DOCUMENT 090

ADDENDA

ADDENDUM NUMBER 4

DATE: [3/3/2026]

PROJECT: **Ke-nek Water Treatment Plant and Water Main**

PROJECT NUMBER: **CA 21-F05**

OWNER: **Yurok Tribe**

ENGINEER: Maxwell Moore

TO: Prospective Bidders

This Addendum forms a part of the Contract Documents and modifies the Bidding Documents dated 12/16/2025, Addendum Number 1 issued 12/16/2025, Addendum Number 2 issued 1/26/2026, and Addendum Number 3 issued 2/9/2026 with amendments and additions noted below.

Acknowledge receipt of this Addendum in the space provided in the Bid Form. Failure to do so may disqualify the Bidder.

This Addendum consists of 12 pages and the following 51 pages of Documents:

Document		**Issue Date**
010	Request for Bids	[3/3/2026]
040	Bid Form	[3/3/2026]
01 11 90	Revisions to Standard Specifications	[3/3/2026]
01 27 00	Measurement and Payment	[3/3/2026]
22 11 00	Facility Water Distribution	[3/3/2026]

This addendum serves to extend the bidding period to Wednesday, March 18th at 2pm and provide additional details requested. An additional addendum 5 is planned to provide further answers that have not been prepared or included in this addenda 4. Notably, plan set revisions and further electrical guidance are being prepared to be included in addenda 5.

Changed Bid Line Items and Quantities

- **Removed line items:**
    - Line item 15, "18kW Propane Generator"
    - Line item 16 "Automatic Transfer Switch"
    - Line item 65 "500-gallon Propane Tank and Foundation"

- **Added line items**
  Additions have been made to the revisions to standard specs and measurement and payment for these items.
    - Line item 67 "Grid-charged battery backup system"
        - Intended to replace the generator and propane power backup system proposed.
    - Line item 68 "Vault for DWR Connection"
        - This vault, shown on 2/C304, was unaccounted for in other line items
    - Line item 69 "Stormwater Pollution Plan and EPA CGP"
        - The contractor will be responsible for applying for, receiving, and maintaining an EPA Construction General Permit and corresponding Stormwater Pollution Prevention Plan.
    - Line item 70 "3-6-inch Rip Rap"
        - Rip rap identified on grading plan did not have a related bid item. An additional location of rip rap is now also proposed, on the east side of the retaining wall drainage.
    - Line item 71 "Site clearing"
        - The contractor is expected to prepare the site in line with specification 31 10 00 – site clearing that was not contained within other line items. The Yurok Tribe will provide clearing of upright trees prior to construction, but undergrowth, shrub-level, and deadwood are to be the contractor's responsibility.

Questions Received:

Admin and Logistics, Traffic Control

- What is the start date for construction?
    - A construction start date has not been firmly set for this project. Construction is expected to begin within 8-12 weeks of award, pending coordination with the Yurok Tribe and IHS.
- Do you have a copy of the planholders list?
    - A plan holders list is not being maintained for this project
- Can the road stay closed for extended periods of time during the work shift while the trenching is occurring on Tulley Creak Road? If not, what's the maximum hold time we can keep traffic at?
    - Tulley Creek Road has a 10-minute maximum hold time.
- The plans list a Tero Permit and a water quality control permit being the contractors responsibility to procure. In discussions with the gentleman in charge of the Water Quality Control Permits, a Cultural Resource Permit will be required. Please confirm that we should budget for a Cultural Resource Permit. Also, are there any other permits the contractor will be responsible for paying for.
    - The Yurok Tribe General Construction Water Quality Permit and Yurok Tribe Cultural Resources Management Permit have been applied for by the Indian Health Service for this project. Contractor will need to be added to these permits though Yurok Planning Department contact, but only a small amount of email coordination is expected, and there is no direct fee to the contractor.

      However, some EPA permitting will still be required. A general construction permit (CGP), which will include a stormwater pollution prevention plan (SWPPP), will be required. This has been added as a bid line item.
- Please provide the pricing for the cultural monitoring.
- Does the tribe have a preferred or in-house cultural monitor and if so what is their wage rate?
    - $35/hour, and the contractor must use Yurok Tribe’s contact. Please contact Rosie Clayburn of the Yurok Tribe for further information.
- Will the contractor need to clear any trees at the tank location and the pathway for the trench through the woods, or is this effort being completed by the tribe prior to the work?
    - Upright tree removal and road improvement will be held by the Tribe. The removal of deadwood and low growth will be the contractor’s responsibility. Line item 71, site clearing, has been added to the bid sheet to encapsulate this work.

- Prior jobs for the Yurok tribe required all spoils to be left on the tribes land. Is there a disposal site for this?
    - Spoils will indeed need to remain on the Yurok reservation. A specific location has not been identified yet and will come in later direction.
- Is the tribe covering the expense for compaction testing?
    - No, testing is contractor responsibility.
- Will survey control be provided for the building and tank? Will all the trench locations be determined by the engineer in the field or do they all need to be surveyed?
    - A survey control point will be identified by IHS staff prior to construction.
    - Final Trench alignments will be approved by Project Engineer prior to any ground disturbance.
- Project manual Page 9 of 541 states the Tero will be 5%. Page 16 of 541 states the Tero will be 2%. Can you confirm the correct amount please.
    - TERO is 5%, corrections have been made to bid sheet.

Drain Alignment, C301 A201

- Sheet C301 shows two 3" c900 drain lines (should be sch80?) that run separately to the drain dissipator.
- Sheet A201 shows these lines tying together and then running to the drain dissipator together. Please advise which configuration is correct.
    - A201 is correct, and 3” PVC should be schedule 80, not C900. Plan set revisions to be included in addenda 5.

Pipeline, Trenching, and Embedment

- Can class 2 AB be used in place of sand for pipe embedment?
    - Not approved for bedding. Refer to trench detail and specification for sand bedding.
- Is the native soil approved for backfill? I didn't see an answer to this in the previous addendum.
- Can native material be used for backfill once the contractor has the pipe bedded and covered?
    - Above the sand embedment level, and with inspector’s field approval of proposed native backfill material. Please coordinate trenching backfill dates with inspector to ensure inspector attendance. Please refer to the Trenching specification 31 23 17 description of acceptable backfill material.
    - Not approved on Tulley Creek Road, as Tulley Creek Road is beholden to county road requirements, per encroachment permit.

- Questions were received during pre-bid regarding the casings present on C303, as the plan set contradicted itself between there being 3 and 4 existing casings.
    - There are 4 existing casings, the detail 2/C303 is correct in showing 4 existing casings and 1 new casing for line F1.

- Detail 2 on C304 shows a 24" x 36" concrete traffic vault for future connection. What did item do you want this vault under?
    - A new bid line item has been added to reflect the vault and blind flange for future connection shown in 2/C304.

Paving

- Will you be putting out more plans for the paving? The bid schedule has a quantity of 220 CY and the only paving I see is the 115 SY in front of the SSF building and one patch pave on Tully Creek rd. This would be maybe 15 CY. Please advise.
    - No further asphalt sheets are planned to be released; however, the quantities of asphalt have been vastly increased due to the paving on Tulley Creek Road trenches not being originally included. The total is now 2215 SY. Additionally, the unit was listed incorrectly on the bid sheet and has been corrected to SY, from CY. The expectation of paving is as follows:
    - 115 SY at the Water Treatment Plant Access Road, C301
    - 2055 SY Tulley Creek Rd. Trench, Lines ‘E’ and ‘F3’
    - 15 SY, C106 Patch
    - 20 SY, C202 Patch
    - 10 SY, C304 Patch

Generator and Propane Tank

Questions were received regarding propane and on-site generation. However, these elements have been removed in favor of installing a grid-charged reserve battery system. Revisions to the bid sheet have been made to reflect this. Revisions to the planset, and specifications are to come shortly in addenda 5.

Metal Building / Sand Filtration

- 6/12 pitch is excessive. Will 4/12 pitch work?
    - A 4/12 pitch is acceptable.

- Is there supposed to be a louver in the main door of the metal building or just in the chlorine building?

  - Louvered doors are only required for the chemical treatment building. Steel Door specification revised to note Louvered vent required “where specified on plan set”.

- Can the louvered vents in the gable end walls be rectangular?
- The building company cannot provide triangle vents in the end walls just the framing and trims.

  - Rectangular vents are acceptable on end walls.

- Can you please clarify the overhead door sizes for the PEMB. On sheet 46, it calls 12 ’Wide x10 ’Tall and on sheet 48 shows 12’ high x 10’ wide.

  - 10’ Vertical Height and 12’ Horizontal Width is intended; Sheet 46 callout is correct.

- 26Ga. Metal roofing is standard, is 24 Ga. Ncessary?

  - Per specification 13 34 19 Metal Building Systems, Section 2.3.A, 26 Gauge is indeed what is specified for use.

- Do the polycarbonate skylights on the metal building require a curb? Can you provide specs for these please?

  - Curbs are required, to follow specification 13 34 19, section 2.7.H. Polycarbonate Specifications have been added to the 01 11 90 Revisions to Standard Specifications document.

- Are there liner panels on the walls inside the building? If so, what profile?

  - No liner panels are required.

- They request the 2-12’x10’ Rolling Doors to be Aluminum. This is not industry standard they are rolling sheet doors made of sheet steel.

  - Sheet steel or aluminum doors are acceptable. Steel was noted in the original 01 11 90 specifications and aluminum was in the plan set. Both materials are acceptable and the specifications have been revised to show this.

- Detail 1 on A205 shows a prefabricated frame and lid with a door hatch. The specs do not list any manufacturer for this item. Can you provide a list of approved manufacturers please.

  - No. This item is expected to be custom. Please refer to 01 11 90 Revisions to Standard Specifications 2.20, “Custom Vault Lid”

- Wanted to get some clarification on the cast in place walls for the sand filtration walls and floor.
  #1 Are we able to pour the floor first and build our walls off of that. The reason I ask is the cold joint at the bottom. Can we use a material called fradiflex? Where the slab meets the wall
  #2 Can we do a snap tie wall with a patch and sack

  - Both approaches are acceptable. A detailed approach to the concrete construction is expected from the awarded contractor in the submittal process.

- It calls for continuous gaskets on the exterior wall sheets. What is that? Butyl Tape mastic?

  - Foam closure or Butyl Tape are acceptable for a continuous seal. Seek submittal approval after award.

- Is an Artisan Flat panel acceptable for the soffit sheeting?

  - Yes. Seek submittal approval after award.

The specifications request a "Rigid Framed Building." The following questions we have received appear to be based around a "Cold-formed Building." The specification requiring a Rigid Frame Building stands. Refer to metal building specification 13 34 19 Section 1.3.A.

- 6" overhangs on the building are not an option, 12" is the minimum for a PEMB.

- They call out for Aluminum Seamless gutter. The gutter supplied with the metal buildings are 10'-20' sections made from the same material as roof and walls.

- The metal building companies cannot provide a sloped canopy over the entry doors, only a flat canopy with hanger rods.
- Can the canopies over the man doors be flat?

- Does the Metal building sit on top of the 12" curb or down at F.F. elevation with the wall sheeting elevated 12" ?
- Will the building sit on pedestals up 12", or F.F. with sheeting on 12" curb?

Chemical Treatment Building

- Can you please provide clarity to the desired duty condition (flow and pressure) for the Chemical Feed Pumps? We were unable to find the duty conditions to size our pump selection. We need on the GPH or GPM.

  - Specified chlorine pump has been changed to the Stenner Pump 85MHP17 and specifications amended to include GPH and psi delivery.
  - With this change, the chemical pumps specified are dosing independent of flow, and the flow switch has been removed from the plans.

- A101 shows two countertop sections. What type of framework supports the countertops?

  - Brackets affixed to building studs and countertops are intended. Additional instruction has been added to the countertop specification.

- The countertops shown in the treatment building are called out as laminate countertops. Specs are saying epoxy. Please confirm that laminate countertops will be sufficient for the building.

- Specifications have been revised to reflect laminate countertops.

Air Release Valves

- Please provide the inlet sizing that is wanted for them. The plans and specifications are not clear. Val-Matic does not offer Air Release valves with a 1/32" orifice size. With 1" inlet, rated to 175 psi, they offer 1/16", 3/32". 150 PSI offers 1/8", 3/16". 300 PSI offers 1/16" and 3/32". Please specify a different orifice size for the air release so the proper valve can be quoted.

    - The specifications for the air relief valve and the combination air valve have been modified. The Air relief Valve is for a 1/16" orifice and the combination air valve species a 2" nominal VALMATIC sizing.

Pressure Gauges

- Bid item 12 is for three pressure gauges. I count 7 gauges across the job. Can you identify which three gauges these are supposed to be?

    - Pressure gauge quantity has been revised to 2, and items that have pressure gauges included within their bid item have had their Measurement and Payment descriptions to more directly state this. Overall, 9 pressure gauges are present in the project. To summarize:
        - 2 pressure gauges are in each of the pressure reducing valve and altitude valve boxes and are intended to be contained within their respective bid items (57, 58, and 53), for a total of 6 gauges here encompassed in other items.
        - 1 pressure gauge is within the chemical treatment building and is encompassed in line item 66.
        - The 2 pressure gauges remaining, that are represented by line item 12, are the pressure gauges on either side of the booster pumps on C306

Electrical

- Please advise if electrical Sheets will be provided for this project
- Please provide a single line diagram for the Treatment facility - building, tank, sand filter
- Please provide a panel schedule for the Treatment facility - building, tank, sand filter

    - Further electrical sheets are being prepared. Please expect them in an addenda 5.

- Civil Sheets show (1) 4" conduit & (3) 2" conduits to be installed via joint trench. The questions listed below are related to those conduits as shown on:

    - Confirm what type of wire is intended to be install in the 4" power conduit

        - To be included in addendum 5 conduit and cable schedule

    - Confirm what type of communications wire should be installed in the 2" conduits

        - Line F1, F2, & F3 are to carry communication wire to transmit pump calls from the floats in the equalization tank to the booster pump at the McCoy end of the project. Further detail to be included with addenda 5.

    - Are these conduits to be left empty
        - No, no conduit is intended to be installed empty. A cable and conduit schedule will be included with addenda 5.
    - Are there any utility inspections for these conduits
        - Yes, anticipate utility inspections to be coordinated with Indian Health Service, Yurok Tribe, and utility companies.
    - What are the minimum coverage requirements for these conduits
        - 24" of cover, please see sheet C502
- Sheet C301 shows (2) 2" conduits connecting to the electrical joint trench (1-power, 1-communications).
    - How does this tie into the joint trench detail.
    - Are vaults required. If so, are they H-20 rated & what size. Can you provide a detail?
        - Vaults are to be H-20 rated
        - A detail will be included in addenda 5.
- Keynote 2 on sheet C303 Detail 1/303 is ambiguous, please show final connections so pricing can be accurate.
    - Transformer connection point is being revised. To be provided in Addenda 5
- Have PGE applications been applied for at each site?
    - PG&E service is applied for at the upper site. The lower site is already served.
- Who is responsible for the unknown PGE connection & engineering fees?
    - IHS and the Tribe
- There are no specifications for electrical integration & Instrumentation. Are there any instrumentation or integration at these sites (PLC's, control system, Scada)? If there is please provide a P&ID list.
    - To be provided in Addenda 5
- Are there any tank level instruments?
    - Sheet C405 detail #1 shows floats. What do these floats connect to?
        - These floats are to call the booster pumps at the McCoy end of the system.
    - What type of conduit is the 2" supposed to be?
        - To be included in addenda 5 cable and conduit schedule.
- Specification 260533 does not clarify types of conduits for underground, indoor, outdoor, or changes to these conduits when subject to physical damage.
    - Is EMT acceptable for exterior locations & tanks? Or is GRS required.
    - Within the building and the sand filter building is GRS required or is EMT acceptable

    - To be included in addenda 5 cable and conduit schedule.

- What buildings, if any, should be considered a wet location?
    - All buildings.
- Are the flow meters local or are they connected to any PLC's , control system, or Scada systems.
    - Flow meters are only to store locally.
- Is the Chlorine analyzer & controller local or do they connect to a controls system.
    - Chlorine Analyzer, Turbidimeters, pH, and Temperature are to be live read by the PLC. Internet service will be brought to the site outside of this work, but a setup that locally reads, records, and represents these data is expected.
- Are there any controls systems at the sand filter building?
    - The sand filter building does not have any electronic controls.
- What type of Electrical conduit is allowed within the sand filter building?
    - To be included in addenda 5 cable and conduit schedule.
- Is there a location determined for underground electrical pull boxes, on both Owl Creek Road and Tulley Creek Road, or will this be determined by the Electrical Contractor during construction?
    - Locations of pull boxes shall be approved by Project Engineer.
- Is there a spec for the Tier Ratings for pull boxes, based on projected location?
    - To be included in addenda 5.
- Is there a spec for wire sizing for the float switch circuit between the McCoy treatment facility and the equalization tank? As this distance is substantial, voltage drop will need to be considered.
    - Guidance to be included in addenda 5.
- 4" Conduit and Cable: Plans do not show vaults and what will be pulled through the conduit. Is this conduit for PG&E and to contain pull tape only?
    - Guidance to be included in addenda 5.
- 2" Conduit and Cable: Plans do not show any pull boxes or cabling.
    - Guidance to be included in addenda 5.
- Utility Plan: Is there a PG&E plan for this project?
    - Draft plan is being finalized with PG&E at this time.

Quantity Questions

- Please confirm that the quantities for the bid schedule class 2 base rock includes all material under the structure/propane/tank pads and the access road.

    - The removal of Propane Tank and Generator Pad has reduced expected class 2 quantity by 2 Cubic Yards. The Class 2 base rock quantity presented in line item 22 represents the rock to be used under the asphalt access road, under the pads for the equalization tank and roughing filter, around the tank drain boxes, with the gabion wall, under the treatment building, the flooring of the metal building, for fill in trench details 1/C502, 2/C503, and for surfacing above a majority of trenches shown between C501 and C504.

- Bid item 29 calls out 3" Water Main - PVC Sch 80 - 370 LF. The only spot on the plans that I could find new 3" was on C301 where it shows 320 LF of 3" C900 Drain Line. Please clarify if the 320 lf of drain line is supposed to go under Bid Item 29, or if that is a different item.

    - Calling for 3” C900 is erroneous, all should be Schedule 80 3” PVC. Line item 29, Schedule 80 3” PVC represents the drain lines on C301 and the inlet piping shown on 3/A208.
      Notably, the drain line alignment and quantity shown on C301 is incorrect, and the correct alignment of this drain is shown on A201. A201 represents 120 LF of 3” Sch 80 PVC and 3/A208 represents 80 LF, for a total of 200 LF. The bid sheet has been revised.

- Bid item 31 has 260 lf of 1.5" Water Main - PVC SCH 80. Does this bid item represent the 1.5" PVC perforated pipe in the filter basin (A206)? The only other spot where there is 1.5" pipe is the service line shown on C305 with 350 LF. Please advise.

    - The 1.5” WSL is erroneous, should be 1”, plan set revision to come. The 1.5” Schedule 80 PVC represented in line item 31 is indeed the perforated PVC laterals in the filter basin on A206.

- I can’t find where the 45 lf of 4" ductile iron pipe is (biditem 35).

    - This is the main piping within the chemical building, and yard piping around the bolted steel tank.

- Bid items totals for 33 and 34 for the 4" and 6" HDPE pipe appear to not match what is shown on the plans for lengths. Please check if the two LF quantities should be swapped for those items.

    - Quantities are indeed swapped with each other. Bid sheet revised.
      6” HDPE – 150 LF at C202
      4” HDPE – Line ‘A’ – 450 LF

Painting

The following questions were received regarding painting and are intended to be answered in addenda 5. Attached here for notice.

- "Division 09 includes systems for alkyd floor paint, intumescent coatings, wall coverings, CMU coatings, and ferrous metal systems. However, the drawings do not appear to identify specific locations where these finishes are required.
  Based on the plans, we currently see the following potential scope in Building 1:
  Interior gypsum board walls and ceilings (A101/A103)
  Metal doors and frames
  Exterior fascia and wood soffit
  Possible limited exposed structural steel & louvers
- For Building 2, we do not currently see defined paint callouts other than potential exposed structural steel. There are no finish schedules or finish tags identifying painted surfaces.

  Additionally, please clarify:
  Are exposed process pipes intended to be painted? If so, please confirm the material type and coating system.
  Are concrete floors to receive alkyd or epoxy coating?
  At this time, we are carrying painting only for visibly indicated drywall and miscellaneous metal surfaces per drawings, excluding intumescent, floor coatings, wall coverings, and pipe coatings unless otherwise directed."

END OF DOCUMENT

DOCUMENT 010 REQUEST FOR BIDS

YUROK TRIBE PLANNING AND COMMUNITY DEVELOPMENT

CA 21-F05 Yurok Ke-nek Water Treatment Plant and Water Main

I. INTRODUCTION

The Yurok Tribe Planning and Community Development Department is circulating this Request for Bids to solicit **Construction Bids** for **CA 21-F05 Yurok Ke-nek Water Treatment Plant and Water Main.** Bidder must have a current California Contractors License appropriate for the nature of work to be performed. Bidders (Licensed and Bonded in accordance with current California State Contractor's Law) shall have a Class A License. Any Contractor claiming Indian Preference shall complete and submit, with the bid, the form entitled "Application for Contractor/Business Certification" (included in the bidding package).

Federal Davis Bacon Wage Rates shall apply to CA IHS Project 21-F05. The Contractor can locate the current wage rates at the following web address: (https://www.wdol.gov/dba.aspx). The Contractor can locate the current version of the Department of Labor's WH-347 form and instructions for its completion at the following web address: (https://www.dol.gov/whd/forms/wh347instr.htm).

The Water Treatment Plant will be constructed in the community of Ke-nek on Tulley Creek Road (41.2198 N, 123.7729 W) in Humboldt County, California. All work must be completed in a manner compliant with all applicable Federal laws, State laws, Tribal laws and County building codes.

The range of bids for this work is estimated to be between **$3,500,000 and $5,500,000**

Contract time is **300 days** as specified in the Bid form.

II. PROJECT PROFILE

The Yurok Tribe has been awarded funding from the US Environmental Protection Agency through a Drinking Water Tribal Set Aside grant. The funding will be used by the Yurok Tribe to install 8,500 LF of water mains, 750 LF of water service lines, and approximately 2,000 LF of transmission main. Flow meters, hydrants, and assorted valving installation will accompany these water lines. In addition, a 60,000-gallon bolted steel water tank, a roughing filter, a slow sand filter building, a chemical treatment and monitoring building, and backup generator power for these facilities will be constructed.

A non-mandatory pre-bid meeting and walk through will be offered to all bidders, meeting outside of the Yurok Tribe Tulley Creek Fire Station, located at [41.220153°, -123.772560°], at **11am on Thursday, January 29th, 2026**.

III. AREA PROFILE

The site location for the contract is on Tulley Creek Road, serving the community buildings, the recent Alvarez development, and the McCoy community, located within Humboldt County, in Northwestern California. The site is a rural area with nearby electricity. The surface water system in place currently intakes water from both Owl Creek by impoundment and Tulley Creek by infiltration gallery. There is currently a

water treatment system and tank serving the McCoy community, and another water tank that serves the offices, fire department, and other community buildings with untreated water.

IV. SCOPE OF WORK

It is the intent of the Yurok Tribe to hire a licensed contractor, in good standing, who possesses a valid California General Contractor's License (Class A) to manage and construct the project.

i. Standard and Guidelines

a. California Building Code (CBC), latest edition
b. Humboldt County Building Codes, latest edition
c. American Water Works Association Standards, latest edition
d. National Electric Code, latest edition
e. Uniform Plumbing Code (UPC), latest edition
f. State of California Energy Codes, latest edition
g. Federal Americans with Disabilities Act of 1990, Accessibility Guidelines for Building and Facilities (ADA) with multi-use functions.
h. National Fire Code (NFC), latest edition
i. Uniform Mechanical Code (UMC), latest edition
j. National Sanitation Foundation, latest edition
k. California Department of Water Well Standards, latest edition
l. US Environmental Protection Agency Water Well Standards, latest edition
m. State Water Resources Control Board Underground Storage Tank Regulations, Title 23, California Code of Regulations, Chapter 16, latest edition
n. Yurok Tribe Tribal Employment Rights Ordinance (TERO)
o. Yurok Tribe Water Quality Certification
p. Other applicable building codes and regulations

ii. Construction Phase

a. The Contractor shall obtain the following permits:
    a) Yurok Tribe TERO permit – Justin Woods – 707-457-7637
    b) Yurok Tribe Environmental Program water quality control permit – Joshua Cahill – 707-954-7519
b. The Contractor will be responsible for complying with the Yurok Tribe Cultural Resources Management Permits and potential onsite monitoring requirements.
c. The Contractor will be responsible for attending a Preconstruction Meeting with the Yurok Tribe, the Engineer, and any Sub-Contractor as the Contractor deems necessary. At the preconstruction meeting, the Contractor will be responsible for presenting all construction time tables, schedules and approval processes. The meeting shall also cover the project's method of communication, conflict resolution and discussion of the project's major obstacles or potential problems. All consultants, contractors and subcontractors shall be apprised of the Tribes TERO Ordinance and the TERO permitting process.
d. The Contractor shall be responsible for preparation of a construction schedule and payment schedule for the entire project from start to finish.
e. The Contractor shall schedule at least one monthly meeting with the Indian Health Service, Yurok Tribe's authorized representatives and any subcontractors or vendors necessary to complete the project in a timely manner. Additional informal meetings may be called if necessary to gather input, provide clarification, and resolve issues that may arise during construction of the work.

f. The Contractor shall be responsible for the submission of Submittals to the Engineer for all materials used in the project.
g. The Contractor shall be responsible for preparing the meeting minutes for the monthly meetings.
h. Approved change orders must be submitted with monthly Request for Payments.

iii. BID REQUIRMENTS

a. The Bid shall include the name of the firm submitting the Bid, its mailing address/telephone number, Contractor license number, state, and type, and the name of the individual to contact if further information is desired.
b. The prospective contractor shall designate, by name, the project manager to be employed. The selected contractor shall not cause the substitution of the project manager without prior approval by the Yurok Tribe Planning and Community Development Department.
c. The prospective contractor shall provide names, addresses, and telephone numbers for at least three clients for whom the prospective contractor has performed work similar to that proposed in this request. A brief abstract shall be provided for the reference projects.
d. Provide a listing of all Native American projects and all similar construction projects within the past 2 years, including a list of references (with phone numbers and addresses) for each project.
e. Provide a plan for maximum utilization of American Indian Workers as required in the TERO permit. Include a Narrative of TERO compliance experience on previous projects.
f. If subcontractors are to be used, the prospective contractor must submit a description of each person or company, license number, and the work to be done by each subcontractor.
g. The prospective contractor shall describe the qualifications of all subcontractors to be used on the project.
h. The prospective contractor shall prepare a detailed budget (see Bid Schedule) for the work to be performed. The budget shall use line items to distinguish cost in the Schedule of Values.
i. The prospective contractor shall disclose any and all relationships with clients, entities, agencies, or individuals bearing interests within the scope of the project, or who may benefit in any manner from the products of the project.
j. The sealed Bid shall be transmitted with a cover letter that must be signed by an official authorized to bind the bidder contractually and shall contain a statement to the effect that the Bid is a firm offer for a 60-day period. The letter accompanying the technical Bid shall also provide the following: name, title, address, and telephone number of submitter.

V. BID REVIEW

Each Bid will be reviewed to determine if it meets the Bid packet requirements. Failure to meet the requirements for the Request for Bids may be cause for rejection of the Bid.

The Yurok Tribe Planning Department may reject any Bid if it is conditional, incomplete, or contains irregularities. The Yurok Tribe may waive an immaterial deviation in a Bid. Waiver of an immaterial deviation shall in no way modify the Request for Bids documents or excuse the bidder from full compliance with the contract requirements if the bidder is awarded the contract.

VI. INDIAN PREFERENCE

Indian preference in Contract Award and equal employment opportunities shall apply. All BIDDERS requesting Indian preference shall submit their request for Indian preference along with their Bid.

Qualified, responsible and responsive Indian bidders, who submit Bids that are within 5% of the lowest Bid, shall be given the opportunity to lower their Bid to below the lowest Bid amount and become the lowest bidder.

VII. BID EVALUATION CRITERIA

1. The award will be made to the lowest responsive, responsible BIDDER with due consideration for Indian Preference.
2. Bidder's qualification will be evaluated to determine:
    a. The firm's qualification and reputation in general.
    b. Valid California Contractor's License in Good Standing
    c. Qualifications of staff.
    d. The firm's experience in the type of work that the project requires.
    e. Related experience of the proposed project manager and project team.
    f. Past performance on related assignments.
    g. Information obtained from references.
    h. Other investigations, as deemed necessary, to determine the ability of the BIDDER to perform the work.
3. Indian Preference for the bidders who submit the required verification with their BID.

IIX. CONTRACT AWARD

A contract will be negotiated with the lowest responsive, responsible BIDDER with due consideration for Indian Preference. The Yurok Tribe Planning Department will award a contract at the Yurok Tribe office in Klamath, CA.

If a contract cannot be negotiated with the firm submitting the lowest responsive, responsible Bid, then staff shall commence negotiation with the firm submitting the second most responsive, responsible BID.

IX. BID SUBMITTALS AND CONDITIONS

Bids will be received by the Yurok Tribe, at the Yurok Tribal Office located at 190 Klamath Blvd., Klamath, CA, until **2:00 P.M. on Wednesday, March 18th, 2026,** and then at said office opened publically immediately after time for receipt of Bids. The Owner will make the Bids public, and the Owner may provide a summary of the total Bid amounts after an Agreement has been executed with an acceptable bidder.

The following documents constitute a complete Bid and are required to be submitted to form a responsive Bid:

a) Cover Letter – Refer to Section IV (iii)(j) of this document
b) Bid Form
c) List of Subcontractors
d) Contractor's Questionnaire
e) Non-Collusive Affidavit
f) Application for Contractor/Business Certification (If Claimed)
g) Bid Bonds (in the amount sum no less than five (5%) percent of Bid Price.

Each BID must be submitted in a sealed envelope, addressed to Mike Seracy, Planner, Yurok Tribe, P.O. Box 1027 (mailing address), 190 Klamath Blvd (physical address)., Klamath, CA 95548. Bids must be received by **2:00 P.M. on Wednesday, March 18th, 2026**. The sealed envelope containing the BID must

be plainly marked on the outside as BID for the **21-F05 Ke-nek Water Treatment Plant and Water Main**, and the envelope should also bear on the outside the name of the BIDDER, their address and license number.

The sealed envelope containing the BID together with the remaining required documents must be enclosed in another envelope addressed to Mike Searcy, Planner, Yurok Tribe at PO Box 1027 (mailing address), 190 Klamath Blvd (physical address)., Klamath, CA 95548.

Bids received prior to the time of opening will be securely kept, unopened. The official who is to open the Bids will decide when the specified time has arrived, and no Bid received thereafter will be considered. No responsibility will attach to office personnel for the premature opening of a Bid not properly addressed and identified. Telegraphic Bids or modifications will not be considered.

Any BIDS may be withdrawn prior to the above scheduled time for the opening of BIDS or authorized postponement thereof.

All BIDS must be made on the required BID form. All blank spaces for BID prices must be filled in, in ink or typewritten, and the BID form must be fully completed and executed when submitted. A conditional or unqualified BID will not be accepted.

BIDDERS shall have a current California Contractors License appropriate for the nature of work to be performed. Bonafide BIDDERS (Licensed and Bonded in accordance with current California State Contractor's Law) shall have a License Class A.

Federal Davis Bacon Wage Rates shall apply to CA IHS Project 21-F05. The Contractor can locate the current wage rates at the following web address: (https://www.wdol.gov/dba.aspx). The Contractor can locate the current version of the Department of Labor's WH-347 form and instructions for its completion at the following web address: (https://www.dol.gov/whd/forms/wh347instr.htm).

Indian preference in Contract Award and equal employment opportunities shall apply. All BIDDERS requesting Indian Preference shall submit their request for Indian preference to the Yurok TERO Office for approval. A TERO tax of 5% of the total gross amount of the contract shall be applicable in accordance with the TERO provisions of the Yurok Tribe.

Contact Justin Woods, (707) 457-7637 for questions on the Yurok TERO policy.

LATE SUBMITTALS

Bids received after this specified time will not be considered and may be returned to bidder unopened.

MODIFICATION OR WITHDRAWALS OF BIDS

Any Bid received to the date and time specified above for receipt of Bids may be withdrawn or modified by written request of the bidder. To be considered, however the modified Bid must be received by the date and time specified above.

PROPERTY RIGHTS

Bids received within the prescribed deadline become the property of the Yurok Tribe Planning Department and all rights to the contents therein become those of the Yurok Tribe Planning Department.

AMENDMENTS TO REQUEST FOR BID

The Yurok Tribe Planning Department reserves the right to amend the Request for Bids by addendum prior to the final date of Bid submission.

FUNDING

Funding for this project is provided through the Indian Health Service grant program.

NON-COMMITMENT OF THE YUROK TRIBE PLANNING DEPARTMENT

This Request for Bid does not commit the Yurok Tribe to award a contract, to pay any costs incurred in the preparation of a Bid to this request, or to procure or contract for services or supplies. The Yurok Tribe reserves the right to accept or reject any or all Bids received as a result of this request, to negotiate with any qualified firm, or to modify or cancel in part or its entirety the Request for Bids if it is in the best interest of the Yurok Tribe to do so.

TERO

The Yurok Tribe's Tribal Employment Rights Ordinance (TERO) shall apply. A copy of the TERO Indian Preference Plan has been included in Division 0-Bidding Requirements of the Project Manual. Any questions regarding the TERO ordinance should be forwarded to the Yurok Tribe's TERO officer:

Justin Woods, TERO Officer
Yurok Tribe
P.O. Box 1027 (mailing address)
190 Klamath Blvd. (physical address)
Klamath, CA 95548
Phone # (707) 457-7637

QUESTIONS

Questions regarding this Request for Bid will be received by telephone or in writing. Written questions should include the individual's name, the name of the firm, address, and telephone number. The Yurok Tribe Planning Department website contains electronic copies of the Project Manual, Addenda, Plan Set and related documents (http://www.yuroktribe.org/departments/planning/RequestforProposal.htm).

Project questions shall be directed to:

Mike Searcy, Planner
Yurok Tribe Planning Department
PO Box 1027 (mailing address)
190 Klamath Boulevard (physical address)
Klamath, CA 95548
Phone # (707) 382-1457
misearcy@yuroktribe.nsn.us

Technical questions shall be forwarded to the Engineer no less than seven (7) days before date set for receipt of Bids. Replies will be made by Addenda. Technical questions shall be directed to:

Maxwell Moore, EiT, Environmental Engineer
Indian Health Service
1125 16th Street Suite 100
Arcata, CA 95521
Phone # (707) 822-1688
max.moore@ihs.gov

DOCUMENT 040 BID FORM

To: Yurok Tribe

Project: CA 21-F05 Yurok Ke-nek Water Treatment Plant and Water Main

Bid of _____ (Company Name)

(hereinafter called "BIDDER"), organized and existing under the laws of the State of California, doing business as _____ (a corporation, a partnership, an individual, etc.) to the Yurok Tribe (hereinafter called "OWNER").

In compliance with your Advertisement for Bids, BIDDER hereby proposes to perform all WORK for the completion of **CA 21-F05 - Yurok Ke-nek Water Treatment Plant and Water Main**.

The Yurok Tribe has been awarded funding from the US Environmental Protection Agency through a Drinking Water Tribal Set Aside grant. The funding will be used by the Yurok Tribe to install 8,500 LF of water mains, 750 LF of water service lines, and approximately 2000 LF of transmission main. Flow meters, hydrants, and assorted valving installation will accompany these water lines. In addition, a 60,000-gallon bolted steel water tank, a roughing filter, a slow sand filter building, a chemical treatment and monitoring building, and backup generator power for these facilities will be constructed.

All work shall be completed in strict accordance with the Contract Documents, within the time set forth therein, and at the prices stated in the BID SCHEDULE.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID, each party hereto certifies as to his organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE to PROCEED and to fully complete the PROJECT within three-hundred (300) consecutive calendar days thereafter. BIDDER further agrees to pay as liquidated damages, the sum of $150.00 for each consecutive calendar day thereafter as provided in Section 34, Liquidated Damages, of the General Conditions.

BIDDER acknowledges of receipt of the following ADDENDUM(s):

NUMBER DATE

#1:_____

_____

BIDDER agrees to perform all the work described in the CONTRACT DOCUMENTS for the unit prices or lump sum stated in the Bid Schedule. Bids are considered valid for 60 days from Bid closing date.

BID SCHEDULE

PROJECT DESCRIPTION

The following is a construction contract for completion of the specified work in the contract documents.

ITEM	ITEM DESCRIPTION	UNIT	QTY	UNIT PRICE	TOTAL PRICE
1	Mobilization / Demobilization (NTE 10% of Total Bid) *Section 01 27 00*	LS	1		
2	Hot Mix Asphalt *Section 02 30 00*	SY	2215		
3	Concrete *Section 03 30 00*	CY	169		
4	Wood Frame Building - Water Treatment Building *Section 06 10 00*	LS	1		
5	Metal Frame Building - Sand Filter Building *Section 13 34 19*	LS	1		
6	5000 Gallon Poly Tank *Section 22 11 00*	LS	1		
7	Roughing Filter *Section 22 11 00*	LS	1		
8	Booster Pump *Section 22 11 00*	EA	2		
9	Unistrut - 1-5/8" *Section 22 11 00*	LF	85		
10	Magnetic Flow Meter (No Box) *Section 01 11 90 / 22 11 00*	EA	1		
11	Magnetic Flow Meter and Box *Section 01 11 90 / 22 11 00*	EA	1		
12	Pressure Gauge *Section 01 11 90 / 22 11 00*	EA	2		
13	4" Conduit and Cable *Section 26 05 33*	LF	2055		
14	2" Conduit and Cable *Section 26 05 33*	LF	7870		
15	18kW Propane Generator *Section 01 11 90 / 26 32 13*	EA	0		
16	Automatic Transfer Switch *Section 01 11 90 / 26 32 13*	EA	0		
17	Retaining Wall *Section 31 22 13*	LS	1		

18	Excavation and Grading *Section 31 22 13*	LS	1		
19	Cultural Monitoring *Section 31 23 17*	LS	1		
20	4' Manhole Drain Inlet *Section 31 25 13*	LS	1		
21	Drain Dissipater *Section 01 11 90 / 31 37 00*	EA	2		
22	Class 2 Aggregate Base *Section 32 11 23*	CY	533		
23	Class 3 Aggregate Base *Section 01 11 90 / 32 11 23*	CY	2		
24	Imported Fill *Section 01 11 90 / 32 11 23*	CY	975		
25	10" Drain Line - PVC C900 *Section 33 11 13*	LF	5		
26	10" Drain Line - CPP *Section 33 11 13*	LF	335		
27	6" Water Main - PVC C900 *Section 33 11 13*	LF	4340		
28	4" Water Main - PVC C900 *Section 33 11 13*	LF	3620		
29	3" Water Main - PVC SCH80 *Section 33 11 13*	LF	200		
30	2" Water Main - PVC SCH80 *Section 33 11 13*	LF	428		
31	1.5" Water Main - PVC SCH80 *Section 33 11 13*	LF	260		
32	3/4" Water Main - PVC SCH80 *Section 33 11 13*	LF	25		
33	6" Water Main - HDPE *Section 33 11 13*	LF	150		
34	4" Water Main - HDPE *Section 33 11 13*	LF	450		
35	4" Water Main - Ductile Iron Pipe *Section 33 11 13*	LF	45		
36	1" Water Service Line - PE Pipe *Section 33 11 13*	LF	740		
37	2" Transmission Main - PE Pipe *Section 33 11 13*	LF	1900		

38	Connection at Intake *Section 33 11 13*	LS	1		
39	Culvert Crossing *Section 33 11 13*	EA	7		
40	6" Gate Valve (No Box) *Section 33 11 16*	EA	1		
41	4" Gate Valve (No Box) *Section 33 11 16*	EA	2		
42	6" Gate Valve and Riser *Section 33 11 16*	EA	20		
43	4" Gate Valve and Riser *Section 33 11 16*	EA	14		
44	3" Gate Valve and Riser *Section 33 11 16*	EA	1		
45	2" Gate Valve and Riser *Section 33 11 16*	EA	1		
46	1" Gate Valve and Riser *Section 33 11 16*	EA	1		
47	6" Check Valve and Box *Section 33 11 16*	EA	1		
48	4" Check Valve and Box *Section 33 11 16*	EA	2		
49	3" Check Valve and Box *Section 33 11 16*	EA	1		
50	2" Check Valve and Box *Section 33 11 16*	EA	1		
51	2" PVC Check Valve (No Box) *Section 33 11 16*	EA	8		
52	Flush Hydrant *Section 33 11 16*	EA	1		
53	Altitude Valve and Box *Section 01 11 90 / 33 11 16*	LS	1		
54	Combination Air Valve *Section 33 11 16*	EA	4		
55	Air Release Valve *Section 33 11 16*	EA	1		
56	Float Valve *Section 01 11 90 / 33 11 16*	EA	1		
57	3" Pressure Reducing Valve and Box *Section 01 11 90 / 33 11 16*	EA	1		

58	6" Pressure Reducing Valve and Box *Section 01 11 90 / 33 11 16*	EA	1		
59	Residential Water Meter *Section 01 11 90 / 33 12 13*	EA	3		
60	Residential Water Connection *Section 33 12 13*	EA	4		
61	60,000 Gallon Bolted Steel Storage Tank *Section 33 16 20*	LS	1		
62	Slow Sand Filter Media *Section 33 19 00*	LS	1		
63	Slow Sand Filter Basins *Section 03 30 00*	LS	1		
64	Slow Sand Filter Vault *Section 03 30 00*	LS	1		
65	500-gallon Propane Tank and Foundation *Section 01 11 90 / 33 51 00*	LS	0		
66	Water Monitoring Equipment, Pipe, Tubing, and Controls *Section 44 10 15*	LS	1		
67	Grid-charged Battery Backup System *Section pending*	LS	1		
68	Vault for DWR Connection, 2/C304 *Section 33 05 17*	LS	1		
69	Stormwater Pollution Prevention Plan and EPA CGP *Section 31 25 13*	CY	1		
70	3-6" Rip Rap *Section 31 37 00*	LS	1		
71	Site Clearing *Section 31 37 00*	LS	1		
		SUBTOTAL:			
	TERO Fee [5.0% of Subtotal]	LS	1		
			Total of All Unit Price Bid Items	$	

Respectfully Submitted:

_____ _____
Signature Address

_____ _____
Title Date

_____ _____
License No. Expiration Date

SECTION 01 11 90

REVISIONS TO STANDARD SPECIFICATIONS

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Revisions or amendments to standard specifications.
2. Changes to product requirements.
3. Changes to execution requirements.

B. Related Sections:
1. Section 03 10 00 – Concrete Forming and Accessories
2. Section 13 34 19 – Metal Building Systems
3. Section 26 05 19 – Electrical Conductors and Cables
4. Section 26 05 33 – Conduit and Boxes for Electrical Systems
5. Section 31 23 17 – Trenching
6. Section 33 05 17 – Precast Concrete Valve Vaults and Meter Boxes
7. Section 33 11 13 – Water Distribution Mains
8. Section 33 11 16 – Water Utility Distribution Valves and Hydrants
9. Section 33 12 13 – Water Service Connections
10. Section 33 16 20 – Bolted Steel Water Storage Tanks

1.2 **Section 13 34 19** – Metal Building Systems – REMOVE SECTION '1.3 SYSTEM DESCRIPTION' IN ITS ENTIRETY AND REPLACE WITH THE FOLLOWING:

A. Single span rigid frame

B. Primary Framing: Rigid frame of rafter beams and columns, intermediate columns (where required), braced end frames, end wall columns, and wind bracing.

C. Secondary Framing: Purlins, girts, eave struts, sill supports, clips and other items detailed.

D. Wall System: Preformed metal panels of vertical profile, liner sheets, and accessory components.

E. Roof system: Preformed metal panels of upslope profile, liner sheets, and accessory components.

F. Roof Slope: 6 inches in 12 inches' slope.

1.3 **Section 26 05 33** – Conduit and Boxes for Electrical Systems – ADD THE FOLLOWING: TO '1.1 SUMMARY'

A. All work to be completed in accordance to the Electric Service Requirements Manual, Pacific Power. This document is available at www.pacificpower.net

PART 2 PRODUCTS

2.1 **Section 03 10 00** – Concrete Forming and Accessories – ADD SECTION '2.3 FASTENERS'

A. Wedge Type Expansion Anchor Bolt
1. Manufacturers: Red Head or approved equal
2. Description
    a. Stainless Steel
    b. Of size depicted on Drawings (SWW-3836)
        1) SWW-3836
        2) 3-3/4" Overall Length
        3) Fastens through up to 1-7/8" of material
        4) 3/8" anchor dia – 16 threads per inch, 2.5" Thread Length

2.2 **Section 08 13 14** – Standard Steel Doors – REPLACE THE FOLLOWING SECTION "2.1 STANDARD STEEL DOORS" WITH

A. Manufacturers:
1. Mesker Door Model N-Series
2. Trudoor – Hollow Metal Door with Louver
3. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description:
1. Metal Door – 18-Gauge Steel Face Sheets
2. 3068 or 3070 – as specified in Drawings
3. With 24" x 18" Louvered Vent where specified on plan set
4. For Exterior Applications
5. "Reverse" or "Outswing" Orientation (Opens towards exterior)
6. Insulated, SDI 108, 1-3/4" Thick
7. Level 2 – Heavy Duty, Model 1, Full Flush Design

2.3 **Section 08 71 00** – Door Hardware – ADD THE FOLLOWING TO SECTION "2.1 DOOR HARDWARE"

A. Manufacturers
1. Trudoor
2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Accessories
1. Accessories shall conform to 08 71 00 Door Hardware
2. Rim Exit Device and Locking Lever Handle
    a. Trudoor - TDE-2000R-KIL Rim Exit with Keyed Entry Level Rim
        1) Deadlocking Latchbolt, 5/8" projection
        2) Non-handed for interior side
        3) Locking lever doorknob for exterior side
        4) For 3' wide door
3. Door Closer
    a. Trudoor TDC-300 Grade-1 Door Closer
        1) ANSI 156.4 Grade 1 Standards

2) Adjustable Spring Power
3) Aluminum Finish

2.4 **Section 13 34 19** – Metal Building Systems – REPLACE SECTION '2.5 COMPONENTS – OVERHEAD DOORS' IN ITS ENTIRETY WITH THE FOLLOWING:

A. Overhead Doors:
1. Manufacturers:
a. Cookson Model ERD-10
b. DBCI 2000 Series, Light Roll Up
c. Substitutions Permitted: Section 01 60 00 - Product Requirements

2. Description:
a. Steel or aluminum overhead sectional door, manual operation, stock configuration and hardware
b. Outer steel sheet of minimum 0.058 inches thick, flat profile
c. 12' Wide, 10' Tall opening size
d. Color by Tribe direction

B. Overhead Door Frame
1. Formed steel sections braced to building frame

2.5 **Section 13 34 19** – Metal Building Systems – REPLACE SECTION '2.7 PLASTIC SKYLIGHTS' IN ITS ENTIRETY WITH THE FOLLOWING:

A. Polycarbonate Skylight
1. Manufacturers:
a. SunWeld Plus by Velux
b. Substitutions Permitted: Section 01 60 00 - Product Requirements
2. Description:
a. Size: as shown on plan set
b. Curb-mounted
c. Single Dome
d. Clear glazing
e. Polycarbonate Material

2.6 **Section 13 34 19** – Metal Building Systems – REPLACE SECTION '2.9 FABRICATION – WALL AND ROOF SYSTEMS' IN ITS ENTIRETY WITH THE FOLLOWING:

A. Siding: Minimum 26-gauge metal thickness, preformed ribbed steel profile, lapped edges fitted with continuous gaskets.

B. Roofing: Minimum 24-gauge metal thickness, ribbed profile, lapped or male/female edges fitted with continuous gaskets.
1. Roof Surfaces: ENERGY STAR compliant with minimum solar reflectance index (SRI) of 78 for 75 percent of roof area, calculated in accordance with ASTM E1980.
a. Reflectance: Measured in accordance with ASTM E903, ASTM E1918, or ASTM C1549.
b. Emittance: Measured in accordance with ASTM E408 or ASTM C1371.

C. Liner: Minimum 28-gauge metal thickness, V crimped profile, lapped V edges fitted with continuous gaskets.

D. Soffit Panels: Minimum 24-gauge metal thickness, V crimped profile, unperforated.

E. Girts/Purlins: Rolled formed structural shape to receive siding, roofing sheet.

F. Internal and External Corners: Same material thickness and finish as adjacent material, profile shop cut and factory mitered to required angles. Back brace mitered internal corners with 26-gauge thick sheet.

G. Flashings, Closure Pieces, Fascia, and Caps: Same material and finish as adjacent material, profile to suit system.

H. Fasteners: To maintain load requirements and weather tight installation, same finish as cladding, non-corrosive finish.

I. Ventilator: Sheet steel, galvanized, rotary continuous ridge design.

J. Roof Ridge Vent
   1. Manufacturer:
      a. LOMANCO – VUR-10 Aluminum Ridge Vent
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Type:
      a. Ridge ventilation system
      b. 10” Length
      c. Fits roof pitches 3/12 to 8/12
      d. With interlocking male/female connections
      e. With V-PLUG Accessories for exposed ends

K. Gable Vents
   1. Manufacturer:
      a. LOMANCO – A88B - Triangular Line Gable Vents
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Type:
      a. Color: Best match for wall, by Tribe direction
      b. All aluminum Louver
      c. Adjustable pitch – match to building roof pitch (6/12)

L. Wall Vents
   1. Manufacturer:
      a. McMaster-Carr – Fixed-Blade Wall Louver
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Type:
      a. For 12” x 12” Opening
      b. Overall 14.5” x 14.5”
      c. Aluminum Construction

2.7 **Section 13 34 19** – Metal Building Systems – REMOVE SECTION '2.10 FABRICATION – GUTTERS AND DOWNSPOUTS' AND REPLACE WITH:

A. Fabrication of gutters of downspouts shall be of aluminum

B. Form gutters and downspouts of profile and size to collect and remove water. Fabricate with connection pieces.

C. Form sections in maximum possible lengths. Hem exposed edges.

D. Fabricate support straps of same material and finish as roofing metal, color as selected.

E. Downspouts shall join into drainage pipe by drain box.

2.8 **Section 22 40 00** – Plumbing Fixtures – REPLACE SECTION '2.1 UTILITY SINKS' WITH

A. Sink
   1. Manufacturers:
      a. Global Industrial: Stainless Steel Utility Sink W/ Faucet
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Description
      a. 24" x 24" x 14" Deep, 1 Compartment Basin
      b. Metal Construction
      c. Two handle faucet
      d. Labeled with "Non-potable" – to be added by contractor

2.9 **Section 22 40 00** – Plumbing Fixtures – REPLACE SECTION "2.2 EMERGENCY COMBINATION SHOWER WITH EYE AND FACE WASH" WITH "RESERVOIR BASED EYE WASH STATION"

A. Reservoir-Based Eye Wash Station
   1. Manufacturer:
      a. Fendall Pure Flow 1000 Eyewash Station
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Description:
      a. Reservoir-based, Self-Contained, Eyewash Station
      b. Capable of delivering 0.4 GPM for 15 minutes
   3. Accessories
      a. Fendall Refill Cartridges (Set of 2)
      b. Fendall Universal Stand

2.10 **Section 26 32 13** – Engine Generators – REPLACE SECTION "2.2 GENERATOR" WITH

A. Generator
   1. Manufacturer:
      a. Generac Guardian Series
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Generator manufacturer shall have an authorized dealership within 125 miles of the installation location.

3. Product Description: DC Coupled Generator, to be used with Propane.
4. Rating: 10kW, nominal full load power generation
5. Enclosure: NEMA
    a. Doors to be keyed and lockable.

2.11 **Section 26 32 13** – Engine Generators – REPLACE SECTION "2.4 TRANSFER SWITCH" CONTENT WITH:

A. Automatic Transfer Switch
1. Manufacturers:
    a. Generac – PWRcell Automatic Transfer Switch
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description
    a. 200A Rated
    b. NEMA 3R Enclosure
    c. Service Entrance Rated
    d. Bi-Directional
    e. Automatic Bypass Switch

2.12 **Section 26 32 13** – Engine Generators – ADD SECTION "2.7 PROPANE TANK":

A. Propane Tank
1. Manufacturers:
    a. Kleen-Rite
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description
    a. Horizontal Cylinder shaped
    b. 500 Gallon Volume, to hold 400 gallons of propane at rated capacity
    c. Fitted with all valves and connections required for standard operation, all rated to handle 250 p.s.i.g.
    d. NFPA 58

2.13 **Section 26 51 00** – Interior Lighting – REPLACE SECTION 2.1 IN ITS ENTIRETY AND REPLACE WITH '2.1 LUMINAIRES:

A. Interior Lighting
1. T8 Interior Light
    a. Manufacturers:
        1) McMaster-Carr – Wraparound-Lens Ceiling Light
        2) Substitution Permitted: Section 01 60 00
    b. Description:
        1) 48" Long
        2) Two T8 4' Bulbs
        3) 32W per T8 bulb
        4) Include bulbs with installation

2. UFO High Bay Light
    a. Manufacturers:
        1) Aries High Bay Light, 100W – WareLight

2) Substitutions Permitted: Section 01 60 00 – Product Requirements

b. Description:
1) LED
2) 100W, 150 lumens/Watt
3) 15000 Lumen
4) 4000K Color Temperature
5) Input Voltage: 120V – 277V

2.14 **Section 26 56 00** – Exterior Lighting – REPLACE SECTION 2.1 IN ITS ENTIRETY AND REPLACE WITH '2.1 LUMINAIRES':

A. Exterior Lighting
1. Motion Sensing Light
a. Manufacturers:
1) Lithonia Lighting – HGX LED 2RH ALO SWW2 120 PIR DDB
2) Substitutions Permitted: Section 01 60 00 – Product Requirements
b. Description
1) Motion-activated
2) For exterior application
3) Mounts to recessed junction box (4x4 round, square, or octagonal)
4) Adjustable light orientation, without tools required
5) Adjustable light output

2. Floodlight
a. Manufacturers:
1) Commercial Electric 46-Watt Bronze Outdoor Integrated LED Street Lamp
2) Substitution Permitted: Section 01 60 00
b. Description:
1) 5000 Lumens, 46-Watt
2) Power: Hardwired
3) IP65

2.15 Section 31 23 17 – Trenching – Remove section 2.1.A Fill Materials and replace with:

A. Imported Pipe Embedment:
1. Imported fill as described in the Revisions to Standard Specifications, Revisions to Section 32 11 23.

2.16 **Section 31 25 13** – Erosion Controls – ADD THE FOLLOWING TO SECTION "2.1 ROCK MATERIALS":

A. Drain Rock
1. Manufacturers:
a. Graniterock ¾" Drain Rock
b. Substitution Permitted: Section 01 60 00
2. Type:
a. ¾" Drain Rock, nominal size
b. Clean and washed, free of organics

c. With 100% of grain sizes smaller than 1" per sieve analysis
d. With 60% of grain sizes between ¾" and ½" per sieve analysis

2.17 **Section 31 37 00** – Rip Rap – ADD THE FOLLOWING TO SECTION "2.1 MATERIALS":

A. Geotextile
1. Manufacturer: Tensar TriAx Geogrid or approved equal
2. Type: TX 130S

2.18 **Section 32 11 23** – ADD THE FOLLOWING TO SECTION 2.1 "AGGREGATE MATERIALS"

A. Class 3 Aggregate Base
1. Description:
a. With less than 4% organics
b. Adhering to 2018 CALTRANS Standard Specifications 26-1.02C
c. For 3/4-inch maximum aggregate gradation

Aggregate Gradation

Sieve size	Percentage passing			
	1-1/2 inch maximum		3/4 inch maximum	
	Operating range	Contract compliance	Operating range	Contract compliance
2"	100	100	--	--
1-1/2"	90–100	87–100	--	--
1"	--	--	100	100
3/4"	50–90	45–95	90–100	87–100
No. 4	25–60	20–65	40–70	35–75
No. 30	10–35	6–39	12–40	7–45
No. 200	3–15	0–19	3–15	0–19

B. Imported Fill
1. Description:
a. Sandy Loam
b. With less than 4% organics
c. With 85% **or greater** of grain sizes smaller than 2-1/2"
d. Adhering to the following texture analysis:

Imported Fill

Texture Type	Percentage Makeup
Sand	65-75%
Silt	15-20%
Clay	10-15%

2.19 **Section 33 05 17** – Precast Concrete Valve Vaults and Meter Boxes –REMOVE SECTION '2.1 A WATER METER BOX MANUFACTURERS' IN ITS ENTIRETY AND REPLACE WITH THE FOLLOWING:

A. Water Meter Box Manufacturers:

1. Christy N36 water meter box and lid or approved equal
    a. Size: 12 inch (H) x 30 inch (L) x 17 inch (W)
    b. Material: Concrete
    c. Utilize one box for water meter and one box for check valve and union as shown in drawings

2.20 **Section 33 05 17** – Precast Concrete Valve Vaults and Meter Boxes – ADD THE FOLLOWING TO SECTION '2.1.C –VALVE VAULT AND METER BOX FRAMES AND COVERS'

A. Custom Vault Lid
1. Furnish and install single door access hatch with safety grate as shown on the Drawings. The access hatch shall be integrally cast into the concrete slab. The top of the access hatch shall be flush with the top of the concrete roof. The minimum cleat hatches opening dimensions shall be as shown on the Drawings the manufacturer shall warranty that the assembled access hatch shall be free of defects in material and workmanship for a period of (5) five years from date of project acceptance.
2. The door shall be equipped with a hold open arm. Door shall lock open in the 90-degree position.
3. Hatch cover shall be ¼-inch aluminum diamond plate. The access hatch hardware shall be constructed of grade 316 stainless steel.
4. Hatch shall be supplied with a recessed slamlock, with keyway protected by a threaded plug. Plug shall be flush with the top of the diamond plate.
5. Safety grate shall be provided beneath the hatch cover for fall through protection when the covers are open. The safety grate shall be reinforced to support a minimum live load of 300 PSF with a maximum deflection of $1/150^{th}$ of the span.
6. Safety grate shall be provided with a permanent hinging system that will lock the gates in the 90 degree position once opened. Grate openings shall be 5" by 5" to allow for visual inspection of the wet well while the grating is in place.

2.21 **Section 33 11 13** – Water Distribution Mains – ADD THE FOLLOWING TO SECTION '2.1 WATER PIPING'

A. Plastic Tubing
1. Manufacturers:
    a. McMaster-Carr – Masterkleer PVC Tubing
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements

2. Description:
    a. Size: As shown on Drawings
    b. NSF/ANSI 51

B. Plastic Tubing Fittings and Accessories
1. Barbed Check Valves for Tubing
    a. Manufacturers:
        1) McMaster-Carr – Nylon body spring-loaded piston check valve
        2) Substitutions Permitted: Section 01 60 00 – Product Requirements

    b. Description:

1) Size: as shown on Drawings
2) Male NPT Inlet, Male Barbed Outlet
3) Nylon body
4) Stainless Steel 316 Spring

2.22 **Section 33 11 13** – Water Distribution Mains – ADD THE FOLLOWING AFTER SECTION '2.6 ACCESSORIES':

A. Pipe Supports
1. Unistrut
a. Pipe Support: Model P1000, Model P1001
1) ST Finish – Stainless Steel Type 316
b. Pipe Clamps: Model P1119 for 3-inch pipe, P1117 for 2-inch pipe, P1113 for 1-inch pipe
1) ST Finish – Stainless Steel Type 316
2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Stainless Steel Splash Plate Assembly
1. Stainless Steel Pipe Support Flats
a. Type:
1) ¼" Thick, 1" Wide, for use in 2' lengths

2. Stainless Steel Splash Plate Square
a. Type:
1) ¼" Thick, 8" Square
2) Type 316 Stainless Steel

C. Hose Clamps
1. Manufacturers:
a. McMaster-Carr - General Purpose Worm-Drive clamp with Nonslip Screw
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Type:
a. Size: 2-3/4" to 3-3/4"
b. 301 Stainless Steel
c. Band Width: 9/16"
d. Band Thickness: 0.022"

D. Marker Posts
1. Manufacturers:
a. Blackburn – Hybrid 1-Rail Post
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Type:
a. 5' Height Minimum (Including buried height)
b. Supply with decal or engraved marking of specified appurtenance

E. Poly Tank Ring Wall
1. Description:
a. 14 gauge galvanized steel, 6-inch width

2.23 **Section 33 11 13** – Water Distribution Mains – REPLACE PART 3.9.A THRUST RESTRAINTS WITH THE FOLLOWING:

A. Thrust Restraint
   1. Provide valves, tees, bends, caps, and plugs with concrete thrust blocks or engineer-approved restrained joints. Pour concrete thrust blocks against undisturbed earth. Locate thrust blocks or restrained joints at each elbow or change of pipe direction to resist resultant force and so pipe and fitting joints will be accessible for repair. Provide thrust block restraint bearing on subsoil as shown in Drawings and in compliance with AWWA standards.

2.24 **Section 33 11 16** - Water Distribution Valves and Hydrants – ADD THE FOLLOWING TO '2.11 ACCESSORIES':

A. Pressure Relief - 130 psi set pressure
   1. Manufacturer:
      a. Kunkle (www.emerson.com)
         1) Model: 171S
      b. Cla-Val (www.cla-val.com)
         1) Model: 55B-60: 40-200 psi range
      c. Stra-Val (www.straval.com)
         1) Model: RVL-21
   2. Type:
      a. 2 inches and smaller: bronze or stainless steel body, teflon or silicone seat, steel stem and springs, automatic, direct pressure actuated.
      b. Threaded Outlet
      c. Factory set to 75 psi for flow over 30 gpm
      d. Size: As shown on Drawings

B. Sample Tap – plain-end sampling valve
   1. Manufacturer: Legend Valve T-532 or approved equal

   2. Description:
      a. Inlet Size: ½ or ¾ inch, as specified on Drawings
      b. Model: T532NL
      c. Material: bronze or brass
      d. Outlet to be plain end, NOT threaded

C. Pressure Gauge
   1. Manufacturer: McMaster-Carr PN: 4090K15 or approved equal

   2. Description:
      a. Size: 2 ½ inch dial diameter, liquid type
      b. ¼" NPT Connection
      c. 0-100 PSI Reading Range

D. Transition Coupler – HDPE to PVC compression fitting
   1. Manufacturer: ELOPRESS or approved equal
   2. Size: as sized on Drawings

3. Description: Mechanical compression for use with high, medium, or low density polyethylene pipes. Gray side for PVC Sc. 40/80 connection, blue side for HDPE connection

E. Reducing Transition Coupler – HDPE to PVC compression fitting
   1. Manufacturer:
      a. CEPEX or approved equal
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Size: 1" HDPE end, ¾" PVC end
   3. Description: Mechanical compression for use with high, medium, or low density polyethylene pipes. Gray side for PVC Sc. 40/80 connection, blue side for HDPE connection.

F. Tapping Saddles
   1. Manufacturers:
      a. McMaster-Carr Thick-Wall Plastic Pipe Fittings Service Saddle
      b. Mueller DR2S Ductile Iron Service Saddles
      c. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Description:
      a. 200+ psi maximum
      b. 4.5" width or lesser for 6" x 2" size
      c. Wraparound Design
      d. Threaded tee connection
      e. Size: As shown in drawings

G. Lockable PVC Ball Valve
   1. Manufacturers:
      a. Hayward – TBH Series True Union Ball Valve
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Details:
      a. Size: as sized in Drawings
      b. Connection: Socket
      c. Pressure Rating: 150 PSI
      d. Full-port Design
      e. Standard Lock-Out Feature Securable to Body
      f. Provide Lock and Key

H. PVC Ball Valve
   1. Manufacturers:
      a. GF Piping Systems – Ball Valve Type 375
      b. Substitutions Permitted: Section 01 60 00 – Product Requirements
   2. Details:
      a. Size: as sized in Drawings
      b. Connection: Socket
      c. Pressure Rating: 150 PSI
      d. Full-port Design

I. PVC Check Valve
   1. Manufacturers:
      a. Hayward Check Valve, Inline True Union

b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Size: as sized on Drawings
3. Description:
    a. Union connection
    b. For horizontal or vertical installation, as shown in drawings

J. Iron Check Valve
1. Manufacturers:
    a. MILWAUKEE VALVE Swing Check Valve
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Size: As sized on drawings
3. Description
    a. Flange x Flange connections
    b. Rated for 200 psi
    c. Cast-iron Construction

K. Lockable Butterfly Valve
1. Manufacturers:
    a. McMaster-Carr – 316 Stainless Steel Flow-Adjustment Lug Valve
2. Size: As sized on Drawings
3. Description
    a. Manual actuation, lockable butterfly valve
    b. Flanged Connection

L. Pressure Reducing Valve
1. Manufacturers:
    a. Zurn-Wilkins – Model ZW209BP
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Size: As sized on Drawings
3. Description:
    a. Pressure Reducing Valve with Low-Flow Bypass, Pilot Controlled
    b. To handle low flow ranges of 0-15 GPM
    c. Ductile Iron Body
    d. 150# Flange Ends
    e. To be set to pressures shown on Drawings
    f. 3” or 6” main body, as shown on Drawings

M. Altitude Valve
1. Manufacturer: CLA-VAL Altitude Valve for One-Way Flow or approved equal
    a. E-210-01, Globe orientation
    b. Size: 6”
    c. Connection: 150# Flanged
    d. Adjustment Range: 5-40 ft
    e. Optional Features
        1) Check Valve with Isolation Valve
        2) Dry Drain

2. Sensing Line (for Altitude Valve)
    a. ¾” Schedule 80 PVC

b. Aboveground PVC shall be coated with PVC primer followed by acrylic paint for UV protection
c. Install at minimum 2% slope

N. Strainer
1. Manufacturer:
a. Cla-Val X43H "H" Strainer or approved equal
1) Body, Cover, & Support Frame: Ductile Iron – ASTM A536
2) Size: As specified in Drawings
3) Strainer: 316 Stainless Steel
4) Strainer Mesh: 10 Mesh
5) Pressure Rating: Class 150 lb
6) Connection 150# Flanged
7) Opens for maintenance from top

O. Air Relief Valve
1. Manufacturer:
a. VALMATIC
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Connection Size: 1" or 2", as sized on Drawings
3. Orifice Size: 1/16"
4. Certified Lead Free
5. NSF 61

P. Combination Air Valve
1. Manufacturer:
a. VALMATIC
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description:
a. Combining the functions of an Air/Vacuum Valve and Air Release Valve
1) 2" Size
2) Release air during fill
3) Single Body
4) Vacuum protection
5) Release entrained air during operation
b. NPT Inlet Connection
c. NSF 61
d. AWWA C512

Q. Restrained Flange
1. Manufacturers:
a. EBAA Iron MEGAFLANGE
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description
a. Restrained Flange Connection
b. Size: As sized on drawings, where restrained joints specified

R. Galvanic Flange
1. Manufacturer:

a. McMaster-Carr PN: 9165K79 (https://www.mcmaster.com/9165k79)
b. Substitutions Permitted: Section 01 60 00 – Product Requirements

2. Type:
   a. Size: as specified on Drawings
   b. Gasket kit with bolt holes for dissimilar metals. “Includes 4 full-length phenolic sleeves, 8 phenolic washers, 8 zinc-plated metal washers”.

2.25 **Section 33 12 13** – Water Service Connections –REMOVE SECTION ‘2.5 WATER METERS’ IN ITS ENTIRETY AND REPLACE WITH

“A. Manufacturer and Product List:

1. System Water Meter – Seametrics IMAG4700p-0400-F1-P-A1-X-01-015D – or approved equal
   a. Magnetic meter with both ‘one pulse’ and ‘4-20mA’ outputs, 150-lb ANSI flanged, NSF gaskets, 60 Hz AC power
   b. Size: 4 inch
   c. Connection Type: Flanged, NSF Gaskets
   d. Analog Output: 4-20 mA
   e. With Data Logger

2. Residential Water Meter – Badger Meter – Recordall Disc Meter – Model 35 - ¾” – or approved equal
   a. ¾” NPT Connections
   b. Lead Free Bronze Alloy
   c. ANSI/AWWA C700
   d. Direct Magnetic Drive

B. Where indicated, furnish materials in accordance with manufacturer and model indicated on drawings.”

2.26 **Section 33 16 20** – Bolted Steel Water Storage Tanks – REMOVE SECTION ‘2.7 FLEXIBLE PIPE COUPLINGS’ AND REPLACE WITH:

A. Manufacturer List:
   1. EBAA Iron Inc. FLEX-TEND Force Balanced Flexible Expansion Joint
   2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description:
   1. 4 or 6 inch, as specified in Drawings
   2. Flanged #150 Connection
   3. Ductile Iron
   4. Each flexible expansion joint shall consist of an expansion joint designed and cast as an integral part of a ball and socket type flexible joint, having a minimum per ball deflection of 20º. The flexible expansion fitting shall not expand or exert an axial imparting thrust under internal water pressure with a total minimum linear travel of 8-inches.
   5. Shall be installed vertically plumb and horizontally level

2.27 **Section 33 16 20** – Bolted Steel Water Storage Tanks – ADD TO SECTION "2.8 TANK ACCESSORIES"

C. Tank Float Valve
1. Manufacturers:
a. Grainger – Float Valve: Pipe Mount, 3 in size, NPT, 400 GPM Valve Flow
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description:
a. FNPT Connections
b. Stainless Steel Rod, 3/8" NPT, 20" Length
c. 400 GPM at 60 psi, 125 GPM at 20 psi
d. 8" Float Size, Stainless Steel Float

D. Tank Float Switch
1. Manufacturers:
a. SJE Rhombus – SJE SignalMaster – 15SGMWENC
b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description
a. Externally Weighted
b. Mechanically-activated, snap action contacts
c. High impact, corrosion resistant, polypropylene housing
d. Normally-closed model (low level), White Cap
e. 5 amp, 125/250 VAC, 50/60 Hz
f. 15-foot cable

2.28 **Section 44 44 14** – Chemical Feed Pumps – REPLACE SECTION "2.1 CHEMICAL FEED PUMPS" IN ITS ENTIRETY AND REPLACE WITH:

A. Manufacturers:
1. Stenner
a. Classic series Single Head Adjustable Pump - 85MJH2A1STAA
1) https://sportal.stenner.com/85mjh2a1staa
2. Substitutions permitted, unless otherwise specified in Drawings. Section 01 60 00 – Product Requirements

B. Description:
1. With flow rate set by external dial ring
2. Self-priming
3. 3-point roller design
4. ¼" Tubing Connections
5. 120 V, 60Hz, 1-phase
6. Materials of Construction:
a. Santoprene Pump Tube and Duckbill Check Valve
b. Polyethylene Suction and Discharge tubing and ferrules
c. PVC or Polypropylene Tube and injection Fittings
7. Discharge Capacity: 17 GPD
8. Discharge Pressure: 100 psi maximum

C. Pump Accessories:

1. Furnish:
    a. Connecting Nuts
    b. Ferrules
    c. Duckbill Check Valve
    d. Weighted Suction Line Strainer
    e. Additional Pump Tube
    f. Additional Latches, 2
    g. Mounting Bracket
    h. Manual

2.29 **Section 44 44 14** – Chemical Feed Pumps – ADD THE FOLLOWING SECTION TO "PART 2 PRODUCTS"

A. Secondary Containment
1. Manufacturers:
    a. McMaster-Carr Plastic Spill-Control Pallet with Bladder – 5148T23
        1) Include bladder accessory – McMaster-Carr 5148T85
    b. Substitutions Permitted: Section 01 60 00 – Product Requirements
2. Description:
    a. Style C
    b. For one 55-gallon drum, 75-gallon capacity
    c. EPA 40, CFR 264.175
    d. With bladder accessory

B. Tank Mixer
1. Manufacturers:
    a. J.L. Wingert Mixers
    b. Substitutions permitted: Section 01 60 00 – Product Requirements
2. Description:
    a. ¼ horsepower
    b. 1725 rpm
    c. With clamp
    d. With 316 Stainless Steel Shaft and Impeller

PART 3 EXECUTION

3.12 **Section 06 10 00** – Rough Carpentry – ADD THE FOLLOWING SECTION AFTER '3.4 TOLERANCES'

3.5 APPLICABLE STANDARDS

A. Structure shall adhere to UBC Standards

3.13 **Section 26 05 19** – Electrical Conductors and Cables – ADD THE FOLLOWING SECTION TO '3.4 BUILDING WIRE':

F. Install buried electrical cable in conduit

1. Conductor: AWG size and length per plans
2. Insulation Voltage Rating 600 volts
3. Insulation Type USE-2, XHHW-2, or RHW-2

3.14 **Section 31 23 17** – ADD THE FOLLOWING TO SECTION '3.3 TRENCHING':

L. Cultural Monitor

Contractor shall hire Owner-approved cultural monitor to observe all earth disturbing activities. This individual will observe such activities for the presence of historic, cultural, or archaeological properties. The Tribal Cultural Monitor represents the Tribe's cultural knowledge and interests during construction.

3.15 **Section 33 11 13** – ADD THE FOLLOWING SECTION TO 'PART 3 EXECUTION':

A. Marker Posts
   1. Place with Engineer or YPUD Direction
   2. Shall be installed with minimum 3 feet bury depth and minimum 2 feet aboveground.

END OF SECTION

SECTION 01 27 00

MEASUREMENT AND PAYMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

A. Summary.

B. Estimated quantities.

C. Survey and measurements.

D. Payment for increased or decreased quantities.

E. Omitted items.

F. Partial payments.

G. Payment for material delivered.

H. Final payment.

I. Incidental work.

J. Description of pay items

1.2 SUMMARY

A. Work covered by this section includes method of measurement and basis of payment for all divisions included.

B. Payment for the various items of the Bid Schedules, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, materials, labor, supplies, manufactured articles, transportation, and temporary facilities required to complete the work in accordance with contract documents including incidentals.

C. Respective prices and payment shall constitute full compensation for all work completed including incidentals.

D. All items not expressly listed as being provided by others that are necessary for the completion of work shall be furnished and installed by the Contractor.

E. No payment shall be made for mobilization and demobilization of equipment, unless it is explicitly included as a bid item.

F. The Contractor, in case of unit-price items measured for payment, shall be paid for the actual amount of Work accepted and for the actual amount of materials in place, as shown by final measurement. Plan quantity items shall be paid for at the unit price for the quantities shown on the plans and tabulated in the bid form.

G. The Contractor, in case of lump sum amounts, or by plan quantities, shall be paid for the percentage of the work item completed as determined by the Engineer.

H. All units of measurement shall be standard United States convention as applied to the specific items of Work by tradition and as interpreted by the Engineer.

1.3 ESTIMATED QUANTITIES

A. All quantities stipulated in the bid schedule or other contract documents are approximate and are to be used: (1) as a basis for estimating the probable cost of the work and (2) for the purpose of comparing the bids submitted.

B. The Contractor shall be paid for actual quantities installed based on the quantities measured in the field. The actual amounts of work completed and materials furnished may differ from estimated quantities. The Contractor shall make no claim for damages, anticipated profits, or otherwise, on account of differences between the estimated amounts and the actual amount of work performed and materials furnished.

C. The payment of any partial estimate or of any retained percentage in no way shall affect the obligation of the Contractor to repair or renew any defective parts of the construction or to be responsible for all damage due to such defects.

1.4 SURVEY AND MEASUREMENTS

A. All quantity measurements shall be the responsibility of the Contractor and will be verified by the project Engineer.

B. All measurements and subsequent payments will be based on completed and accepted work performed in strict accordance with the drawings, specifications, and other contract documents.

1.5 PAYMENT FOR INCREASED OR DECREASED QUANTITIES

A. When alterations in the quantities of work are ordered and performed, the Contractor shall accept payment in full at the Contract price for the actual quantities of Work done. No allowance will be made for anticipated profits.

1.6 OMITTED ITEMS

A. Should any items contained in the Bid Form be found unnecessary for the proper completion of the Work contracted, the Engineer may eliminate such items from the Contract, and such action shall in no way invalidate the Contract, and no allowance will be made for items so eliminated in making final payment to the Contractor.

1.7 PARTIAL PAYMENTS

A. Partial payments shall be made monthly as the work progresses. All partial invoices and payments shall be subject to the provisions of the General and Supplementary Conditions.

1.8 PAYMENT FOR MATERIAL DELIVERED

A. When requested by the Contractor and at the discretion of the Engineer, payment may be made for all or part of the value of acceptable, non-perishable materials and equipment which are to be incorporated into Bid Items, have not been used and have been delivered to the construction site, or placed in storage places acceptable to the Engineer. Payment shall require paid invoices and proof of insurance and be subject to the provisions of the General and Supplementary Conditions.

B. No partial payment shall be made upon fuels, supplies, lumber, false work, or other materials, or on temporary structures of any kind that are not a permanent part of the Contract.

1.9 FINAL PAYMENT

A. The Engineer will make, as soon as practicable after the entire completion of the project, a final quantity invoice of the amount of the Work performed and the value of such Work. The Contracting Officer shall make final payments of the sum found due less retainages subject to provisions of the General and Supplemental Conditions.

1.10 INCIDENTAL WORK

A. Incidental work items for which separate payment will not be made includes the following items, unless explicitly included as a bid item. This is not a complete and comprehensive list – see other Technical Specifications for more information:
   1. Pre-Construction photographs.
   2. Project record documents
   3. Traffic control plan and traffic regulation.
   4. Signs.
   5. Clean up and restoration of property.
   6. Restoration of fences and other structures.
   7. Cooperation and coordination with other contractors and utility companies.
   8. Utility crossings and relocations, unless otherwise paid for.
   9. Temporary utility service to buildings, as required to maintain service during construction.
   10. Minor Items – such as relocation of sign posts, guard rails, rock wall, mail boxes, curbs, traffic loop detectors, pavement markings, etc., damaged as a result of construction activities.
   11. Trench boxes, steel and/or wood sheeting as required, including that left in place.
   12. Maintenance of all existing water flows and repair of existing water pipes.
   13. Dust control.
   14. Erosion control.
   15. Clearing, grubbing, and stripping.
   16. Loaming, seeding, grading, liming, fertilizing, mulching, and watering.
   17. Routine flagman services.
   18. Construction schedules, bonds, insurance, shop drawings, warranties, guarantees, certifications, and other submittals required by the Contract Documents.

19. Repair and replacement of water lines, culverts, under-drains, rock lined drainage trenches in streets and other utilities damaged by construction activities and corresponding proper disposal of removed materials unless otherwise paid for.
20. Weather protection.
21. Permits not otherwise paid for or provided by the Owner.
22. Visits to the project site or elsewhere by personnel or agents of the Contractor, including manufacturer's representatives, as may be required.
23. Mobilization and demobilization, unless specifically listed in Bid Schedule.
24. Excavation including the test pits specifically shown or ordered by the Engineer to establish underground utility locations.
25. Contract administration and insurance.
26. Test pits to establish in place field soils density, groundwater conditions, or requirements for de-watering.
27. Pipe markings.
28. Construction Trailer.

PART 2 PRODUCTS – Not Used

PART 3 EXECUTION

3.1 DESCRIPTION OF PAY ITEMS

A. The following sections describe the measurement of and payment for the Work to be done under the respective items listed in the Bid Form.

B. Each unit or lump sum price stated in the Bid Form shall constitute full compensation, as herein specified, for each item of the Work completed.

SECTION 01 27 00: MEASUREMENT AND PAYMENT

A. Mobilization and Demobilization:
   1. Basis of Measurement: By lump sum. Unless specifically listed in Bid Schedule, mobilization and demobilization shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.
   2. Basis of Payment: Includes all labor, equipment and materials to mobilize to and demobilize from the project site to complete the work outlined in the contract documents and for temporary facilities and controls as required. NOTE: Mobilization and demobilization line item shall not exceed 10% of total bid amount.

SECTION 02 30 00: CUTTING AND PATCHING

A. Hot Mix Asphalt
   1. Basis of Measurement: by Cubic Yard
   2. Basis of Payment: Includes all labor, equipment, material, cutting and patching, backfill and compaction, asphalt repair, and traffic control.

SECTION 03 30 00: CAST IN PLACE CONCRETE

A. Concrete

1. Basis of Measurement: by Cubic Yard
2. Basis of Payment: Includes all labor, equipment, materials, excavation, form-setting, reinforcement, compaction, placement and curing, finishing, testing,

SECTION 06 10 00: ROUGH CARPENTRY

A. Wood Frame Building – Water Treatment Building
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, parts, installation, excavation, backfill and compaction, foundation, door steps, walls, insulation, openings, penetrations, frames, finishes, insulation, grading, roofing, paneling, accessories, pipe supports, building wiring, painting, and finishes.

SECTION 07 71 23: MANUFACTURED GUTTERS AND DOWNSPOUTS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 08 13 14: STANDARD STEEL DOORS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 13 34 19: METAL BUILDING SYSTEMS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Metal Frame Building - Sand Filter Building
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, parts, installation, excavation, backfill and compaction, foundation, door step, walls, openings, penetrations, frames, finishes, grading, roofing, accessories, pipe supports, pipe accessories, building wiring, painting, and finishes.

SECTION 22 05 03: PLUMBING PIPING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 22 11 00: FACILITY WATER DISTRIBUTION

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Magnetic Flow Meter
   1. Basis of Measurement: by Unit, noted with or without box housing

2. Basis of Payment: Includes all labor, parts, water connection, disinfection, testing, wiring and connection, vault and supports when specified, verification, and adjustment.

C. Pressure Gauge
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, parts, connection, disinfection, testing, and installation.

D. Booster Pump
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, parts, installation, disinfection, testing, accessories, water connection, electrical connection, pump controls, pump starter, pump saver, and control connection.

E. 5000-Gallon Poly Equalization Tank
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, delivery, parts, 5,000-gallon polyethylene tank, float system, ringwall and stakes, installation, tank penetrations, connections, excavation, foundation, backfill, compaction, disinfection, and testing.

F. Roughing Filter
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, parts, excavation, installation, backfill and compaction, foundation, connection, accessories, concrete backwash structure, butterfly valve, disinfection, and testing.

G. Unistrut Pipe Support
   1. Basis of Measurement: by Linear Foot
   2. Basis of Payment: Includes all labor, parts, connections, fasteners, delivery, and accessories.

SECTION 22 44 00: PLUMBING FIXTURES

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 26 05 03: EQUIPMENT WIRING CONNECTIONS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 26 05 19: ELECTRICAL CONDUCTORS AND CABLES

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 26 05 33: CONDUIT AND BOXES FOR ELECTRICAL SYSTEMS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Buried Electrical Cable
   1. Basis of Measurement: By linear foot, for size as indicated
   2. Basis of Payment: Includes labor, cable, pull boxes, conduit, materials, connections, delivery, handling, installing, excavation, backfill, bedding, and compaction.

SECTION 26 32 13: ENGINE GENERATORS

A. 18 kW Propane Generator and Pad
   1. Basis of Measurement: by Lump Sum
   2. Basis of Payment: Includes all labor, parts, assembly, excavation, foundation, compaction, protection posts, testing, and connection.

B. Automatic Transfer Switch
   1. Basis of Measurement: by Lump Sum
   2. Basis of Payment: Includes all labor, parts, assembly, wall mounting, testing, and electrical connections.

SECTION 26 27 26: WIRING DEVICES

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 26 51 00: INTERIOR LIGHTING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 26 56 00: EXTERIOR LIGHTING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 31 10 00: SITE CLEARING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Site Clearing
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, cutting, clearing, and removal of plants and deadwood, and transport.

SECTION 31 22 13: ROUGH GRADING

C. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

D. Retaining Wall
   1. Basis of Measurement: by Lump Sum
   2. Basis of Payment: Includes all labor, design, excavation, fill, drain rock, compaction, grading, perforated piping, materials, and accessories.

E. Excavation and Grading
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, staking of final grade, excavation, grading, backfill, compaction, transport of spoils, testing,

SECTION 31 23 17: TRENCHING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Cultural Monitoring
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes hiring of Owner approved Tribal cultural monitor, who shall be on site to observe all earth disturbing activities.

SECTION 31 25 13: EROSION CONTROLS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Drain Dissipater
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all parts, labor, installation, excavation, backfill, grading, geotextile fabric, rip rap, flapper valve, and accessories.

C. 6’ Manhole Drain Collector
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all parts, labor, installation, excavation, backfill, grading, concrete curing, perforations, connections, grout, lid, and accessories.

D. Stormwater Polltion Prevention Plan and EPA CGP
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all document preparation and correspondence required to apply, acquire, and maintain these permits, labor, stormwater and runoff controls, and all permitting and application fees related.

SECTION 31 37 00: Rip Rap

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. 3-6" Rip Rap
   1. Basis of Measurement: Cubic Yard
   2. Basis of Payment: Includes all rock and materials, transport, labor, excavation, placement, and backfill.

SECTION 32 11 23: AGGREGATE BASE COURSES

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Aggregate Base Course
   1. Basis of Measurement: by Cubic Yard, for Class of Base
   2. Basis of Payment: includes all labor, material, transportation, excavation, placement, levelling, compaction, and testing.

C. Imported Fill
   1. Basis of Measurement: by Cubic Yard
   2. Basis of Payment: includes all labor, material, transportation, excavation, placement, levelling, compaction, and testing.

SECTION 32 92 19: SEEDING

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 33 05 17: PRECAST CONCRETE VALVE VAULTS AND METER BOXES

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Vault for DWR Connection, 2/C04
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor and materials, transport, excavation, backfill, compaction, and piping appurtenances contained within.

SECTION 33 11 13: WATER DISTRIBUTION MAINS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Water Main
   1. Basis of Measurement: by Linear Foot, for material and size specified
   2. Basis of Payment: Includes hand trimming, excavation, backfill, compaction, piping and fittings, pipe embedment, pipe markers, concrete thrust restraints, installation, connections to public utility water source and piping, accessories, disinfection and testing, and seeding.

C. Transmission Main
   1. Basis of Measurement: by Linear Foot, for material and size specified
   2. Basis of Payment: Includes hand trimming, excavation, backfill, compaction, piping and fittings, pipe bedding, pipe markers, concrete thrust restraints, installation, connections to public utility water source and piping, accessories, disinfection and testing, and seeding.

D. Drain Line
   1. Basis of Measurement: by Linear Foot, for material and size specified
   2. Basis of Payment: Includes hand trimming, excavation, backfill, compaction, piping and fittings, pipe embedment, pipe markers, concrete thrust restraints, installation, and accessories.

E. Culvert Crossing
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, excavation, backfill, compaction, restraints and thrust blocking, casing pipe and insulation, potholing, and other investigations.

F. Connection at Intake
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, parts, installation, piping, accessories, connections, support blocking, hand trimming, and testing.

SECTION 33 11 16: WATER DISTRIBUTION VALVES AND HYDRANTS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Gate Valve and Riser
   1. Basis of Measurement: By Unit, for size and type in Bid Schedule.
   2. Basis of Payment: Includes all labor, parts, excavation, installation, disinfection and testing, compaction, valve, riser where specified, (1) gate valve key, protection posts, concrete collar, thrust blocks or restraints, backfill, fittings and accessories, and other appurtenances.

C. Check Valve and Box
   1. Basis of Measurement: by Unit, for size and type
   2. Basis of Payment: Includes all labor, parts, excavation, installation, disinfection and testing, compaction, valve, box where specified, backfill, fittings and accessories, supports, and other appurtenances.

D. Flush Hydrant

1. Basis of Measurement: by Unit
2. Basis of Payment: Includes all labor, parts, disinfection and testing, installation, connection, excavation, backfill, compaction, and fittings and accessories.

E. Air Release Valve
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, parts, disinfection and testing, installation, connection.

F. Combination Air Valve
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, excavation, compaction, concrete and forms, parts, disinfection and testing, installation, connection.

G. Float Valve
   1. Basis of Measurement: by Unit
   2. Basis of Payment: Includes all labor, installation, connection fittings, adjustment, accessories, disinfection, and testing.

H. Pressure Reducing Valve and Box
   1. Basis of Measurement: by Unit, for size specified
   2. Basis of Payment: Includes all labor, excavation, installation, backfill, compaction, enclosure, support, fittings, connection to main, adjustment, testing and disinfection, valving, pressure gauges, accessories, and other appurtenances.

I. Altitude Valve and Box
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, excavation, backfill, compaction, box and housing, base, sensing line, strainer, supports, tank connection, PVC sensing line, pressure gauges, adjustment, disinfection, and testing.

SECTION 33 12 13: WATER SERVICE CONNECTIONS:

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Residential Water Meter and Box
   1. Basis of Measurement: By the unit.
   2. Basis of Payment: Includes all labor, excavation, meter, concrete box, meter setting equipment, supports, backfilling, compaction, fittings, and accessories.

C. Water Main Connection
   1. Basis of Measurement: Lump Sum
   2. Basis of payment: Pipe and fittings for domestic water service connections to buildings, pressure testing and disinfection, excavation, backfill, compaction, and labor.

SECTION 33 13 00: DISINFECTING OF WATER DISTRIBUTION

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

SECTION 33 16 20: BOLTED STEEL WATER STORAGE TANKS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. 60,000-Gallon Bolted Steel Storage Tank
   1. Basis of Measurement: Lump Sum
   2. Basis of payment: Pipe and fittings for domestic water service connections to buildings, pressure testing and disinfection, all labor and installation, drain gate valve, drain box, foundation, excavation, backfill and compaction, parts and delivery, float valve, pipe supports, and accessories.

SECTION 33 19 00: SLOW SAND FILTER

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Slow Sand Filter Media
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, installation, each type and volume of media, level placement of layers, washing, and grading.

C. Sand Filter Basins, Vault
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, installation, excavation, backfill, compaction, forms, reinforcement, penetrations, fastenings, underdrain and laterals, vault lid, vault, vault piping and accessories, level indicators, and support blocks.

SECTION 33 51 00: PROPANE GAS DISTRIBUTION

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Propane Tank and Foundation
   1. Basis of Measurement: by Lump Sum
   2. Basis of Payment: Includes all labor, parts, installation, foundation, excavation, backfill, compaction, propane connection, protection posts, service (shut off) valve, fill valve, relief valve, vapor return valve, withdrawal valve, fixed liquid level gauge, liquid level float valve, service valve, pigtails, regulator, tank dome, accessories, and connection to generator.

SECTION 44 10 15: WATER QUALITY MONITORING AND EQUIPMENT

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract. The following items are exceptions, provided they are listed in the Bid Schedule.

B. Water Monitoring Equipment, Piping, Tubing, and Controls
   1. Basis of Measurement: Lump Sum
   2. Basis of Payment: Includes all labor, installation, supports and fastenings, Ductile Iron Piping and accessories, gate valves, sample taps, data collection and wiring connections, PVC inlets and accessories, tubing and tubing accessories, pressure gauge, air release valve, flow switch, module channel controller, turbidimeters, differential pH sensor, temperature sensor, chlorine pump, chlorine day tank, chlorine tank mixer, chlorine analyzer, pipe supports, monitoring integration into YPUD Cloud system with relevant coordination and coding, and housings.

SECTION 44 44 14: CHEMICAL FEED PUMPS

A. Work described in this Section shall be merged with pay item(s) defined within the Measurement and Payment portion of other Sections of this Contract.

END OF SECTION

SECTION 22 11 00

FACILITY WATER DISTRIBUTION

PART 1 GENERAL

1.1 SUMMARY

A. Section Includes:
1. Piping
2. Valves
3. Water Meters
4. Pipe hangers and supports
5. Pressure gages
6. Flow control valves
7. Relief valves
8. Hose bibs and Sample Taps
9. Exhaust Fans
10. Countertop
11. Window
12. Chemical Pumps
13. Booster Pumps

B. Related Sections:
1. Section 03 30 00 - Cast-In-Place Concrete
2. Section 08 71 00 - Door Hardware
3. Section 22 05 03 - Plumbing Piping
4. Section 22 05 53 - Identification for Plumbing Piping and Equipment
5. Section 26 05 03 - Equipment Wiring Connections
6. Section 26 05 19 – Electrical conductors and Cables
7. Section 26 05 26 – Grounding for Electrical Systems
8. Section 26 05 33 – Conduit and Boxes for Electrical Systems
9. Section 33 13 00 - Disinfecting of Water Utility Distribution
10. Section 33 21 13 – Community Supply Wells

1.2 REFERENCES

A. American Society of Mechanical Engineers:
1. ASME B40.1 - Gauges - Pressure Indicating Dial Type - Elastic Element.

B. American Society of Sanitary Engineering:
1. ASSE 1011 - Performance Requirements for Hose Connection Vacuum Breakers.

C. ASTM International:
1. ASTM F708 - Standard Practice for Design and Installation of Rigid Pipe Hangers.

D. American Water Works Association:
1. AWWA C701 - Cold-Water Meters - Turbine Type, for Customer Service.

2. AWWA C702 - Cold-Water Meters - Compound Type.
3. AWWA M6 - Water Meters - Selection, Installation, Testing, and Maintenance.

E. Manufacturers Standardization Society of the Valve and Fittings Industry:
1. MSS SP 80 - Bronze Gate, Globe, Angle and Check Valves.
2. MSS SP 85 - Cast Iron Globe & Angle Valves, Flanged and Threaded.
3. MSS SP 110 - Ball Valves Threaded, Socket-Welding, Solder Joint, Grooved and Flared Ends.

F. National Electrical Manufacturers Association:
1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).

1.3 SUBMITTALS

A. Section 01 33 00 - Submittal Procedures: Submittal procedures.

B. Shop Drawings (pressure booster systems): Indicate layout, general assembly, components, dimensions, weights, clearances, and methods of assembly.

C. Product Data:
1. Piping: Submit data on pipe materials, fittings, and accessories. Submit manufacturer's catalog information.
2. Valves: Submit manufacturers catalog information with valve data and ratings for each service.
3. Hangers and Supports: Submit manufacturers catalog information including load capacity.
4. Domestic Water Specialties: Submit manufacturers catalog information, component sizes, rough-in requirements, service sizes, and finishes.
5. Pumps: Submit pump type, capacity, certified pump curves showing pump performance characteristics with pump and system operating point plotted. Include NPSH curve when applicable. Include electrical characteristics and connection requirements.

D. Manufacturer's Installation Instructions: Submit installation instructions for pumps, valves and accessories.

E. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

1.4 CLOSEOUT SUBMITTALS

A. Section 01 70 00 - Execution and Closeout Requirements: Closeout procedures.

B. Project Record Documents: Record actual locations of valves and equipment.

C. Operation and Maintenance Data: Submit spare parts list, exploded assembly views and recommended maintenance intervals.

1.5 QUALITY ASSURANCE

A. For drinking water service, provide valves complying with NSF 61.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Section 01 60 00 - Product Requirements: Product storage and handling requirements.

B. Accept valves and equipment on site in shipping containers with labeling in place. Inspect for damage.

C. Provide temporary protective coating on cast iron and steel valves.

D. Provide temporary end caps and closures on piping and fittings. Maintain in place until installation.

E. Protect piping systems from entry of foreign materials by temporary covers, completing sections of the Work, and isolating parts of completed system.

1.7 FIELD MEASUREMENTS

A. Verify field measurements prior to fabrication.

1.8 EXTRA MATERIALS

A. Section 01 70 00 - Execution and Closeout Requirements: Spare parts and maintenance products.

1.9 Furnish one packing kit for each size valve, two hose end vacuum breakers for hose bibs and two pump seals for each pump model.

PART 2 PRODUCTS

2.1 DOMESTIC WATER PIPING, BURIED WITHIN 5 FEET OF BUILDING

A. Refer to Section 22 05 03.

2.2 DOMESTIC WATER PIPING, ABOVE GRADE

A. Refer to Section 22 05 03.

2.3 UNIONS AND FLANGES

A. Refer to Section 22 05 03.

2.4 WATER METERS

A. Refer to Section 01 11 90.

2.5 PIPE HANGERS AND SUPPORTS

A. Manufacturers:
1. Unistrut
    a. Pipe Support: Model P1000

1) ST Finish – Stainless Steel Type 316
b. Pipe Clamps: Model P1117 for 2-inch pipe, P1113 for 1-inch pipe
1) ST Finish – Stainless Steel Type 316
2. Grainger
a. Pipe Straps / Routing Clamps: Galvanized, for pipe or conduit size as specified in drawings
3. Substitutions Permitted: Section 01 60 00 - Product Requirements.

2.6 PIPE WALL BOOT

A. Manufacturer:
1. CSI Designs Pipetite Standard, PT4-000
2. Substitutions Permitted: Section 01 60 00 - Product Requirements

B. Type:
1. Flexible seal that allows pipeline movement without damage
2. Silicone construction
3. Self-sealing, no sealant required
4. For 4” Ductile Iron pipe

2.7 PRESSURE GAUGES

1. Refer to Section 01 11 90

2.8 SAMPLE TAPS

1. Refer to Section 01 11 90

2.9 PIPE LABELS

A. Manufacturer:
1. Seton
2. Substitutions Permitted: Section 01 60 00 - Product Requirements

B. Description:
1. Indicate flow direction
2. Indicate treated water vs non-treated water
3. Self-adhesive

2.10 EXHAUST FAN

A. Manufacturer:
1. McMaster-Carr: Dust-resistant direct drive wall-mount exhaust fan
a. Dust-Resistant Direct-Drive Wall-Mount Exhaust Fan, with 10" Diameter Blade, 120V AC, 1000 CFM Airflow | McMaster-Carr
2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description:
1. Airflow: 1000 cfm

2. Electrical connection: Hardwire, 120V single phase
3. Power: ¼ hp
4. Totally enclosed motor, steel frame

2.11 FLOOR DRAIN

A. Manufacturers
1. OATEY ABS Area Floor Drain with 4-inch Stainless Steel Cover
2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description
1. Stainless Steel or Noncorrosive Plastic Construction
2. Connects to 4" PVC
3. NSF 61 Compliant

2.12 LAMINATE COUNTERS

A. Manufacturers:
1. LABTech Supply Company
2. LOC Scientific
3. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description
1. Laminate material
2. Minimum 1" Thickness
3. Of dimensions as specified on Drawings
4. All edges with slight radius
5. With drip groove on underside
6. Black color – or other with engineer approval
7. Joints bonded by method of manufacturers recommendation
8. With supporting mounting brackets, described by
   a. Supported every 24" at maximum, and within 12" of an edge
   b. No span without at least 2 brackets
   c. Steel
   d. https://ironsupports.com/products/standard-front-mount-countertop-l-bracket?variant=15840870465607&gad_source=1&gad_campaignid=17519762048&gbraid=0AAAADKUw2q4zg4s4CocFlw3fuOaQKQUw&gclid=EAIaIQobChMI-K28-rL4kgMVjUhHAR3HeR2WEAQYBCABEgIEW_D_BwE
   e. 20" Deep minimum
   f. 14" High minimum
   g. Bracket Substations with approval from Engineer

2.13 SAFETY WINDOW

A. Manufacturers:
1. PGT Windows – Picture Window PW5520
2. Substitutions Permitted: Section 01 60 00 – Product Requirements

B. Description:

1. Picture window – does not open
2. With laminated impact resistant glass or approved safety glass alternative
3. Without grid or partitions

2.14 CHEMICAL TANK

A. Refer to Section 44 44 14 Chemical Feed Pumps

2.15 CHEMICAL FEED PUMP

A. Refer to Section 44 44 14 Chemical Feed Pumps

2.16 INFILTRATION GALLERY PUMP

A. Manufacturer:
1. Goulds 25CS10
   a. 7 Stage, 1hp

B. Description:
1. Delivers 20+ GPM at 160 ft of Head
   a. Operates within 85% of peak efficiency at this duty point
2. To operate at 3500 RPM
3. Single Phase, 60Hz, 115 V, 1 hp
4. With necessary accessories to attach to 4" pipe

2.17 BOOSTER PUMP

A. Manufacturer:
1. Goulds 7GB10 WaterGun Booster Pump
   a. 16 Stage, 1hp

B. Description:
1. Delivers 10+ GPM at 300 ft of head
   a. Operates within 85% of peak efficiency at this duty point
2. To operate at 3500 rpm
3. Single Phase, 60 hz, 115 V, 1 horsepower
4. 1" NPT ports for suction and discharge

2.18 ROUGHING FILTER

A. Manufacturer: Evoqua AVGF-6 (Automatic Valveless Gravity Filter)

B. Description:
1. 6' Filter Diameter Model
2. 3 GPM per square foot - Service Flow Option
3. With 0.45mm-0.55mm sand
   a. "187-00665" as internally recognized by Evoqua/Xylem

2.19 EQUALIZATION TANK

A. Manufacturer: Norwesco Vertical Water Tank – Black or Dark Green – 5000 Gallon

B. Description:
1. 5000 Gallon Nominal Storage
2. 141” Diameter x 86” Height
3. NSF Approved

PART 3 EXECUTION

3.1 EXAMINATION

A. Section 01 30 00 - Administrative Requirements: Coordination and project conditions.

B. Verify excavations are to required grade, dry, and not over-excavated.

3.2 PREPARATION

A. Ream pipe and tube ends. Remove burrs. Bevel plain end ferrous pipe.

B. Remove scale and dirt, on inside and outside, before assembly.

3.3 INSTALLATION - METERS

A. Install positive displacement meters in accordance with AWWA M6 and as shown on the plans.

3.4 INSTALLATION - GAGES

A. Install gages as shown on the drawings. Install one pressure gage for each pump, locate taps and on suction and discharge of pump; pipe to gage.

B. Install gage taps in piping where needed.

C. Install pressure gages with pulsation dampers. Provide needle valve or ball valve to isolate each gage.

D. Provide instruments with scale ranges selected according to service with largest appropriate scale.

E. Install gages in locations where they are easily read from normal operating level. Install vertical to 45 degrees off vertical.

F. Adjust gages to final angle, clean windows and lenses, and calibrate to zero.

3.5 INSTALLATION - ABOVE GROUND PIPING

A. Install valves with stems upright or horizontal, not inverted.

B. Install brass male adapters each side of valves in copper piped system. Solder adapters to pipe.

C. Install ball valves for shut-off and to isolate equipment, part of systems, or vertical risers.

D. Provide spring loaded check valves on discharge of water pumps.

E. Provide flow controls in water circulating systems as indicated on Drawings.

F. Install potable water protection devices on plumbing lines where contamination of domestic water may occur; on flush valves, interior and exterior hose bibs.

G. Pipe relief from valves to exterior of building as shown in the Drawings.

H. Pipe back-flow preventers and drains to nearest floor drain.

3.6 INSTALLATION - PUMPS

A. Provide pumps to operate at specified system fluid temperatures without vapor binding and cavitation, are non-overloading individual operation, and operate within 25 percent of midpoint of published maximum efficiency curve.

B. Install long radius reducing elbows or reducers between pump and piping. Support piping adjacent to pump with concrete block so no weight is carried on pump casings.

C. Provide air cock and drain connection on horizontal pump casings.

D. Provide drains for bases and seals.

E. Check, align, and certify alignment of base mounted pumps prior to start-up.

F. Install base mounted pumps on concrete housekeeping base, with anchor bolts, set and level, and grout in place. Refer to Section 03 30 00.

G. Lubricate pumps before start-up.

3.7 CLEANING

A. Section 01 70 00 - Execution and Closeout Requirements: Requirements for cleaning.

B. Disinfect water distribution system in accordance with Section 33 13 00.

END OF SECTION