DATE
ANN	EDK	KAM	JANUARY 2026
PROJECT NO.	SHEET NO.	SCALE	AS SHOWN
227708696	C-104		
		REV NO.	0

Plot Date & Time: 26 January 2026 11:09 AM

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PT. NO.	NORTHING	EASTING	TOP OF SUBGRADE ELEV.	TOP OF FINAL COVER ELEV.
1	161576.4	556944.7	1355.6	1357.6
2	161576.4	557044.7	1357.8	1359.8
3	161576.4	557144.7	1360.1	1362.1
4	161576.4	557244.7	1358.2	1360.2
5	161676.4	556944.7	1358.2	1360.2
6	161676.4	557044.7	1361.6	1363.6
7	161676.4	557144.7	1364.3	1366.3
8	161676.4	557244.7	1361.2	1363.2
9	161676.4	557344.7	1355.7	1357.7
10	161776.4	556854.7	1353.2	1355.2
11	161776.4	556944.7	1357.1	1359.1
12	161776.4	557044.7	1362.6	1364.6
13	161776.4	557144.7	1365.0	1367.0
14	161776.4	557244.7	1363.5	1365.5
15	161776.4	557344.7	1358.7	1360.7
16	161876.4	556944.7	1359.1	1361.1
17	161876.4	557044.7	1362.3	1364.3
18	161876.4	557144.7	1365.6	1367.6
19	161876.4	557244.7	1365.2	1367.2
20	161876.4	557344.7	1361.8	1363.8
21	161876.4	557444.7	1359.1	1361.1
22	161976.4	556844.7	1350.5	1352.5
23	161976.4	556944.7	1356.0	1358.0
24	161976.4	557044.7	1361.8	1363.8
25	161976.4	557144.7	1365.4	1367.4
26	161976.4	557244.7	1366.8	1368.8
27	161976.4	557344.7	1364.5	1366.5
28	161976.4	557444.7	1360.8	1362.8
29	162076.4	556844.7	1349.9	1351.9
30	162076.4	556944.7	1355.8	1357.8
31	162076.4	557044.7	1362.0	1364.0
32	162076.4	557144.7	1365.5	1367.5
33	162076.4	557244.7	1367.5	1369.5
34	162076.4	557344.7	1364.6	1366.6
35	162076.4	557444.7	1360.8	1362.8
36	162176.4	556844.7	1350.9	1352.9
37	162176.4	556944.7	1356.5	1358.5
38	162176.4	557044.7	1361.9	1363.9
39	162176.4	557144.7	1365.3	1367.3
40	162176.4	557244.7	1367.7	1369.7
41	162176.4	557344.7	1364.9	1366.9
42	162176.4	557444.7	1360.7	1362.7
43	162276.4	556844.7	1350.1	1352.1
44	162276.4	556944.7	1355.4	1357.4
45	162276.4	557044.7	1361.5	1363.5
46	162276.4	557144.7	1364.9	1366.9
47	162276.4	557244.7	1367.4	1369.4
48	162276.4	557344.7	1365.1	1367.1
49	162276.4	557444.7	1361.0	1363.0
50	162376.4	556844.7	1349.0	1351.0
51	162376.4	556944.7	1355.6	1357.6
52	162376.4	557044.7	1360.7	1362.7
53	162376.4	557144.7	1363.0	1365.0
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55	162376.4	557344.7	1364.4	1366.4
56	162376.4	557444.7	1360.7	1362.7
57	162476.4	556944.7	1351.7	1353.7
58	162476.4	557044.7	1354.9	1356.9
59	162476.4	557144.7	1357.4	1359.4
60	162476.4	557244.7	1359.2	1361.2
61	162476.4	557344.7	1361.9	1363.9
62	162476.4	557444.7	1360.8	1362.8
63	162556.4	557244.7	1355.8	1357.8
64	162556.4	557344.7	1358.8	1360.8
65	161547.9	557059.0	1356.9	1358.9
66	161642.8	556951.8	1357.9	1359.9
67	161611.1	557218.6	1360.9	1362.9
68	161765.3	557324.5	1359.2	1361.2
69	162046.0	557402.4	1361.9	1363.9
70	162206.3	557456.6	1360.4	1362.4
71	161994.5	556928.0	1354.9	1356.9
72	162245.5	556890.9	1352.9	1354.9
73	162398.6	556976.3	1356.9	1358.9
74	162493.8	557133.3	1355.9	1357.9



LEGEND

- 2030 --- EXISTING CONTOURS
- 2030 --- PROPOSED FINAL COVER CONTOURS
- --- PROPERTY LINE
- --- SECTION LINE
- --- EXISTING ROADS
- --- EXISTING TREE LINE
- WP-18 EXISTING MONITORING WELL
- GP-2 EXISTING GAS PROBE
- MH EXISTING MANHOLE
- GV EXISTING GAS VENT
- CR EXISTING CLEANOUT RISER
- --- DRAINAGE CONTROL BERM

NOTES:

- TOPOGRAPHIC BASE MAP PREPARED FROM AN AERIAL SURVEY BY HORIZONS, INC. PHOTOGRAPHY ON NOVEMBER 8, 2002. BASE MAP WAS UPDATED WITH A SURVEY BY SEH, INC. ON DECEMBER 15, 2010 OVER PHASES 5, 6, AND 7 AND A GROUND SURVEY BY STANTEC ON APRIL 24, 2023 OVER PHASES 1, 2, 3, 4 AND KETTLE D. KETTLE D PERIMETER ROAD CONTOURS ARE FROM THE KETTLE D FINAL CLOSURE CERTIFICATION REPORT.
- HORIZONTAL DATUM IS BASED ON ITASCA COUNTY SOUTH COORDINATE SYSTEM. VERTICAL DATUM IS BASED ON NAVD88.
- SPOT ELEVATIONS IN OBSCURED AREAS ARE APPROXIMATE, AND MAY NOT MEET NATIONAL MAP ACCURACY STANDARDS.
- PROTECT EXISTING UTILITIES (CLEANOUTS, RISERS, PUMPOUTS, BOLLARDS, ELECTRIC PEDISTALS, ETC.).

PT. NO.	NORTHING	EASTING	TOP OF SUBGRADE ELEV.	TOP OF FINAL COVER ELEV.
65	161547.9	557059.0	1356.9	1358.9
66	161642.8	556951.8	1357.9	1359.9
67	161611.1	557218.6	1360.9	1362.9
68	161765.3	557324.5	1359.2	1361.2
69	162046.0	557402.4	1361.9	1363.9
70	162206.3	557456.6	1360.4	1362.4
71	161994.5	556928.0	1354.9	1356.9
72	162245.5	556890.9	1352.9	1354.9
73	162398.6	556976.3	1356.9	1358.9
74	162493.8	557133.3	1355.9	1357.9

REV	ISSUED FOR BID	ANN	KAM	01/26/26
0	ISSUED FOR BID	ANN	KAM	01/26/26
REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL
 I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
 PRINT NAME: KYLE MORBERG
 SIGNATURE: *Kyle Morberg*
 DATE: 01/26/2026 LICENSE #: 60444

SUB CONSULTANT

PRIME CONSULTANT

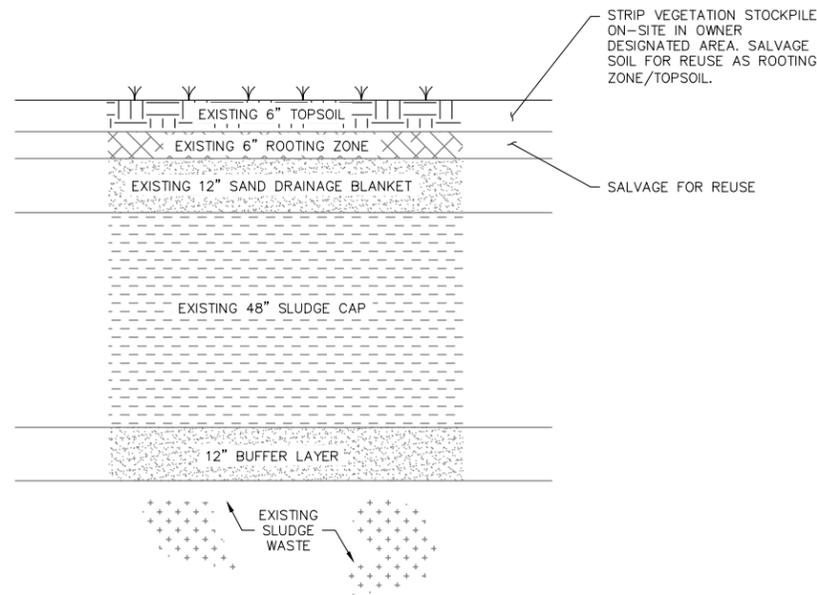
11 East Superior Street, Suite 330
 Duluth, MN 55802
 www.stantec.com

PROJECT TITLE
 PHASES 1-4 AND KETTLE D
 FINAL COVER MODIFICATIONS

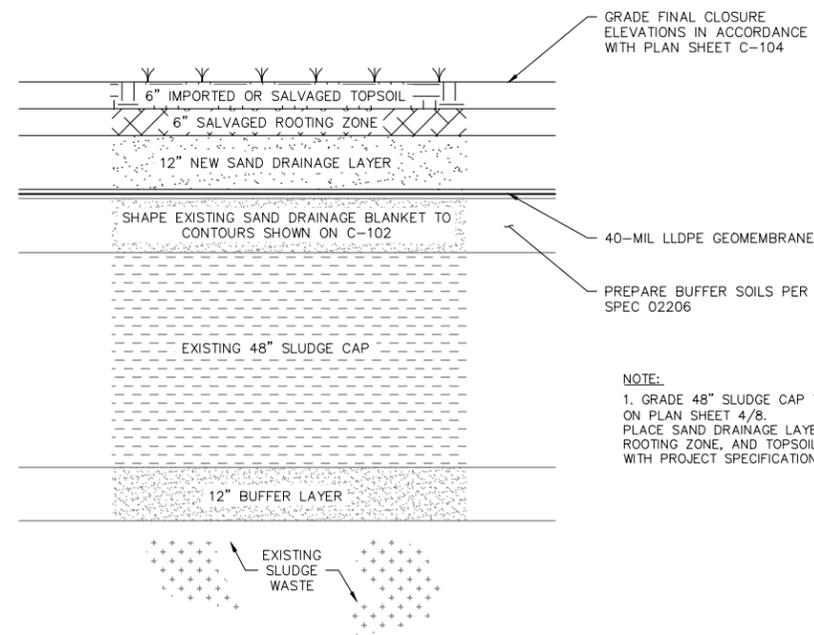
GRAND RAPIDS PUBLIC UTILITIES COMMISSION
 SLUDGE LANDFILL FACILITY
 GRAND RAPIDS, MINNESOTA

SHEET TITLE
 GRADE TABLE

DWN BY ANN	CHK'D EDK	APP'D KAM	DWG DATE JANUARY 2026
PROJECT NO. 227708696	SHEET NO. C-105	SCALE AS SHOWN	REV NO. 0

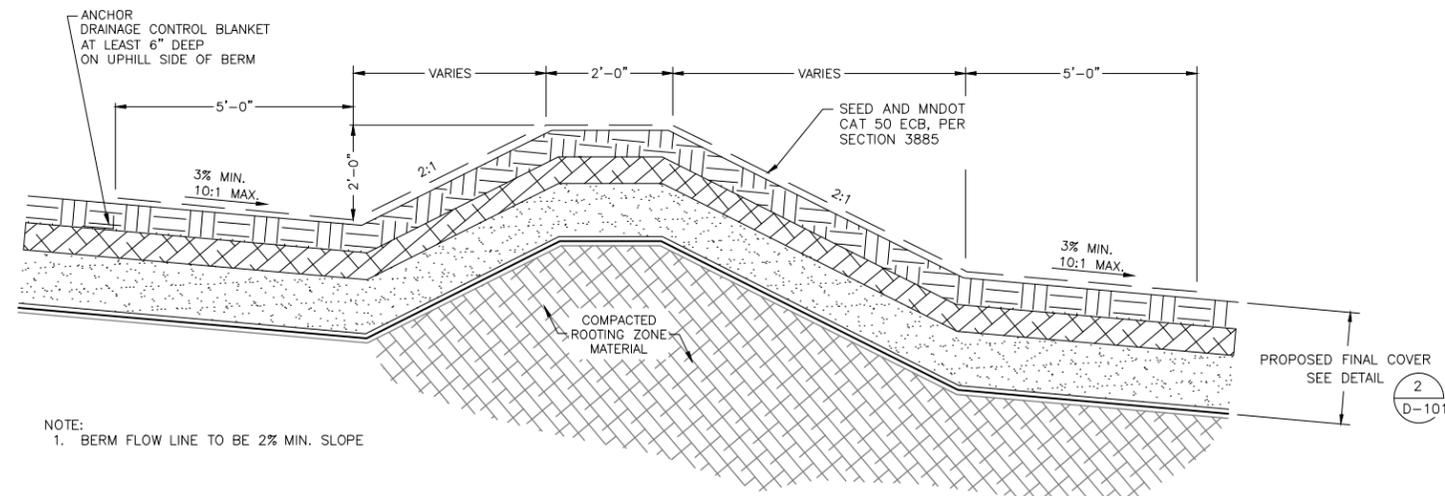


EXISTING FINAL COVER DETAIL 1
NOT TO SCALE D-101

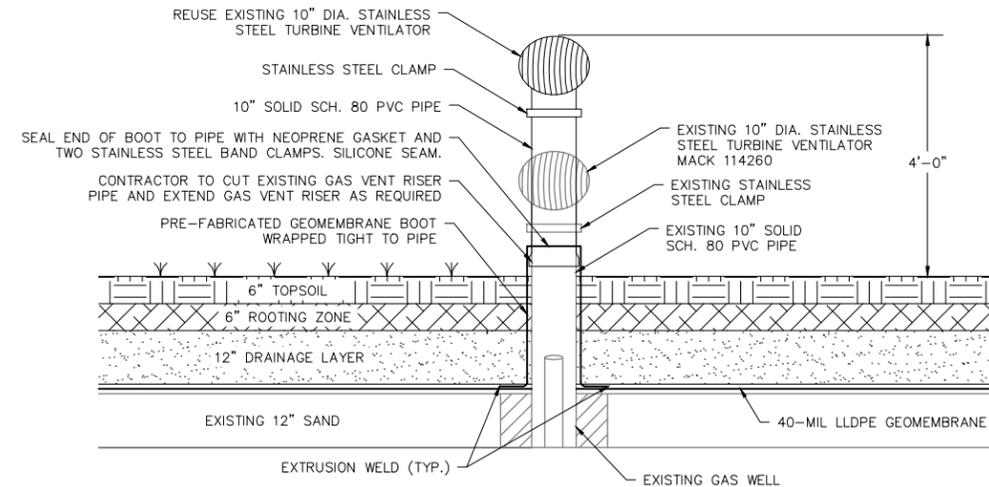


PROPOSED FINAL COVER DETAIL 2
NOT TO SCALE D-101

NOTE:
1. GRADE 48" SLUDGE CAP TO ELEVATIONS PROPOSED ON PLAN SHEET 4/8. PLACE SAND DRAINAGE LAYER, ROOTING ZONE, AND TOPSOIL IN ACCORDANCE WITH PROJECT SPECIFICATIONS.



DRAINAGE CONTROL BERM DETAIL 3
NOT TO SCALE D-101



GAS VENT DETAIL 4
NOT TO SCALE D-101

REV	ISSUED FOR BID	ANN	KAM	01/26/26
REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	ISSUED FOR BID	ANN	KAM	01/26/26

SEAL
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PRINT NAME KYLE MORBERG
SIGNATURE *[Signature]*
DATE 01/26/2026 LICENSE # 60444

SUB CONSULTANT

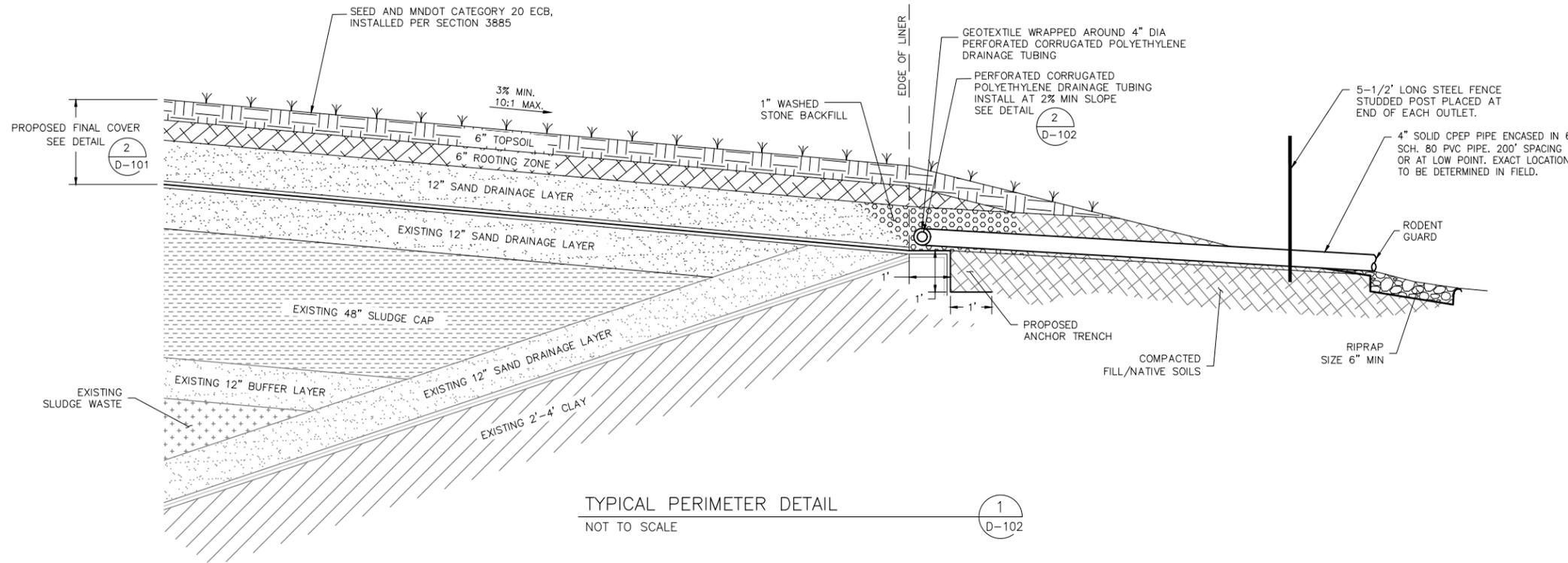
PRIME CONSULTANT

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Duluth, MN 55802
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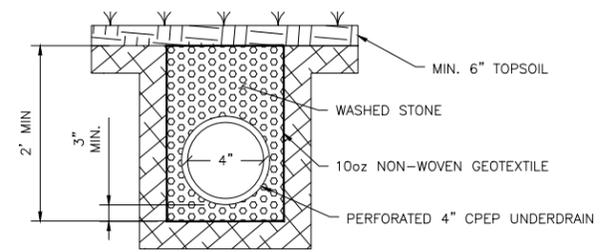
PROJECT TITLE
PHASES 1-4 AND KETTLE D
FINAL COVER MODIFICATIONS

GRAND RAPIDS PUBLIC
UTILITIES COMMISSION
SLUDGE LANDFILL FACILITY
GRAND RAPIDS, MINNESOTA

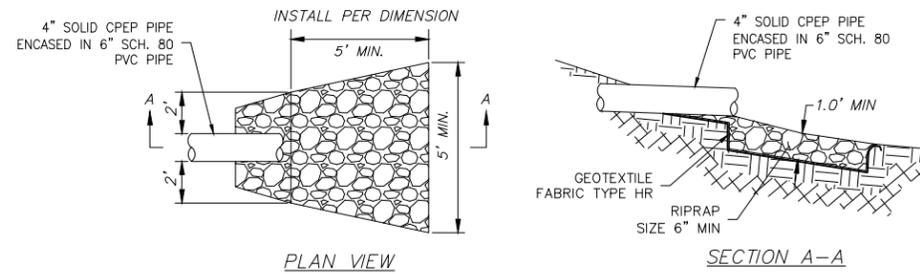
SHEET TITLE			
DETAILS			
DWN BY	CHK'D	APP'D	DWG DATE
ANN	EDK	KAM	JANUARY 2026
PROJECT NO.		SCALE	
227708696		AS SHOWN	
SHEET NO.		REV NO.	
D-101		0	



TYPICAL PERIMETER DETAIL
NOT TO SCALE

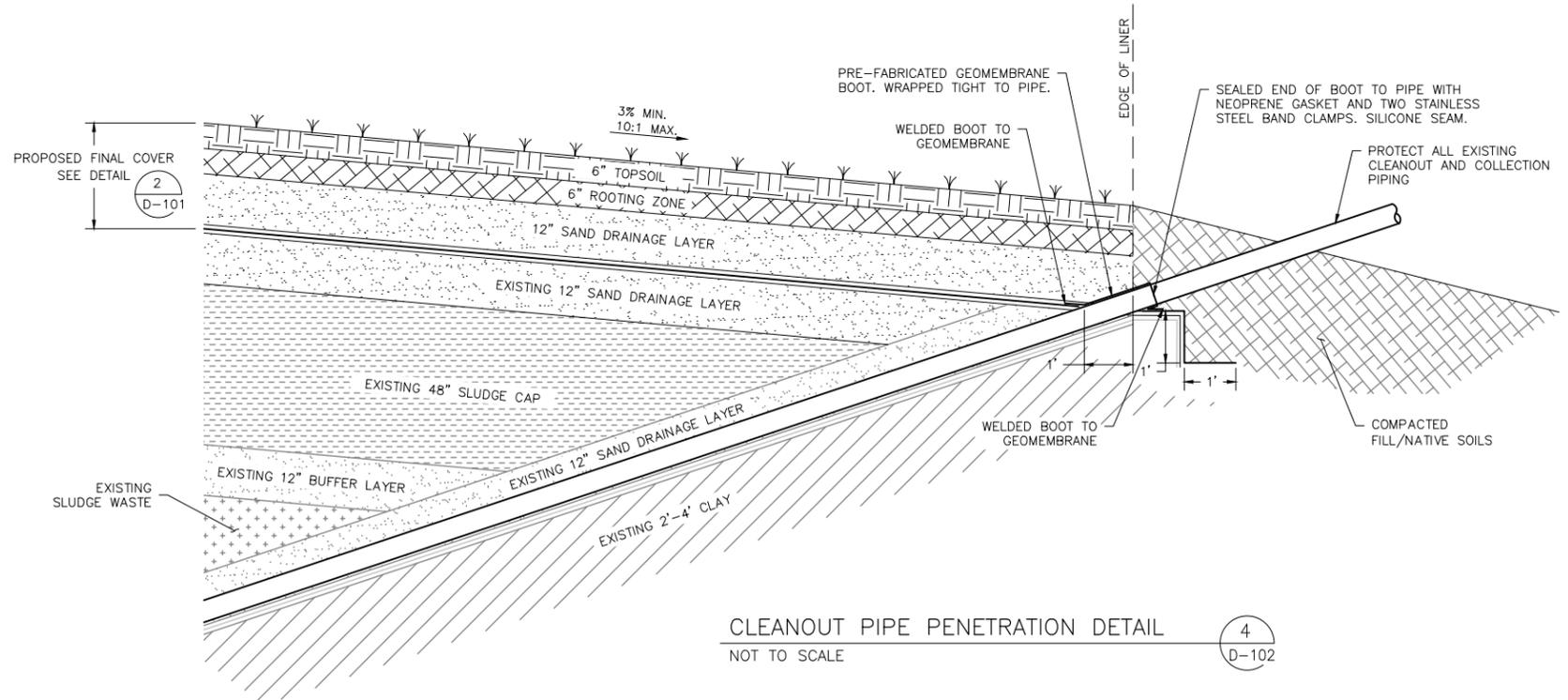


UNDERDRAIN DETAIL
NOT TO SCALE



1. RIPRAP SHALL HAVE A MINIMUM AVERAGE DIAMETER OF 6 INCHES.
2. RIPRAP SHALL BE PLACED 12\"/>

RIP RAP APRON DETAIL
NOT TO SCALE



CLEANOUT PIPE PENETRATION DETAIL
NOT TO SCALE

REV	REVISION DESCRIPTION	DWN	APP	REV DATE
0	ISSUED FOR BID	ANN	KAM	01/26/26

SEAL
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PRINT NAME: KYLE MORBERG
SIGNATURE: *[Signature]*
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SUB CONSULTANT

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Duluth, MN 55802
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PROJECT TITLE
PHASES 1-4 AND KETTLE D
FINAL COVER MODIFICATIONS

GRAND RAPIDS PUBLIC
UTILITIES COMMISSION
SLUDGE LANDFILL FACILITY
GRAND RAPIDS, MINNESOTA

SHEET TITLE			
DETAILS			
DWN BY	CHK'D	APP'D	DWG DATE
ANN	EDK	KAM	JANUARY 2026
PROJECT NO.		SCALE	
227708696		AS SHOWN	
SHEET NO.		REV NO.	
D-102		0	