

**TOOELE CITY
WATER RECLAMATION FACILITY
TOOELE WRF 2026 UPGRADES PROJECT**

**ADDENDUM NO. 2
August 13, 2026**

To All Plan Holders:

You are hereby notified that the following changes, clarifications, and/or corrections have been made to the Drawings, Specifications, or Contract Documents for the above referenced project.

The bid opening date IS NOT changed by the addendum. The bid opening location and time are NOT changed by this addendum.

ADDENDUM NO. 2 consists of the following:

1. Questions and Clarifications

- a. Question: For the stainless steel gate specification section 43 30 62, Section 2.2.B.6, “Industry standard welded frames with UHMW guides/seals bolted to frame, forming a rigid structure. Wraparound gussets shall be provided as needed.” Is this acceptable?
 - i. Answer: Yes, this deviation is acceptable.
- b. Question: When looking at drawing 82-E-301 the General Notes say all Panels shall be Stainless Steel Nema 4X. However, on Drawing 82-E-501 the One-Line diagram lists the MTS as Nema 3R and the DP-BB as Nema 12. We are seeking clarification on what to follow. Also, If the panels are Nema 4X would you want 304 S.S. panels or 316 S.S. panels.
 - i. Answer: On drawing 82-E-301 the general note 1 says “CONDUIT SHALL ONLY RUN EXPOSED WHERE NECESSARY. ALL EXPOSED CONDUIT SHALL BE PVC COATED. PANELS SHALL BE STAINLESS STEEL NEMA 4X.” The boiler building is not an area that will require NEMA 4X enclosures, enclosures inside of the building may be NEMA 4/12, the MTS may be NEMA 3R as noted. Stainless Steel NEMA 4X enclosures on this project are to be 316 SS where required.
- c. Question: We are seeking clarification regarding the Prospiant’s Tooee proposal. Is the Contractor responsible for coordinating directly with Prospiant’s and including the boiler building scope and associated cost from their proposal in our bid? Or have Tooee City and JUB already accounted for that scope and cost, meaning the Contractor should exclude the boiler building pricing from our proposal? Please clarify how this scope is to be handled in our bid.
 - i. Answer: Please review the bid form C-410 in Volume I of the contract documents. Line item A4 lists a pre-determined cost for the Prospiant scope of work. All work excluded from Prospiant’s scope of supply from their proposal shall be covered in a separate cost by the contractor in line item A5. Refer to the Prospiant scope of work in Specification Section 01 22 00 for vendor scope and listed exclusions. All vendor exclusions fall within general contractor scope of work.
- d. Question: [In the UV channel,] is the weir wall to be integrated with gate frame? Or is it part of the concrete channel structure?

- i. Answer: A SST plate should be used as a weir wall for each gate and should be integrated into the gate frame. There is no concrete weir wall.
- e. Question: The quote from Prospiant in regard to the boiler building includes two boilers and the hot water heater, plus piping for these items and PEX piping. It does not include the two expansion tanks, the chemical feed system, or the air separator. Page 00-G-01 lists nothing from the boiler building as Prospiant. However, page 82-I-701 in the drawings lists everything below the dotted line as "furnished and installed by Prospiant," which includes the chemical feed, expansion tanks, air separator, and boiler pumps along with piping and valving. Appendix CP-03 in the spec also lists these items as part of the package with Wadsworth/Prospiant. Please review these four locations in the documents and correct them to be internally consistent so that we know which items to price in our quote.
 - i. Answer: Prospiant's scope of work includes the bypass feeder (chemical feeder), air separation, and expansion tanks as noted on the P&IDs and CP-03. Note that the equipment schedule on sheet 00-G-013 includes major equipment, but does not include every equipment item in the project.
- f. Question: Due to the risk involved in clarifying scope, it is still unclear exactly what is included in the Prospiant scope and what is not.
 - i. Answer: Review the Prospiant design drawings (series 81-HC and 82-HC) in the bid set drawings and their scope of work in 01 22 00 for delineation of scope and exclusions. Submit questions regarding the Prospiant scope of work in writing to Mark Reich via email mreich@prospiant.com and CC Lauren Schmidt lschmidt@jub.com.
- g. Question: Can PermoxCTF be used to line sewer fittings in PVC04, Pipe and Fittings on page 31 of 64 in section 40 05 10? PermoxCTF is a novoloc ceramic epoxy lining specifically designed to protect the interior of ductile iron pipe and fittings from corrosive wastewater environments and meets the performance requirements associated with the specified ceramic epoxy lining system. Supporting documentation is attached.
 - i. Answer: No ceramic epoxy lining will be required for the PVC04 pipe system.
- h. Question: At the existing job site, as we walked around this morning, the Solar Drying area electrical branches (Conduit) are not Class 1 Division 2. In the drawings it specifies that area as such, and states that the fixtures and devices shall be installed as class 1 div 2 rated. It also says to reuse existing conduit where possible. Should we modify the branches to make them class 1 div 2 rated? The notes indicate Class II, Division 1. It is also identified in the Electrical Plan Hazardous Location Classification Linetypes on Drawing 00-E-101. I think there may be an error in the legend, since the linetype matches Class II, Division 1 (C2D1). Please clarify.
 - i. Answer: The solar dryer building (within the greenhouse) is Class II division I. There are no Class 1 Division 1 or Class 1 Division 2 areas within the scope of this project. All new work should comply to the C2 D1 requirement inside of the greenhouse building. Any existing equipment that is not modified during this project may remain as-is.
- i. Question: There is potentially huge problem with the floor flatness requirements in the greenhouse. On drawing 51 it states, "6" concrete radiant floor, no slope with 1/8" tolerance". What does that mean? The floor elevation on the north needs to be within 1/8" of the floor elevation on the south? All along the floor, the profile can't vary more than 1/8" from flat?
 - i. Answer: Yes, the floor profile shall be flat as required by the equipment. Please use 1/4" tolerance in lieu of 1/8" tolerance.

- j. Question: Our laser screed subcontractors speak of flatness in terms of F and F' . Can you translate your 1/8" tolerance into this language (ACI 117) for them to better process the given data?
- i. Answer: $SOF_F=35$; $SOF_L=25$
- k. Question: We are concerned that the waterstop at the perimeter could blow the top off of the slab as the data we're seeing online and from talking to a concrete laser screed subcontractor is that the general requirement is a minimum of 8" of concrete with two mats of reinforcing and 3" of cover to control the swell pressure. Also, the waterstop at the expansion joints will be working in opposition to the greased dowel, as the joint opens and closes seasonally the waterstop will be stretched or compressed in a way it's not rated for, which is a future leak path. Full expansion joints are generally reserved for transitions where a heated slab meets an unheated one. Please advise on concrete depth per manufacturer recommendations and the issues discussed on waterstop/greased dowel opposition.
- i. Answer: For perimeter waterstop, provide "SIKA CJ-0725-3K Hydrotite" which requires 2" min concrete cover. For expansion joints, provide "SIKA 754, Dumbbell Centerbulb" in lieu of Detail 6 on sheet 81/S-501.
- l. Question: The Agreement identifies the incorporated Drawings as sheets bearing the general title "Tooele WRF Headworks." The current project is the Tooele WRF 2026 Upgrades and includes the solar dryer, boiler room, UV disinfection, civil/site, electrical, HVAC, plumbing, and related work. Please confirm whether "Tooele WRF Headworks" is a legacy reference and identify the exact drawing set, including sheet numbers, dates, and revisions, that is incorporated into the Contract.
- i. Answer: That is a legacy reference that should be removed. The drawing set title should be "Tooele WRF 2026 Upgrades." Please see attached revised agreement.
- m. Question: Section 01 60 25 states that payment requests for pre-procured equipment goods and special services will be routed through the Contractor, who will be responsible for paying the suppliers. Addendum No. 1 states that special services for Trojan and HUBER are Owner-paid and excluded from Schedule B pricing. The difference identified in Addendum No. 1 is \$29,700 for Trojan and \$219,000 for HUBER. Please clarify the exact payment obligations that will be assigned to the General Contractor.
- i. Answer: The Owner is responsible for paying for pre-procured equipment special services costs (\$29,700 for Trojan and \$219,000 for HUBER). This will get the equipment through the submittal review process. Upon submittal approval, the contract will be assigned to the general contractor. The contractor will issue the Notice to Commence Fabrication at the time of their choosing to facilitate their overall project schedule. The remaining hard-typed number included in the bid form for pre-procured equipment items is the Contractor's responsibility.
- n. Question: Volume IV states that certain equipment submittals included in the pre-procurement package are unapproved. Section 01 60 25 transfers coordination, delivery, installation, testing, commissioning, training, and warranty support to the Contractor after assignment. Please clarify responsibility for cost and schedule impacts resulting from post-bid approval changes to the currently unapproved vendor submittals.
- i. Answer: Dimensional, structural, electrical, piping, controls, access, foundation, installation, or other revisions resulting from final vendor-submittal approval after bid will be paid from the pre-procured equipment allowance or by Change Order and are not included in the Contractor's base bid unless specifically included in the bid documents.

- o. Question: Section 01 20 00 includes a Prospiant proposal dated April 15, 2026 that was valid through June 15, 2026. Addendum No. 1 includes a revised Prospiant proposal dated July 28, 2026 and states that the proposal and supplied-material pricing were revised. Please confirm which Prospiant proposal and scope is controlling for bid and construction.
 - i. Answer: Please use the revised Prospiant proposal and scope provided in Addendum No. 1 for bid and construction purposes.
- p. Question: The Contract Documents state that all Prospiant vendor exclusions fall within General Contractor scope. The vendor proposal assigns various items to others, including control-panel mounting, router/network cabling, power and low-voltage wiring, conduit, utility hookups, exhaust-fan electrical work, and other interface items. Please clarify which bid item is intended to carry each vendor exclusion and interface responsibility.
 - i. Answer: All items listed as exclusions and not included in the Prospiant scope of work shall be the responsibility of the General Contractor. These costs shall be quantified in Bid Item A5 – Solar Dryer Greenhouse and Boiler Building Upgrades (General Contractor Scope).
- q. Question: Item A7 provides a \$100,000 allowance for bypass pumping and effluent disinfection. Section 33 30 00 requires engineered bypass design, PE-sealed calculations, 100% standby redundancy, independent temporary power, controls/alarms, contingency planning, continuous service, and capacity up to the specified UV-channel flow. Please clarify whether the \$100,000 amount is a true allowance reconciled to actual authorized cost or a fixed lump-sum cap.
 - i. Answer: The \$100,000 is a time and materials estimate for bidding purposes. The actual price for this bid item will be negotiated during construction. It could be above or below the estimated \$100,000. Time and materials documentation including receipts and invoices will be required for payment from this allowance item.
- r. Question: The bid documents exclude SCADA integration from Item A6 and state that SKM will perform SCADA integration under a separate Owner contract. However, Item A6 requires field instrumentation, controls, terminations, loop testing, commissioning, training, and vendor coordination, while the Prospiant scope assigns network/router/cabling and control wiring to others. Please define the interface between the General Contractor, electrical/I&C subcontractor, SKM, Wadsworth/Prospiant, Trojan, and HUBER.
 - i. Answer: The contractor is responsible for all conduit, wire, wire labels and terminations for all vendor and owner supplied equipment. The contractor is also responsible to assist in point to point checks for all terminations provided. In the Prospiant scope, the “others” is the contractor. SKM, Wadsworth/Prospiant, Huber and Trojan will not be performing any physical electrical installation, this is all to be provided by the contractor. SCADA integration of the new facilities will be by SKM under a separate contract with the Owner.
- s. Question: The Supplementary Conditions identify the April 2022 Tooele WRF Headworks Building geotechnical study as the project Technical Data. The 2026 Upgrades include a new boiler building and work at the solar dryer, which may be outside the investigated Headworks footprint. Please confirm whether the geotechnical data is intended to govern the boiler-building and solar-dryer work areas and identify the borings applicable to those locations.
 - i. Answer: New geotechnical information will not be provided for this project. Please reference the boring locations noted in the April 2022 geotechnical report included in the appendix of Volume I in the contract documents.

- t. Question: The General Contractor will inherit warranty-support responsibilities for Owner-pre-procured equipment after assignment. Some vendor warranty provisions begin at delivery or otherwise differ from project requirements that tie warranty to beneficial use, Substantial Completion, or final acceptance. Please clarify the warranty start and end dates that will apply to all assigned pre-procured equipment.
- i. Answer: Warranties shall be tied to substantial completion of the project. The Contractor can negotiate directly with the manufactures and/or hold the Notice to Commence Fabrication until the equipment is needed so it does not sit onsite for an extended period of time.
- u. Question: The issued specifications contain several legacy or inconsistent project references, including Project No. 93-24-001 in the Volume II table of contents and references within Volume IV to prior Tooele WRF 2022/2025 Phase 1 work and Project No. 93-42-013. Please confirm which of these references are administrative/template carryovers and whether any prior-project requirements are intended to remain contractually applicable to the 2026 Upgrades.
- i. Answer: Project No. 93-24-001 is a legacy reference and should be corrected to 93-25-005. The UV upgrades were originally part of the Tooele Phase 1 Upgrades project, with project number 93-42-013. The Phase 1 Upgrades project were later added to the scope of the Tooele WRF 2026 Upgrades project. All documentation included in Volume IV is relevant and contractually applicable to project 93-25-005 for the 2026 Upgrades project.
- v. Question: Section 00200 requires project summaries for at least three wastewater treatment plant projects in the last ten years with one project at least 3 MGD. The pre-bid/addendum material summarizes the requirement as one project at least 2 MGD. Please clarify the minimum treatment-capacity qualification that governs responsiveness.
- i. Answer: The minimum treatment-capacity qualification is one WWTP project at least 2 MGD.
- w. Question: The distributor informed us that all of the lighting fixtures for this project must be Class 2 Division 1 rated, but none of the specified fixtures appear to meet this requirement. Would you be able to verify if all or some of these fixtures need to be Class 2 Division 1 rated?
- i. Answer: The lighting fixtures in the Boiler building and exterior of the building are to be provided as listed on the drawings and per the schedules. Areas outside of the greenhouse are not classified, and do not require special consideration for the area. The interior of the greenhouse is rated Class II Division I as noted on drawing 81-E-301 note 4. The fixtures installed inside of the greenhouse should be equivalent to those specified in the schedule, but should be C2D1 rated.
- x. Question: On the site utility drawings none of the pipelines show valves (NPW, PW) does the owner want valves to be placed on the line for isolation purposes?
- i. Answer: Isolation valves are already called out on the plans and thus additional valves will not be necessary for the following connections:
- a. The 2" NPW and PW service lines on CU-103 call out Tooele City's typical detail 552R. The typical detail includes corporation stops for the connection, which will act as an isolation valve.
- b. The Yard Hydrant typical detail D-15200 calls out a valve (C-02100) for each hydrant connection.

- c. For interior NPW lines, please reference the standard detail for the hose bibb, D-15210 on sheet 00-DZ-907 for required interior isolation valves. For interior PW lines, please reference detail 6 on sheet 82-P-501.
 - ii. A 4" gate valve will be added to the 6"x4" NPW tee on sheet 03-CU-101 to isolate the 4" NPW line. The 4" gate valve will be added to sheet 03-CU-101 and included with Addendum #2.
 - y. Question: Will the owner cover the costs to upsize the gas meter?
 - i. Answer: Per Sheet 82-P-001, the gas flow diagram calls out for the contractor to coordinate and pay all fees associated with gas meter upgrade. Coordinate with Enbridge Gas on the cost.
 - z. Question: Drawing 03-S-501 show the 4" drain pipe behind the retaining wall to be higher in elevation than the asphalt road. However, I believe the drain line goes under the asphalt pavement and into the catch basin box.
 - i. Answer: 4" drain pipe is called out to match civil utility drawing elevations. The drain pipe profile is shown on sheet 03-CU-301 in addition to the inverts called out on the plan view in 03-CU-102.
 - aa. Question: Can you provide any more information on the weir wall in the UV Building that is demolished? Thickness, height, etc.
 - i. Answer: The existing weir wall, which will be demoed as part of this project, is 8 in thick, 6 ft width, and up to 7.5 ft tall. Additional information on the existing structure is in section 50 00 00 Part C Attachments of UV Pre-procurement documents in Volume IV.
 - bb. Question: Does the hydraulic hose for the new UV units also go overhead to the control panels? Do they need to be installed in a conduit or carrier pipe?
 - i. Answer: The hydraulic hose from each bank shall be routed to the Hydraulic System Center (HSC) in an overhead cable tray system.
 - cc. Question: If you need 8,652 CFH at 2 PSI pressure, then you will need to upsize the [gas] line to either a 3" or 4" pipe. Three inch pipe is also nonstandard for this company so they would run 4" pipe. A 3" gas line would probably cost more than a 4" line.
 - i. Answer: Since 2 ½" pipe size is not readily available, upsize the gas line to a 3" or 4" pipe.
 - dd. The contract will be awarded based on the total of Bid Schedule A and B? Bid Schedule C is strictly additive alternate items that may or may not be awarded depending on the available funds?
 - i. Answer: The contract will be awarded based on the sum of schedule A and B only (base bid).
- 2. Changes to the Contract Documents**
 - a. C-520 Agreement (see attached)
 - i. Legacy reference updated to "Tooele WRF 2026 Upgrades."
- 3. Changes to the Drawings**
 - a. Sheet 81-S-101
 - i. 1/4" tolerance in lieu of 1/8" tolerance for new flat slabs.
 - b. Sheet 81-S-501
 - i. "SIKA 754, Dumbbell Centerbulb" in lieu of Detail 6.

ADDENDUM #2

- ii. “SIKA CJ-0725-3K Hydrotite” for the hydrophilic waterstop type with 2” min concrete cover.
 - c. Sheet 03-CU-101 (see attached)
 - i. New gate valve added.
- 4. Changes to the Technical Specifications:**
- a. Specification 43 30 62 (see attached)
 - i. Section 2.1A: Golden Harvest listed as an approved equal.

This ADDENDUM #2 shall become a part of the Contract and all provisions of the Contract shall apply thereto. BIDDERS shall acknowledge receipt of this ADDENDUM in the space provided in the BID FORM.

Sincerely,

J-U-B ENGINEERS, INC.



Lauren Schmidt, P.E.
Project Engineer

**AGREEMENT
BETWEEN OWNER AND CONTRACTOR
FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)
(ADDENDUM NO. 2)**

THIS AGREEMENT is by and between TOOELE CITY CORPORATION (“Owner”) and
____ (“Contractor”).

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

The Tooele WRF 2026 Upgrades project consists of the following:

- A. Improvements to the existing solar drying processes at the Tooele WRF, including retrofit of the solar dryer greenhouse, demolition, new heated floors, site work, yard piping, electrical and instrumentation, HVAC and plumbing, and all other equipment and infrastructure to make the upgraded facilities complete and operational
- B. Construction of a new boiler room at the existing WRF, including installation of a new pre-engineered metal building to also include electrical, HVAC and plumbing, and all other equipment and infrastructure to make the boiler room facility complete and operational.
- C. New ultraviolet (UV) disinfection system to be retrofit into the existing Channel #2, including electrical and instrumentation, demolition, and all other equipment and infrastructure required to make the upgraded facilities complete and operational. The integration of SCADA will be by Owner under a separate contract. The HUBER solar dryer turners and Trojan UV disinfection system equipment have been pre-procured by the Owner and will be assigned to the General Contractor for installation and startup.

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: **Tooele WRF 2026 Upgrades**

ARTICLE 3 – ENGINEER

3.01 The Project has been designed by J-U-B ENGINEERS, Inc.

3.02 The Owner has retained J-U-B ENGINEERS, Inc. (“Engineer”) to act as Owner’s representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

4.01 *Time of the Essence*

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

4.02 *Contract Times: Dates*

- A. The Work for the **Tooele WRF 2026 Upgrades** Project will be substantially completed on or before **18 months from Notice to Proceed** and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before **30 days after substantial completion**.

4.03 *Liquidated Damages*

- A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):
 - 1. Substantial Completion: Contractor shall pay Owner **\$1,000** for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A 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 Time (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner **\$1,000** for each day that expires after such time until the Work is completed and ready for final payment.
 - 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
 - 4. **Liquidated damages shall not exceed 20% of the contract price regardless of days past contract dates.**

4.04 *Special Damages*

- A. In addition to the amount provided for liquidated damages, 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.

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 amount is: \$_____.

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 account of the Contract Price on the basis of Contractor's Applications for Payment on or about the **25th** day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, 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 Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
 - b. **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 such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less **200** percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 *Final Payment*

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

ARTICLE 7 – INTEREST

7.01 All amounts not paid when due shall bear interest at the rate of 3 percent per annum.

ARTICLE 8 – CONTRACTOR’S REPRESENTATIONS

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

- A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
- B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings.
- E. 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 Site-related reports and drawings identified in the Contract Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor’s safety precautions and programs.
- F. 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.
- G. 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.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. 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.

ARTICLE 9 – CONTRACT DOCUMENTS

9.01 *Contents*

- A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to 8 inclusive).
 - 2. Performance bond (pages ___ to ___, inclusive).
 - 3. Payment bond (pages ___ to ___, inclusive).
 - 4. Other bonds.
 - a. ___ (pages ___ to ___, inclusive).
 - 5. General Conditions (pages 1 to 72, inclusive).
 - 6. Supplementary Conditions (pages 1 to 9 inclusive).
 - 7. Specifications as listed in the table of contents.
 - 8. Drawings (not attached but incorporated by reference) consisting of sheets bearing the following general title: ~~Tooele WRF Headworks~~ Tooele WRF 2026 Upgrades (Addendum No. 2).
 - 9. Addenda (numbers ___ to ___, inclusive).
 - 10. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages 1 to ___ inclusive).
 - 11. 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.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

10.01 *Terms*

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

10.02 *Assignment of Contract*

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

10.03 *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.

10.04 *Severability*

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

10.05 *Contractor's Certifications*

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing 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.

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

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

OWNER:

CONTRACTOR:

Tooele City Corporation

By: _____

Printed

Name: _____

Title: _____

Attest: _____

Title: _____

Address for giving notices:

90 NORTH MAIN

TOOELE, UTAH, 84074

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

APPROVED AS TO FORM

Matt Johnson

Tooele City Attorney

By: _____

Printed

Name: _____

Title: _____

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

Attest: _____

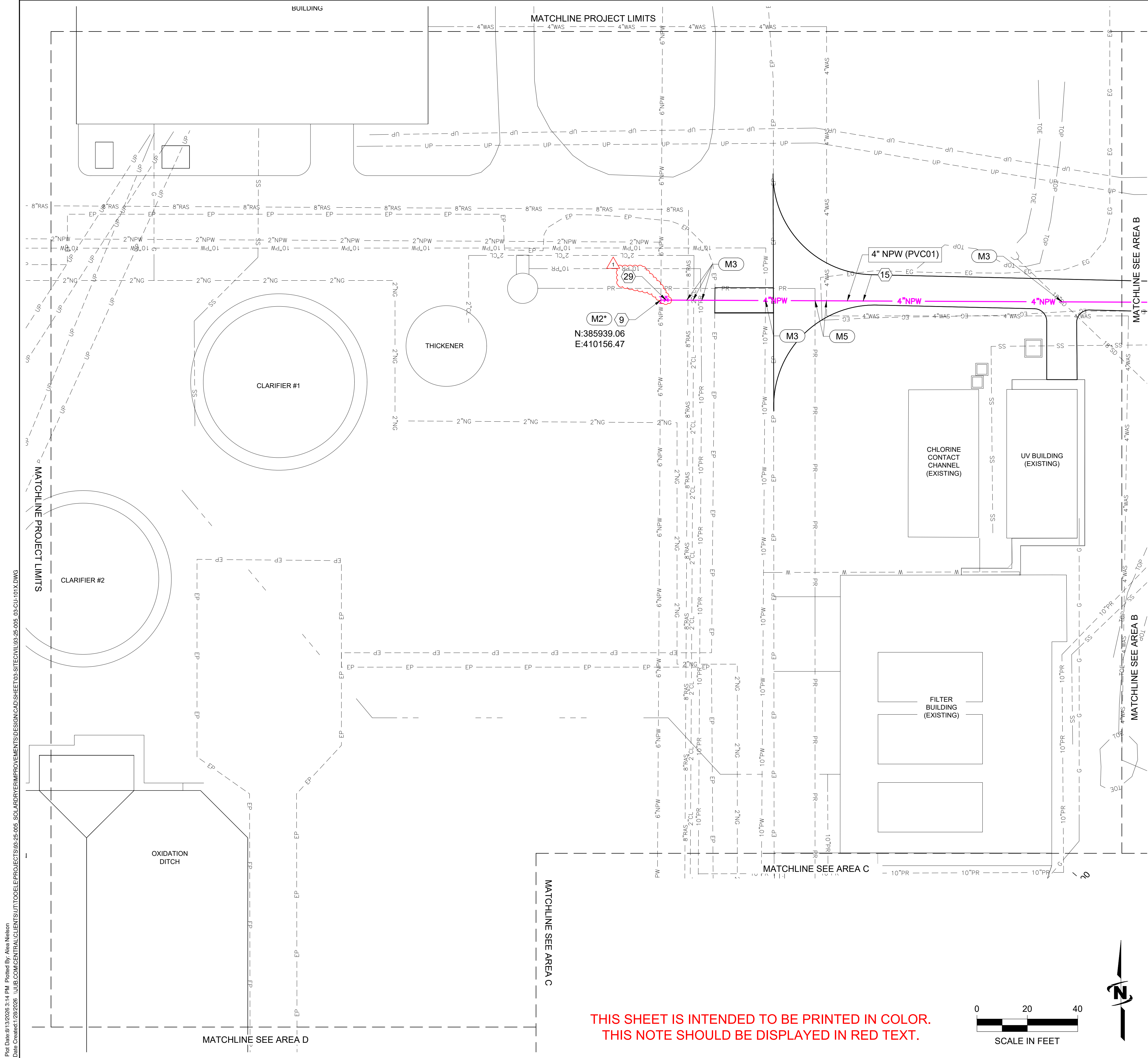
Title: _____

Address for giving notices:

License No.: _____

(where applicable)

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THIS SHEET IS INTENDED TO BE PRINTED IN COLOR.
THIS NOTE SHOULD BE DISPLAYED IN RED TEXT.

UTILITY KEY NOTES

- CONNECT TO EXISTING WATERLINE WITH DOUBLE BRASS STRAP SADDLE CLAMP AND CORP STOP (TOOELE CITY STD DTL 552R). SEE PLAN FOR FITTING SIZE.
- BEND POLY PIPE NO MORE THAN 2X MAX MFR RECOMMENDATIONS.
- TRANSITION FROM POLY TO ANODELESS RISER, SEE PLUMBING DRAWINGS FOR DETAIL.
- FOR PIPES 4" AND GREATER, SEE TYP PIPE TO STRUCTURE TRANSITION DTL (C-02122). PENETRATIONS THROUGH EXISTING FOOTING NOT ACCEPTABLE. FIELD LOCATE BELOW EXISTING FOOTINGS AND BACKFILL PER TYP DTL (6/00-SZ-902). COORDINATE ELEVATIONS AND CONNECTIONS WITH PLUMBING & PROCESS MECHANICAL DRAWINGS.
- FURNISH & INSTALL 4" DIA. PRECAST MANHOLE PER STD DTL C-02050.
- FURNISH & INSTALL SURFACE MOUNTED, TYPE 2 W/ T-HANDLE, 2" NON-FREEZE YARD HYDRANT W/ BURIED VALVE (STD DTL D-15200).
- FURNISH & INSTALL 45° DI BEND (SIZE PER PLANS) W/ THRUST BLOCK, SEE TYP DTL (C-02005).
- FURNISH & INSTALL 90° POLY BEND FITTING (SIZE PER PLANS).
- FURNISH & INSTALL 6"x4" DI TEE W/ THRUST BLOCK, SEE TYP DTL (C-02005). FIELD FIT LOCATION OF NEW UTILITY TO MAKE CONNECTION IF NECESSARY.
- FURNISH & INSTALL 4"x2" DI REDUCING TEE W/ THRUST BLOCK, SEE TYP DTL (C-02005).
- FURNISH & INSTALL 4" BLIND FLANGE ON TEE.
- FURNISH & INSTALL 2"x1" BRASS TEE W/PACK JOINTS & SS INSERTS.
- FURNISH & INSTALL 2" POLYETHYLENE TUBING WITH MIN. 4-FT OF COVER PER TOOEELE TYP TRENCH DTL (381R). PIPE COLOR PER PIPE SCHEDULE.
- FURNISH & INSTALL 2.5" NATURAL GAS POLYETHYLENE TUBING COMPLYING WITH ASTM D2513 STANDARDS. INSTALL WITH MIN. 4-FT OF OF COVER PER TOOEELE TYP TRENCH DTL (381R) MEETING NFPA 54.
- FURNISH & INSTALL 4" C900 PVC PIPE WITH MIN. 4-FT OF COVER PER TOOEELE TYP TRENCH DTL (381R). PIPE COLOR PER PIPE SCHEDULE.
- FURNISH & INSTALL 6" SDR-35 PVC PIPE PER TOOEELE TYP TRENCH DTL (381R). SEE SHEET CU-301 FOR PIPE PROFILE ELEVATIONS.
- FURNISH & INSTALL 1" POLYETHYLENE TUBING WITH MIN. 4-FT OF COVER PER TOOEELE TYP TRENCH DTL (381R). PIPE COLOR PER PIPE SCHEDULE.
- SEE AREA 81 PROCESS MECHANICAL SHEETS FOR CONNECTION TO BLDG.
- FURNISH & INSTALL DOUBLE BRASS STRAP SADDLE CLAMP & CORP STOP (TOOELE CITY STD DTL).
- CORE EXISTING CONCRETE MANHOLE. AND CONNECT WITH RUBBER BOOT & GROUT TO SEAL.
- SEE PLUMBING DRAWINGS FOR CONNECTION TO EXISTING GAS METER DETAIL.
- FURNISH & INSTALL 4" PERFORATED ADS N-12 DRAINAGE PIPE BEHIND RETAINING WALL, SEE 03-S-501.
- FURNISH & INSTALL 4" ADS N-12 CORR. SMOOTH INTERIOR WALL, SEE 03-S-501.
- FURNISH AND INSTALL 4" ADS N-12 HDPE CAP FITTING ON END OF DRAIN PIPE.
- FURNISH & INSTALL 4" ADS N-12 HDPE TEE FITTING.
- FURNISH & INSTALL 5' DIA. PRECAST CONCRETE SUMP MANHOLE W/ PERFORATED SECTIONS, DRAIN ROCK, AND NO BOTTOM. SEE CU-501 FOR DETAIL AND 03-CU- 301 FOR PROFILE.
- FURNISH & INSTALL 15" RCP STORM DRAIN PIPE (PROFILE: D1/03-CU-301).
- FURNISH & INSTALL STORM DRAIN INLET & GRATE PER DTL (03-CU-501). PROFILE: (D1/03-CU-301)
- FURNISH & INSTALL 4" DI GATE VALVE (M/J) W/ THRUST BLOCK, SEE TYP DTL (C-02005).

MISCELLANEOUS KEY NOTES

- M1** POTABLE/NON-POTABLE CROSSING (INCIDENTAL). REFER TO UTAH DDW SEPARATION REQUIREMENTS DTL (C-02010), IF NECESSARY LOOP NEW UTILITY TO MEET UTAH DDW REQ'S.
 - M2** FIELD VERIFY ELEVATION AND LOCATION OF MISCELLANEOUS UTILITY (INCIDENTAL).
 - M3** PRESERVE & PROTECT EXISTING MISC. UTILITY (INCIDENTAL). IF NECESSARY LOOP NEW UTILITY & MAINTAIN MIN. COVER REQ'S & 12" OF CLEARANCE.
 - M4** CONTRACTOR TO POTHOLE EX UTILITY & CONFIRM LOCATION W/ ENGINEER BEFORE ORDERING MATERIALS AS ALIGNMENT/PROFILE OF NEW UTILITY MAY BE AFFECTED.
 - M5** CONTRACTOR TO POTHOLE EX UTILITY & CONFIRM LOCATION W/ ENGINEER BEFORE CONSTRUCTION AS ALIGNMENT/PROFILE OF NEW UTILITY MAY BE AFFECTED.
- * DENOTES THAT N/E OF EXISTING UTILITY IS PROVIDED ONLY AS A COURTESY TO CONTRACTOR FOR LOCATING & IS AN ESTIMATE ONLY. CONTRACTOR TO VERIFY LOCATION AS EX. UTILITY LOCATION MAY VARY. NOTIFY ENGINEER IF DISCREPANCIES VARY FROM PLAN AND AFFECT DESIGN.

GENERAL YARD PIPING NOTES:

- ALL SITE CIVIL AND YARD PIPING WORK SHALL BE IN CONFORMANCE WITH THE LATEST TOOEELE CITY STANDARD SPECIFICATIONS, AND WITH CURRENT EDITION OF THE UTAH CHAPTER APWA MANUAL OF STANDARD SPECIFICATIONS, UNLESS OTHERWISE NOTED. ALL WORK WITHIN BUILDINGS AND BACKFILL AROUND BUILDINGS SHALL CONFORM TO J-U-B SPECIFICATIONS AS NOTED IN THE DRAWINGS. IN THE CASE OF CONFLICT, THE MORE STRINGENT SPECIFICATION SHALL APPLY.
- UNLESS OTHERWISE NOTED, PRESERVE AND PROTECT ALL EXISTING UTILITIES.
- CONTRACTOR SHALL LOCATE ALL EXISTING UTILITIES AND BE RESPONSIBLE FOR DAMAGES TO EXISTING UTILITIES AND EXISTING IMPROVEMENTS AS A RESULT OF THE CONTRACTOR'S CONSTRUCTION ACTIVITIES.
- DURING CONSTRUCTION, OPEN ENDS OF ALL PIPELINES SHALL BE COVERED AND SEALED AT THE END OF THE WORK DAY.
- NORTHING & EASTING (N/E) CALLOUTS ON STRUCTURES REFERENCE THE CENTER OF THE STRUCTURE/FITTING.
- ALL MH, CLEANOUT, VALVE BOX, ETC. SHALL MATCH FINISHED GRADE ELEV OR AS SHOWN ON PLANS.
- THE CONTRACTOR SHALL SECURE APPROVAL FROM THE OWNER'S REPRESENTATIVE PRIOR TO BACKFILL OVER ANY UTILITIES. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING AND ACCURATELY RECORD THE LOCATION OF ALL NEW UNDERGROUND UTILITIES PRIOR TO BACKFILL.
- ALL WATER AND WASTEWATER SERVICES, PIPING, VALVES, HYDRANTS, & APPURTENANCES SHALL BE INSTALLED, TESTED, & APPROVED PRIOR TO FINAL SURFACE REPAIR.
- CONTRACTOR SHALL VERIFY NO CROSS-CONNECTIONS EXIST BETWEEN THE POTABLE WATER LINES & NON-POTABLE WATER LINES PRIOR TO PLACING THE NON-POTABLE WATER SYSTEM INTO SERVICE.
- THE LIMITS FOR YARD PIPING VARY DEPENDING ON THE CONNECTION REQUIREMENTS AT THE STRUCTURE. CONTRACTOR'S ATTENTION IS DIRECTED TO THE INDIVIDUAL COMPONENT DRAWINGS FOR CONNECTION REQUIREMENTS & RELATED DETAILS.
- ALL WATER LINES SHALL HAVE A MINIMUM COVER OF 4' FROM FINISHED GRADE & BE DISINFECTED & TESTED PER TOOEELE CITY'S TYPICAL SPECIFICATIONS PRIOR TO USE.
- MAINTAIN 12" MINIMUM HORIZONTAL/VERTICAL SEPARATION BETWEEN PARALLEL PIPES FOR CONSTRUCTABILITY. MAINTAIN WATER & SEWER MAINTAIN SEPARATION PER UTAH ADMINISTRATIVE CODE R317-3 (SEE ALSO C-02010).
- PROVIDE STRAIGHT UNRESTRAINED FLEXIBLE PIPE COUPLINGS WITHIN 5' OF EXTERIOR FOOTING FACE FOR ALL PIPES 4" & LARGER.
- SEE SHEET CG SERIES FOR GRADING DESIGN.
- SEE SHEET V-101 FOR SURVEY CONTROL BENCHMARKS.



J-U-B ENGINEERS, INC.

J-U-B ENGINEERS, INC.
392 E. Winchester St., Suite 300
Salt Lake City, UT 84107
Phone: 801.547.0393
www.jub.com

Subconsultant:

BID

SET

REUSE OF DRAWINGS

JUB SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RIGHTS IN THESE DRAWINGS AND THE SOLE RIGHT TO REUSE, REPRODUCE, OR OTHERWISE DISSEMINATE ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENTS SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.

NO.	REVISION	DESCRIPTION	DATE
1	ADDENDUM 2	AMMAN 8/13/2026	BY APR

03 - CIVIL UTILITY PLAN AREA A

FILE: 93-25-005 03-CU-101X

JUB PROJ. #: 93-25-005

DRAWN BY: ###

DESIGN BY: ###

CHECKED BY: ###

AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

LAST UPDATED: 8/13/2026

DRAWING:

03-CU-101

SHEET: ---- OF ----

SECTION 43 30 62
STAINLESS STEEL SLIDE GATES AND WEIR GATES
(ADDENDUM NO. 2)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. This section covers stainless steel slide gates, stop gates, weir gates and operators as shown on the plans, listed in the gate schedules and as specified herein.
- B. The equipment provided under this section shall be fabricated, assembled, erected, and placed in proper operating condition in full conformity with the drawings, specifications, engineering data, instructions and recommendations of the equipment manufacturer.
- C. Gates and operators shall be supplied with all the necessary parts and accessories indicated on the drawings, specified, or otherwise required for a complete, properly operating installation, and shall be the latest standard product of a manufacturer regularly engaged in the production of fabricated gates.
- D. Refer to the gate schedule in the Contract Drawings.

1.2 REFERENCES

- A. ASTM International ASTM A276 – Stainless steel bars and shapes
- B. American Water Works Association (AWWA) C561 - latest edition
- C. ASTM D4020 – Standard Specification for Ultra-High-Molecular-Weight Polyethylene Molding and Extrusion Materials

1.3 DEFINITIONS

- A. A weir gate is a downward opening slide gate with flow over the top.

1.4 DESIGN REQUIREMENTS

- A. Gate configuration, components and accessories shall be of the size and type shown on the drawings and gate schedule and specified herein.
- B. Gates shall be designed for continuous immersion in raw wastewater.
- C. Except as modified or supplemented herein, all gates and operators shall conform to the applicable requirements of AWWA-C561 standards.
- D. Leakage: Gates shall be substantially watertight under the design head conditions. Under the design seating head, the leakage shall not exceed 0.05 US gallons per minute per foot of seating perimeter. Under the design unseating head, leakage shall not exceed 0.05 US gallons per minute per foot of perimeter.

1.5 SUBMITTALS

- A. Submit in accordance with Section 01 33 00 and Divisions 43, 46 with the following additional information:
 - 1. Fabrication drawings with full dimensions, construction and installation details, and materials used on all parts of the gate, operator, lift, and appurtenances. General arrangement drawings and cut sheets are not considered acceptable drawings.
 - 2. Plan, cross section, and details showing proposed mounting for each size and typical application of gate.
 - 3. Applicable operation and maintenance information as specified in Section 01 73 00.
 - 4. Complete engineering design calculations in compliance with AWWA standards, latest edition.

1.6 WARRANTY

- A. Equipment supplied under this section shall be warranted to be free from defects in workmanship, design and materials for a period of one (1) year from the date of Substantial Completion. If any part of the equipment should prove to be defective during the warranty period, the Manufacturer shall replace the part at no expense to the Owner.

1.7 QUALITY ASSURANCE

- A. The gate manufacturer shall have a minimum of five (5) years of experience producing equipment substantially similar to that required and shall be able to submit documentation of at least ten (10) independent installations using the same size or larger equipment as detailed below. Each installation must have been in satisfactory operation for at least five (5) years.
- B. The contract documents represent the minimum acceptable standards for the equipment. All equipment shall conform fully in every respect to the requirements of the respective parts and sections of the drawings and specifications. The entire unit shall be Manufacturer's standard product, but shall be modified, redesigned, furnished with special features or accessories, made of materials or provided with finishes as may be necessary to conform to the quality mandated by the technical and performance requirements of the specification.
- C. Fabrication shall be done in compliance with all applicable ASTM standards or equivalent international standards.
- D. The manufacturer's shop welds, welding procedures, and welders shall be qualified and certified in accordance with the requirement of the latest edition of American Welding Society (AWS) Sections D1.1, 1.2, and 1.6.

- E. The Contractor or Subcontractor responsible for the installation of the gates shall have five or more years of experience in the installation of similar type gates.
- F. All fully assembled gates shall be shop inspected, tested for operation and leakage, and adjusted before shipping. There shall be no assembling or adjusting on the job sites other than for the lifting mechanism.

1.8 DESIGN REQUIREMENTS

- A. Gate configuration, components, and accessories shall be of the size and type shown on the Drawings and gate schedule and specified herein.
- B. Gate, frame, and yoke design shall be such that the flexural stress does not exceed 10,000 pounds per square inch (psi) or that the minimum safety factor is 5-to-1 based on the ultimate strength of the material used.
- C. Gate shall be designed for continuous immersion in raw wastewater. Fluid temperature is expected to range from 35°F to 90°F.
- D. Except as modified or supplemented herein, gate and operators shall conform to the applicable requirements of AWWA-C561 standards.
- E. Leakage: Gate shall be substantially watertight under the design head conditions. Under the design seating and unseating heads, the leakage shall not exceed 0.05 US gallons per minute per foot of seating perimeter.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. In order to ensure uniform quality, ease of maintenance and minimal parts storage, all gates supplied under this section shall be supplied by a single manufacturer unless noted otherwise.
 - 1. Whipps
 - 2. Golden Harvest, Inc. (Addendum No. 2)
 - 3. Approved Equal

2.2 MATERIALS AND CONSTRUCTION

- A. General Design
 - 1. Gates shall be either self-contained or non-self-contained of the rising stem or non-rising configuration as indicated on the gate schedule.
 - 2. All parts of the gate shall have a minimum thickness of ¼-inch.
- B. Frame
 - 1. Gate frame shall conform to the safety factors specified in AWWA C561.

2. Gate frame shall be designed for embedding, in-channel, or face mounting as showing on the drawings or gate schedule.
3. The gate frame shall be stainless steel and designed for maximum rigidity.
4. The frame configuration shall be of the flush-bottom type and shall allow the replacement of the top and side seals without removing the gate frame from the wall.
5. Lifting Lugs shall be provided on frame styles.
6. Frame shall be single piece construction; bolted frames are not acceptable. Wraparound gussets shall be provided where frame stresses require additional reinforcement.

C. Slide

1. Gate slide shall conform to the safety factors specified in AWWA C561 but shall, in no case, be less than ¼-inch thick. The slide shall consist of a stainless-steel plate that is reinforced with horizontal and vertical stiffeners. The stem connector clips or stem block pocket shall be welded to the slide. Horizontal reinforcement members welded to side vertical members. The slide shall consist of stainless-steel plate reinforced to limit its deflection. The limits of deflection shall be:
 - a. Slide Gate: $L/720$ of the gate's span under the design head or 1/16 inch, whichever is less.
 - b. Weir Gate: $L/720$ of the gate's span under the design head or 1/16 inch, whichever is less.

D. Guides and Seals

1. The guides shall be provided with ultra-high molecular weight polyethylene seats on both sides of the slide and shall be of such length as to retain and support at least two thirds (2/3) of the vertical height of the slide in the fully open position.
2. Guide frame shall not weigh less than 13 pounds per foot.
3. Slide gate shall incorporate a flush-bottom seal that is attached to the bottom frame invert member. The seal shall be of the materials listed in "Materials of Construction" and shall meet the material test requirements specified in AWWA C561.
 - a. The design of the seal shall be such as to provide resistance against leakage, as specified in AWWA C561.
4. Top and side seals shall be self-adjusting ultra-high-molecular-weight polyethylene (UHMWPE) with compression cord and securely fastened to the frame with formed stainless-steel retainers and shall be replaceable and adjustable in the field without disassembly of the frame and removing the gate from the installed position. The corners of the seals shall be vulcanized. Bottom seal to be UHMWPE.

- a. When required for shutoff purposes, a neoprene top seal shall be mounted to the top member.
- E. Yoke and Pedestal
 1. The yoke, to support the operating bench stand, shall be formed by two structural members welded at the top of the guides to provide a one-piece rigid frame.
 2. Self-contained gates shall be provided with a yoke to support the operating bench stand. The yoke shall be formed by two structural members welded at the top of the guides to provide a one-piece rigid frame. The maximum deflection of the yoke shall be $L/360$ of the gate's span or $\frac{1}{4}$ " whichever is less.

2.3 LIFTING ASSEMBLIES

- A. Stem and Couplings
 1. The operating stem shall be of stainless steel designed to transmit in compression at least two times the rated output of the operating manual mechanism with a 40-pound effort on the crank. The operating stem shall be rising and shall be designed to withstand both tension and compression loads. For manual actuators the tension and compression design loads shall be those caused by the application of an 80-lb effort on the crank or handwheel or a 100- pound-foot torque on a wrench nut. The tension design load shall not exceed one-fifth of the ultimate tensile strength of the stem material. The compression design load shall be less than the critical buckling load as determined by AWWA C561.
 2. Threads: Stems shall have rolled or American Standard general purpose full depth dual lead Acme type threads with a maximum roughness of 16 micro-inches. The stem shall be supported by angle guides or cast iron stem guides with a two-piece cast bronze guide collar, spaced to provide an L/R ratio of 200 or less.
 3. Where a hydraulic, pneumatic or electric operator is used, the stem design force shall not be less than 1.25 times the output thrust of the hydraulic or pneumatic cylinder with a pressure equal to the maximum working pressure of the supply, or 1.25 times the output thrust of the electric motor in the stalled condition.
 4. Coupling: Stem lengths requiring more than one piece shall be joined together by stainless steel or bronze solid couplings. The couplings shall be threaded and keyed, threaded and bolted, or bolted only when one of the pieces is made of tubing and shall be of greater strength than the stem.
 5. Gates having a width equal to or greater than two times their height shall be provided with two lifting mechanisms connected by a tandem shaft. The connection shaft shall be provided with a cover for safety.
 6. Rising-stem gates with manual actuators shall be provided with a stop collar to be field adjusted according to the manufacturer's instructions at the time of gate installation to prevent over-closing the gate.

B. Stem Guides

1. Stem guides shall be fabricated from stainless steel. Stem guides shall be equipped with a UHMWPE bushing. Guides shall be adjustable and spaced in accordance with the manufacturer's recommendation. The L/R ratio shall not be greater than 200.
2. Stem guide brackets shall be provided as required to meet the stem design requirements specified in this section and may be mounted on the gate guides or yoke or may be wall mounted. Wall-mounted guides shall provide lateral adjustment between the wall and the guide bracket and between the guide bracket and the guide for field alignment. Guides which are mounted on the gate assembly shall be designed and fabricated to ensure proper alignment. Stem guide assemblies and their anchor bolts shall be designed to maintain the alignment under operating loads. Stem guides shall be equipped with a UHMWPE bushing with maximum diametral clearance of 1/8-inch.

C. Stem Cover

1. Rising stem gates shall be provided with a clear polycarbonate stem cover. The stem cover shall have a cap and condensation vents and a clear Mylar position indicating tape. The tape shall be field applied to the stem cover after the gate has been installed and positioned.

2.4 LIFTING MECHANISM

- A. Operators of the types listed in the schedule shall be provided by the gate manufacturer.
- B. Electric actuators are specified in Division 26.
- C. Each manual operator shall be designed to operate the gate under the maximum specified seating and unseating heads by using a maximum effort of 40 pounds on the crank, and shall be able to withstand, without damage, an effort of 80 pounds.
- D. Gearboxes shall be provided when required to maintain the operating force below 40 pounds. All bearings and gears shall be totally enclosed in a weather tight housing. Operator housing shall be cast steel or cast iron. The pinion shaft of crank-operated mechanisms shall be supported by roller bearings. The operating shaft shall be fitted with a 2-inch square operating nut and removable crank. The crank shall be fitted with a corrosion-resistant rotating handle. The maximum crank radius shall be 15 inches and the maximum handwheel diameter shall be 24 inches.

2.5 ACCESSIBILITY

- A. Crank or handwheel shall be located 36 inches to 42 inches above the walking surface. When required provide enclosed chain and sprocket drive to lower the actuator.
- B. When crank is not accessible from the walkway provide horizontal extension and supports.

- C. Grease zerks that are not easily accessible shall be extend to an easily accessible location.

2.6 MATERIALS

Part	Material
Slide, Spigot, Frame, Stiffeners, Yoke, Guide angles	Stainless Steel, AISI 304L
Gate seals	Resilient Neoprene ASTM D-2000
Bearing bars, Guides, Stem guide liner	Ultra-High Molecular Weight Polyethylene (UHMWPE) ASTM D4020
Threaded stem, Stem guides, tandem shafts, extension shafts	Stainless Steel, AISI 304L
Seal retainer	Stainless Steel, AISI 304L
Fasteners	Stainless Steel, ASTM F593/F594, Alloy Group 1
Pedestal/wall bracket	Stainless Steel, AISI 304L or Cast Iron ASTM A126, Class B or Mild Steel, ASTM A36/A36M
Stem cover	Polycarbonate ASTM A-707
Lift and stop nut	Manganese Bronze ASTM B584, UNS-C86500

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify the gates and all appurtenances meet the requirements of these Specifications.

3.2 INSTALLATION

- A. The Contractor shall employ qualified competent personnel for the installation and testing.
- B. Unless otherwise specified, gates shall be installed in accordance with manufacturer's instructions and AWWA C561.
- C. Place concrete so that no voids occur around the frames or thimble, if present.
- D. Securely anchor all materials embedded in concrete. Anchor bolts shall be carefully placed in templates for proper gate alignment. Use epoxied anchor where risk of spalling exists.
- E. Verify that each guide is securely installed, and the gate operates smoothly. After gates have been properly installed, adjusted, and properly lubricated, each slide shall be operated for one complete cycle, open-close-open or close-open-close. Check for

proper alignment and for indications of binding throughout a complete cycle. Gates showing excessive leakage shall be removed, remedied, and reinstalled until the excess leakage is no longer present.

- F. Adjust and lubricate gate after installation.
- G. After installation, perform a field leakage test to verify that the gate performs within the allowable leakage requirements of these Specifications.
- H. Touch-up factory coatings damaged during shipping and construction.

3.3 FIELD SERVICE

- A. One trip, one day: Inspection training and leakage testing.

END OF SECTION