

DOCUMENT 090

ADDENDA

ADDENDUM NUMBER 2

DATE: **1/26/2026**

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] and Addendum Number 1 issued [12/16/2025], 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 5 pages in addition to the following Documents and Drawings:

Drawing No.	Drawing Title	Issue Date
C102	Plan View, Upper Access Road	[1/26/2026]
C104	Plan & Profile, Access Road	[1/26/2026]
C105	Plan & Profile, Access Road	[1/26/2026]
C203	Plan & Profile, Tulley Creek Road	[1/26/2026]
C301	Enlarged Site Plan, Treatment Plant	[1/26/2026]
C303	Enlarged Site Plan. Tulley Creek Road	[1/26/2026]
C304	Enlarged Site Plan. Tulley Creek Road	[1/26/2026]
C404	Rough Filter Detail	[1/26/2026]

Document		Issue Date
01 10 00	Summary	[1/26/2026]
01 11 90	Revisions to Standard Specifications	[1/26/2026]
01 27 00	Measurement and Payment	[1/26/2026]
03 30 00	Cast- In-place Concrete	[1/26/2026]

CLARIFICATIONS

- 1) In reference to “Contract Agreement” Point 35. Performance Bond (Page 50 of project manual, page 20 of Contract Agreement):

The successful bidder will be required to provide 100% payment and performance bonding.

CHANGES TO THE PROJECT MANUAL

DOCUMENT 01 10 00 – SUMMARY – SEQUENCING

Additions to 1.3 Work Sequence A

- A. Work shall be sequenced to minimized system downtime. **Contractor will submit intended sequencing of work for approval by engineer and Owner. Sequencing provided in this section is intended to provide one possibility – where the majority of distribution main is installed and connected to the existing tank first to provide water while the new treatment plant and tank are constructed. In this, the connections of “Line A” and “Line B” would make the final transfer from the old system to the new system. The Temporary Facilities and Work Sequence Plan submittal may conform or diverge from this presented sequence.**

DOCUMENT 01 11 90 – REVISIONS TO STANDARD SPECS – SECTION 31 23 17

ADDITIONS to the REVISIONS TO STANDARD SPECIFICATIONS for imported pipe embedment, to specify fill as described in another section.

“

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

- A. Imported Pipe Embedment: **Imported fill as described in the Revisions to Standard Specifications (Revisions to Section 32 11 23).**

”

DOCUMENT 01 11 90 – REVISIONS TO STANDARD SPECS – SECTION 32 11 23

ALTERATIONS to the REVISIONS TO STANDARD SPECIFICATIONS for imported pipe embedment, to specify the stated gradation **or finer** is allowable.

“

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%

”

DOCUMENT 01 11 90 – REVISIONS TO STANDARD SPECS - EXECUTION

ADDITIONS to the REVISIONS TO STANDARD SPECIFICATIONS, PART 3 EXECUTION to allow engineer-approved restrained joints in the place of concrete thrust blocks.

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

“

3.9 Thrust Restraint

- A. 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.

”

DOCUMENT 01 27 00 – MEASUREMENT AND PAYMENT

Additions to MEASUREMENT AND PAYMENT for Section 22 11 00 E: “5000-Gallon Poly Equalization Tank”. Additions in **BOLD**.

“

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, **ABOVEGROUND PIPING AND SUPPORTS**, installation, tank penetrations, connections, excavation, foundation, backfill, compaction, disinfection, and testing.

”

DOCUMENT 01 33 00 0 Submittal Procedures

An additional submittal is required – “Temporary Facilities and Work Sequence Plan”. Please see revised submittal form.

CHANGES TO THE DRAWINGS

DRAWING C102 – Plan view, Upper Access Road

Line F1 – 2” PVC C900 changed to 2” HDPE

Reference to detail 3/C505 on “Line A” removed – the tee and gate valve will be above ground.

Added Note 3

DRAWING C104 – Plan & Profile, Access Road

Line F1 – 2” PVC C900 changed to 2” HDPE, 3 places.

DRAWING C105 – Plan & Profile, Access Road

Linetype correction to line F1 (Label on line noted 4”, is now 2”)

Line F1 – 2” PVC C900 to 2” HDPE, 2 places

DRAWING C203 – Plan & Profile, Tulley Creek Road

WSL connection to home shown in more detail

DRAWING C301 – Enlarged Site Plan, Treatment Plant

Reference to detail 1/C404 corrected to detail 2/C405

Reference to detail 1/C403 changed to detail 1/C404

Extraneous drain line for Water Treatment Plant removed, on Northwest corner.

DRAWING C303 – Enlarged Site Plan, Tulley Creek Road

Detail is not to scale. Corrected to “Not to Scale” from 1” = 40’

DRAWING C304 – Enlarged Site Plan, Tulley Creek Road

Reference to detail 2/C509 at 5’ out from residence is removed. This WSL had 2 references to this detail. One reference to detail 2/C509 remains at the intended location of the water meter.

DRAWING C404 – Rough Filter Detail

Correction to destination of Rough Filter outlet piping. Detail noted “4” PVC to Sand Filter” on Elevation View. Changed to “4” PVC to Equalization Tank”

END OF DOCUMENT

DOCUMENT 01 10 00
SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Work sequence.
- C. Specifications Conventions

1.2 CONTRACT DESCRIPTION

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 construct 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 for the community of Ke-nek within the Yurok Reservation (41.220° N, 123.773° W).

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.

CA 21-F05 Yurok Ke-nek Water System Supplemental Funding

Perform Work of Contract under unit fixed price contract with Owner in accordance with Conditions of Contract.

1.3 WORK SEQUENCE

- A. Work shall be sequenced to minimize system downtime. **Contractor will submit intended sequencing of work for approval by engineer and Owner. Sequencing provided in this section is intended to provide one possibility – where the majority of distribution main is installed and connected to the existing tank first to provide water while the new treatment plant and tank are constructed. In this, the connections of “Line A” and “Line B” would make the final transfer from the old system to the new system. The Temporary Facilities and Work Sequence Plan submittal may conform or diverge from this presented sequence.**
- B. Install new water main. Disinfect and pressure test. Connect existing water tank into new water main.
- C. Excavate, clear, and prepare sites for roughing filter, equalization basin, slow sand filter, and water tank. Include all required soil stabilization techniques, retaining walls, and foundations.

- D. Construct roughing filter, equalization basin, slow sand filter, and water tank. Install interior components.
- E. Construct building over sand filter beds.
- F. Construct chlorine building.
- G. Connect treatment components. Disinfect and pressure test.
- H. Construct and connect electrical components and controls.
- I. Connect components into distribution. Disinfect and pressure test.

1.4 SPECIFICATION CONVENTIONS

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

PART 2 PRODUCTS

Not Used.

PART 3 EXECUTION

Not Used.

END OF SECTION

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
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 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 ‘2.9 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
- 2.6 **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.

2.7 **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

2.8 **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

2.9 **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.

2.10 **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

2.11 **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

2.12 **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

2.13 **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

2.14 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.

2.15 **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

2.16 **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

2.17 **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%

2.18 **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

2.19 **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 1/150th 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.

2.20 **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

2.21 **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
- 2.22 **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.
- 2.23 **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: 1/32”
 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) Release air during fill
 - 2) Vacuum protection
 - 3) 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”.
- 2.24 **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.”
- 2.25 **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 20°. 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
- 2.26 **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

2.27 Section 44 44 14 – Chemical Feed Pumps – REPLACE SECTION “2.1 CHEMICAL FEED PUMPS” IN ITS ENTIRETY AND REPLACE WITH:

- A. Manufacturers:
 - 1. Liquid Metronics (LMI)
 - a. Series C Chemical Metering Pump “C92-1-368SI”
 - 2. Substitutions permitted, unless otherwise specified in Drawings. Section 01 60 00 – Product Requirements
- B. Electronically controlled solenoid actuated diaphragm type
- C. Materials of Construction: PVC head and fittings, ceramic balls, fluorofilm diaphragm, PVDF/Polyprel check valve, or as appropriate for chemical being pumped.
- D. Controls:
 - 1. Pump powered by plug and cord connected to 120 volts AC, 1 phase short stroke electronically controlled solenoid actuator.
 - 2. Pump stroke length manually adjustable over 10: 1 ratio.
 - 3. Stroke frequency adjustable over 100: 1 ratio.
- E. Pump shall have flow-responsive control via receiving a 4-20mA signal, with user scalable endpoints, to provide pump output proportional to signal input.
- F. Pump Accessories:
 - 1. Furnish combination back pressure and pressure relief valve (four function valve) for each feed pump mounted on discharge end of pump creating back pressure on pump to creating accurate metering, preventing siphoning, relieving excess pressure by bypassing pumped liquid back to storage tank, and enabling depressurizing of pump discharge head and line without removal of discharge tubing or fittings. Valve constructed of PGC or PVDF.
 - 2. Furnish plastic wall mounting shelf for each pump.
 - 3. Furnish one graduated calibration column. Materials of construction compatible with chemicals being used.
- G. Capacity:
 - 1. Location: as shown in Drawings.
 - 2. Chemical Pumped: Liquid sodium hypochlorite, unless otherwise shown in Drawings.
 - 3. Discharge Capacity: as shown in Drawings.
 - 4. Discharge Pressure: as shown in Drawings.

2.28 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, **ABOVEGROUND PIPING AND SUPPORTS**, 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.

SECTION 31 22 13: ROUGH GRADING

- 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. 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.
- C. 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.

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.

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, 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, 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 01 33 00
SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Proposed products list.
- D. Product data.
- E. Shop drawings.
- F. Samples.
- G. Design data.
- H. Test reports.
- I. Certificates.
- J. Manufacturer's instructions.
- K. Manufacturer's field reports.
- L. Erection drawings.

1.2 SUBMITTAL PROCEDURES

- A. Transmit each submittal with Engineer accepted form.
- B. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- C. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents.
- E. Schedule submittals to expedite Project, and deliver to Engineer at address as shown in Invitation to Bid. Coordinate submission of related items.

- F. For each submittal for review, allow 7 calendar days excluding delivery time to and from Contractor.
- G. Identify variations from Contract Documents and product or system limitations which may be detrimental to successful performance of completed Work.
- H. Allow space on submittals for Contractor and Engineer review stamps.
- I. When revised for resubmission, identify changes made since previous submission.
- J. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- K. Submittals not requested will not be recognized or processed.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules within 7 calendar days after date of Owner-Contractor Agreement. After review, resubmit required revised data within 10 calendar days.
- B. Submit revised Progress Schedules with every Application for Payment if schedule has deviated from previous version submitted. If Work remains on last submitted Progress Schedule, no revised schedule should be submitted.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.
- F. Indicate estimated percentage of completion for each item of Work at each submission.
- G. Submit separate schedule of submittal dates for shop drawings, product data, and samples, including Owner furnished products and products identified under Allowances, and dates reviewed submittals will be required from Engineer. Indicate decision dates for selection of finishes.
- H. Indicate delivery dates for Owner furnished products and products identified under Allowances.
- I. Revisions to Schedules:
 - 1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 - 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.

3. Prepare narrative report to define problem areas, anticipated delays, and impact on Schedule. Report corrective action taken, or proposed, and its effect, including effect of changes on schedules of separate contractors.

1.4 PROPOSED PRODUCTS LIST

- A. Within 15 calendar days after date of Owner-Contractor Agreement, submit list of major products proposed for use, with name of manufacturer, trade name, and model number of each product.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.

1.5 PRODUCT DATA

- A. Product Data: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Submit number of copies Contractor requires, plus two copies Engineer will retain.
- C. Mark each copy to identify applicable products, models, options, and other data. Supplement manufacturers' standard data to provide information specific to this Project.
- D. Indicate product utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.6 SHOP DRAWINGS

- A. Shop Drawings: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. When required by individual specification sections, provide shop drawings signed and sealed by professional engineer responsible for designing components shown on shop drawings.
 1. Include signed and sealed calculations to support design.
 2. Submit drawings and calculations in form suitable for submission to and approval by authorities having jurisdiction.
 3. Make revisions and provide additional information when required by authorities having jurisdiction.
- D. Submit number of opaque reproductions Contractor requires, plus two copies Engineer will retain.

- E. After review, produce copies and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01 70 00 - Execution and Closeout Requirements.

1.7 SAMPLES

- A. Samples: Submit to Engineer for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Samples for Selection as Specified in Product Sections:
 - 1. Submit to Engineer for aesthetic, color, or finish selection.
 - 2. Submit samples of finishes from full range of manufacturers' standard colors, textures, and patterns for Engineer selection.
 - 3. Color and finish samples shall be true samples, not photographs.
- C. Submit samples to illustrate functional and aesthetic characteristics of Products, with integral parts and attachment devices. Coordinate sample submittals for interfacing work.
- D. Include identification on each sample, with full Project information.
- E. Submit number of samples specified in individual specification sections; Engineer will retain one sample.
- F. Reviewed samples which may be used in the Work are indicated in individual specification sections.
- G. Samples will not be used for testing purposes unless specifically stated in specification section.
- H. After review, produce duplicates and distribute in accordance with Submittal Procedures article and for record documents purposes described in Section 01 70 00 - Execution and Closeout Requirements.

1.8 DESIGN DATA

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.9 TEST REPORTS

- A. Submit for Engineer's knowledge as contract administrator or for Owner.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.10 CERTIFICATES

- A. When specified in individual specification sections, submit certification by manufacturer, installation/application subcontractor, or Contractor to Engineer, in quantities specified for Product Data.
- B. Indicate material or product conforms to or exceeds specified requirements. Submit supporting reference data, affidavits, and certifications as appropriate.
- C. Certificates may be recent or previous test results on material or Product, but must be acceptable to Engineer.

1.11 MANUFACTURER'S INSTRUCTIONS

- A. When specified in individual specification sections, submit printed instructions for delivery, storage, assembly, installation, start-up, adjusting, and finishing, to Engineer for delivery to Owner in quantities specified for Product Data.
- B. Indicate special procedures, perimeter conditions requiring special attention, and special environmental criteria required for application or installation.

1.12 MANUFACTURER'S FIELD REPORTS

- A. Submit reports for Engineer's benefit as contract administrator or for Owner.
- B. Submit report within 48 hours of observation to Engineer for information.
- C. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.

1.13 ERECTION DRAWINGS

- A. Submit drawings for Engineer's benefit as contract administrator or for Owner.
- B. Submit for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
- C. Data indicating inappropriate or unacceptable Work may be subject to action by Engineer or Owner.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION - Not Used

END OF SECTION

7	Vent (12" x 12", 27" x 15")	01 11 90	_____	_____
8	Concrete Materials	03 30 00	_____	_____
9	Concrete Mix	03 30 00	_____	_____
10	Concrete Reinforcement	03 30 00	_____	_____
11	Steel Door 3068	08 71 00	_____	_____
12	Steel Door 3070	08 71 00	_____	_____
13	Door Hardware	13 34 19	_____	_____
14	Metal Building Accessories	13 34 19	_____	_____
15	Metal Building Roofing	13 34 19	_____	_____
16	Metal Building Siding	13 34 19	_____	_____
17	Polycarbonate Skylight	13 34 19	_____	_____
18	Expansion Joint	22 05 03	_____	_____
19	5000 Gallon Poly Tank	22 11 00	_____	_____
20	Booster Pump	22 11 00	_____	_____
21	Exhaust Fan	22 11 00	_____	_____
22	Gallery Pump	22 11 00	_____	_____
23	Laminate Countertop	22 11 00	_____	_____
24	Eye Wash Station	22 40 00	_____	_____
25	Sink	22 40 00	_____	_____
26	Automatic Transfer Switch	26 32 13	_____	_____
27	Generator 18 kW	26 32 13	_____	_____
28	Interior T8 Light	26 51 00	_____	_____
29	Interior UFO Light	26 51 00	_____	_____
30	Exterior Floodlight	26 56 00	_____	_____
31	Exterior Motion Sensing Light	26 56 00	_____	_____
32	Sand Embedment	31 23 17	_____	_____
33	Geotextile	31 37 00	_____	_____
34	Rip Rap	31 37 00	_____	_____
35	Aggregate Base, Class 2	32 13 23	_____	_____
36	Aggregate Base, Class 3	32 13 23	_____	_____
37	Engineered Fill	32 13 23	_____	_____
38	Casing Pipe	33 11 13	_____	_____
39	Ductile Iron Pipe	33 11 13	_____	_____
40	HDPE Pipe	33 11 13	_____	_____
41	PE Pipe	33 11 13	_____	_____
42	PE Tubing	33 11 13	_____	_____
43	Pipe Stand Support	33 11 13	_____	_____
44	Piping Accessories	33 11 13	_____	_____
45	PVC Pipe	33 11 13	_____	_____
46	3/4" Sample Tap	33 11 16	_____	_____
47	Air Release Valve	33 11 16	_____	_____
48	Butterfly Valve (4")	33 11 16	_____	_____
49	Check Valve (2", 3", 4", 6")	33 11 16	_____	_____

50	Combination Air Valve	33 11 16	_____	_____
51	Flush Hydrant	33 11 16	_____	_____
52	Gate Valve (2", 3", 4", 6")	33 11 16	_____	_____
53	Restrained Coupling (4", 6")	33 11 16	_____	_____
54	Union Ball Valve (2", 3", 4")	33 11 16	_____	_____
55	60,000 Gallon Bolted Steel Tank	33 16 20	_____	_____
56	Filter Level Indicator	33 19 00	_____	_____
57	Filter Media (Coarse Gravel)	33 19 00	_____	_____
58	Filter Media (Coarse Sand)	33 19 00	_____	_____
59	Filter Media (Fine Gravel)	33 19 00	_____	_____
60	Filter Media (Fine Sand)	33 19 00	_____	_____
61	Filter Media (Rock)	33 19 00	_____	_____
62	Chlorine Analyzer	44 10 15	_____	_____
63	Differential pH and Temperature Sensor	44 10 15	_____	_____
64	Flow Switch	44 10 15	_____	_____
65	Module Channel Controller // PLC	44 10 15	_____	_____
66	Turbidimeter	44 10 15	_____	_____
67	Chlorine Day Tank	44 44 14	_____	_____
68	Chlorine Pump	44 44 14	_____	_____

Postconstruction Submittals

1	Warranty Documents		_____	_____
2	AC Paving Test Results		_____	_____
3	Pressure Test Results		_____	_____
4	Bacteriological Results		_____	_____
5	As-Built Drawings		_____	_____
6	O&M Manual		_____	_____

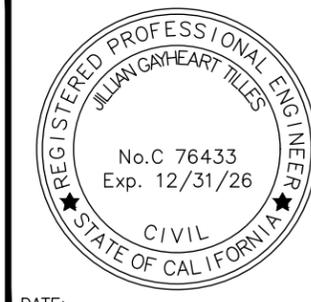
* If the item description for a material submittal is not the exact brand or model specified by the Owner, then 3 copies of the manufacturer's descriptive literature, catalog cut-sheets, etc. must be included with the submittal. For design submittals requiring design calculations, shop drawings, wiring and control diagrams, etc., 3 copies of each must also be included with this submittal. If item is exact brand or model, list brand, model and "as specified".

Submitted by: _____
 Contractor's Signature Date

IHS Concurrence: _____
 Project Engineer's Signature Date

YUROK TRIBE KE-NEK WATER TREATMENT PLANT AND WATER MAIN

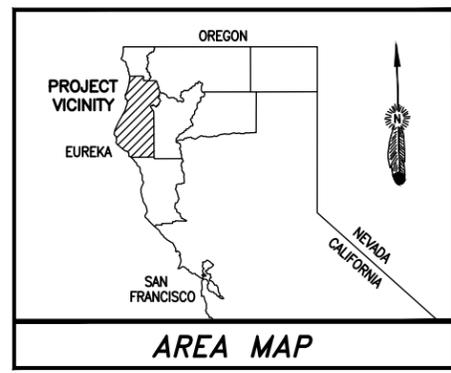
SANITATION FACILITIES CONSTRUCTION IHS PROJECT NO. CA 21-F05 HUMBOLDT COUNTY CALIFORNIA



DATE: _____

DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES/DRAIN	DMOG

<i>DRAWING INDEX</i>		
PAGE	SHEET	SHEET TITLE
1	G101	TITLE SHEET
2	G102	NOTES, LEGEND, SHEET INDEX
3	G103	WATER SYSTEM SCHEMATIC
4	C101	SITE PLAN, OVERALL
5	C102	PLAN VIEW, ACCESS RD
6	C103	PLAN & PROFILE, LINE 'A' AND 'B'
7	C104	PLAN & PROFILE, UPPER ACCESS RD
8	C105	PLAN & PROFILE, UPPER ACCESS RD
9	C106	PLAN VIEW, TRIBAL OFFICES
10	C201	PLAN & PROFILE, TULLEY CREEK RD
11	C202	PLAN & PROFILE, TULLEY CREEK RD
12	C203	PLAN & PROFILE, TULLEY CREEK RD
13	C301	ENLARGED SITE PLAN, TREATMENT FACILITY
14	C302	ENLARGED SITE PLAN, 100,000 GAL TANK
15	C303	ENLARGED SITE PLAN, ACCESS ROAD
16	C304	ENLARGED SITE PLAN, TULLEY CREEK ROAD
17	C305	ENLARGED SITE PLAN, TREATMENT IMPROVEMENTS
18	C306	ENLARGED SITE PLAN, TREATMENT IMPROVEMENTS
19	C401	60,000 GAL WATER STORAGE TANK
20	C402	WATER STORAGE TANK DETAILS
21	C403	WATER STORAGE TANK DETAILS
22	C404	ROUGH FILTER DETAIL
23	C405	5,000 GAL EQUALIZATION TANK DETAIL
24-34	C501-11	CIVIL DETAILS
35	C601	GRADING PLAN, TREATMENT FACILITY
36	C602	PROFILE, ALIGNMENT 'A'
37	C603	PROFILE, ALIGNMENT 'B'
38	C604	PROFILE, ALIGNMENT 'C'
39	C605	GRADING DETAILS
40	A101	FLOOR PLAN, TREATMENT BUILDING
41	A102	FOUNDATION PLAN, DETAILS
42	A103	BUILDING ELEVATIONS, ROOF PLAN
43	A104	BUILDING SECTION, DETAILS
44	A105	BUILDING ELECTRIC, PIPING DETAILS
45	A106	BUILDING PIPING DETAILS
46	A201	PLAN VIEW, SAND FILTER BUILDING
47	A202	ROOF PLAN, SECTION, SAND FILTER BUILDING
48	A203	ELEVATIONS, SAND FILTER BUILDING
49	A204	PLAN VIEW, SAND FILTER BASINS
50	A205	DETAILS, SAND FILTER BASIN
51	A206	PLAN VIEW, COLLECTOR AND DRAIN PIPING
52	A207	DETAILS, COLLECTOR PIPING
53	A208	DETAILS, INLET PIPING
54	A209	DETAILS, SAND FILTER BASIN
55	A210	ELECTRIC PLAN, SAND FILTER BUILDING
56	S101	FILTER BASIN STRUCTURAL
57	S102	FILTER BASIN STRUCTURAL
58	S103	FILTER BASIN STRUCTURAL



APPROVAL SIGNATURES:

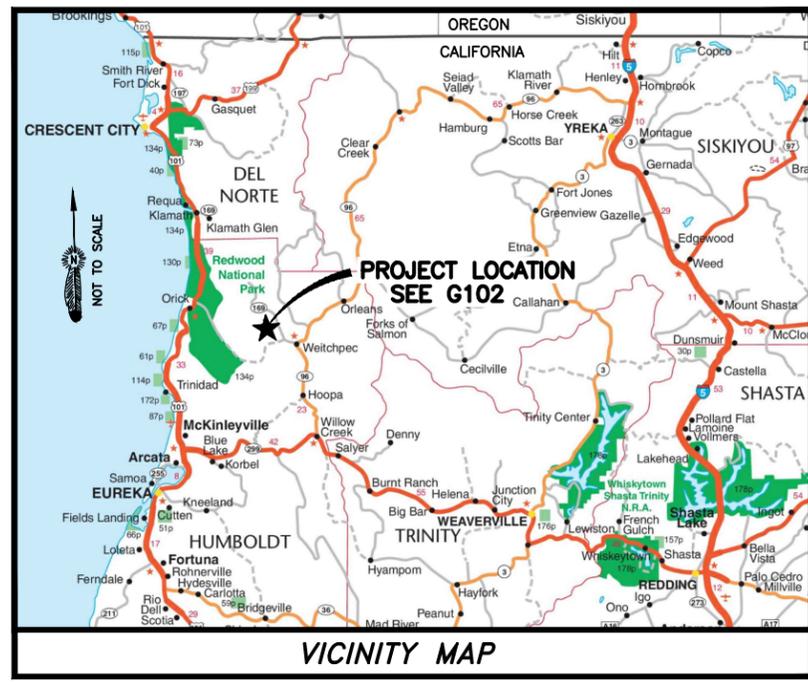
JILLIAN TILLES, P.E., DATE
PROJECT ENGINEER, DSFC

JILLIAN TILLES, P.E., DATE
DISTRICT ENGINEER, DSFC

J. DAVID MAZZORA, P.E., DATE
DIRECTOR, DSFC

PROJECT FUNDED BY:
U.S. ENVIRONMENTAL PROTECTION AGENCY,
2016 SDWA SET-ASIDE
AND
INDIAN HEALTH SERVICE

THIS PROJECT DESIGNED TO COMPLY
WITH THE REQUIREMENTS OF THE
C.B.C, U.P.C., U.M.C, & N.E.C (CURRENT EDITIONS)



DEPARTMENT OF HEALTH AND HUMAN SERVICES
 OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
 INDIAN HEALTH SERVICE
 SANITATION FACILITIES CONSTRUCTION
 650 CAPITOL MALL, SUITE 7-100
 SACRAMENTO, CA 95814
 (916) 930-3945



**KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
TITLE SHEET**
 FILE NAME: CAO-15-E56-DET
 LAYOUT NAME: G101
 PROJ. ENG: JILLIAN TILLES
 SCALE: AS NOTED
 DATE: 10-2-24
 DRAWING NO.: CAO-21-F05
 DRAWN BY: D. O'GORMAN

G101

SHEET
1 OF 58



DATE: _____

DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES/DRAIN	DMOG

DEPARTMENT OF HEALTH AND HUMAN SERVICES
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
INDIAN HEALTH SERVICE

SANITATION FACILITIES CONSTRUCTION
650 CAPITOL MALL, SUITE 7-100
SACRAMENTO, CA 95814
(916) 930-3945

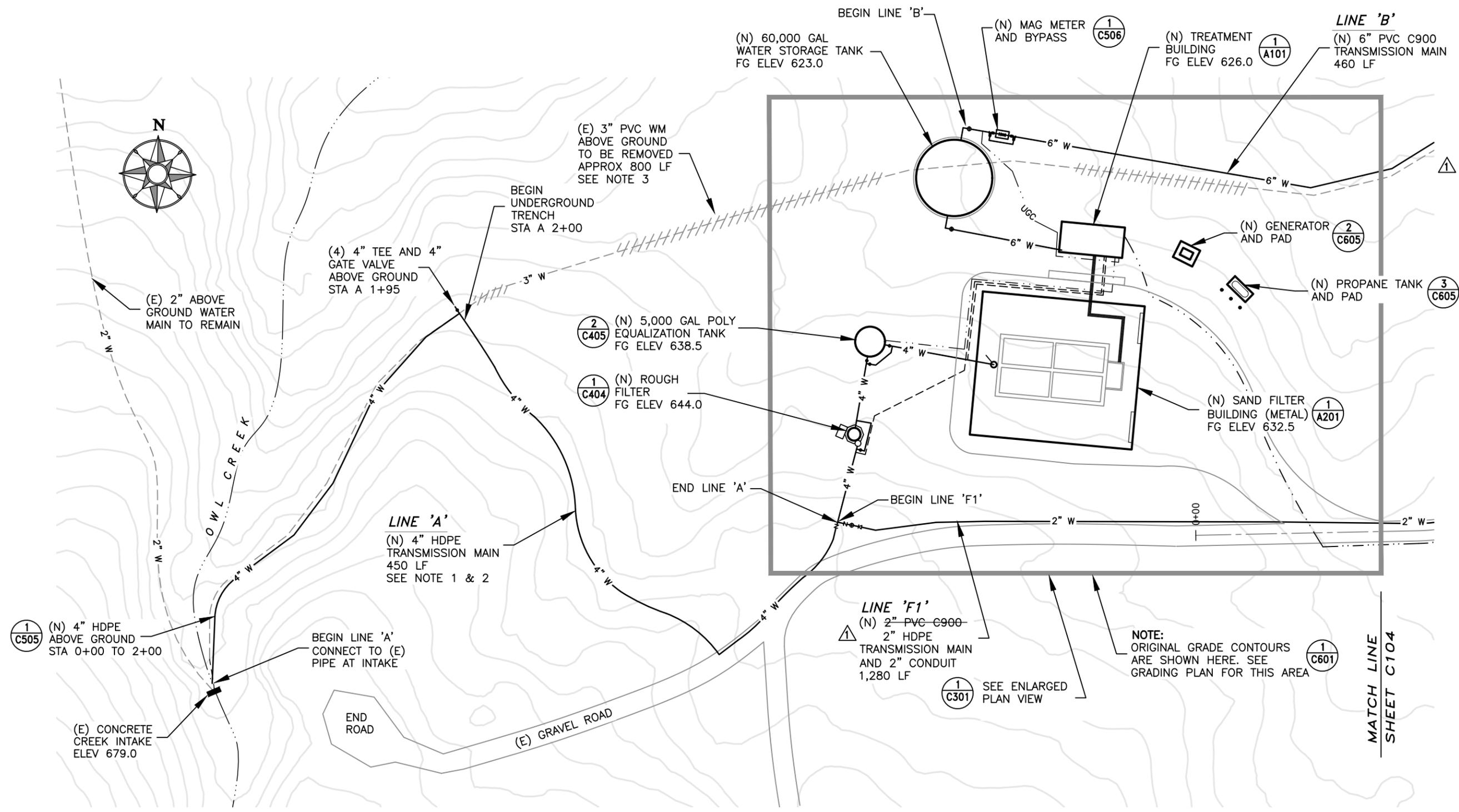


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN VIEW, UPPER ACCESS ROAD

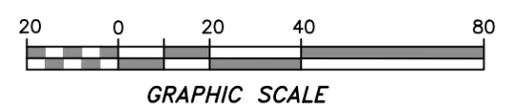
FILE NAME: CAO-15-E56-1
LAYOUT NAME: C102
PROJ ENG: JILLIAN TILLES

DRAWING NO.: CAO-21-F05 SCALE: AS NOTED
DRAWN BY: D. O'GORMAN DATE: 10-2-24

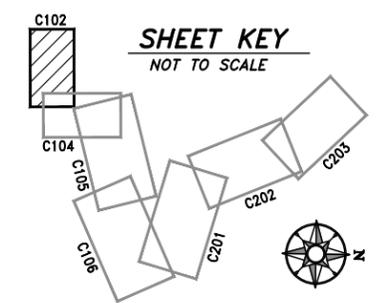
C102
SHEET
5 OF 58



- NOTES:**
- LINE 'A' ALIGNMENT TO BE STAKED IN THE FIELD BY PROJECT ENGINEER.
 - SEE SHEET C103 FOR PROFILES OF LINES 'A' AND 'B'.
 - A TEMPORARY BYPASS WILL BE REQUIRED AND SUBMITTED FOR APPROVAL BY THE ENGINEER.



**PLAN VIEW,
UPPER ACCESS ROAD**
SCALE: 1" = 40'



SHEET C102
MATCH LINE

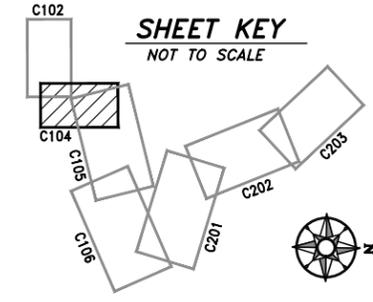
SHEET C102
MATCH LINE



DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES/DRAIN	DMOG

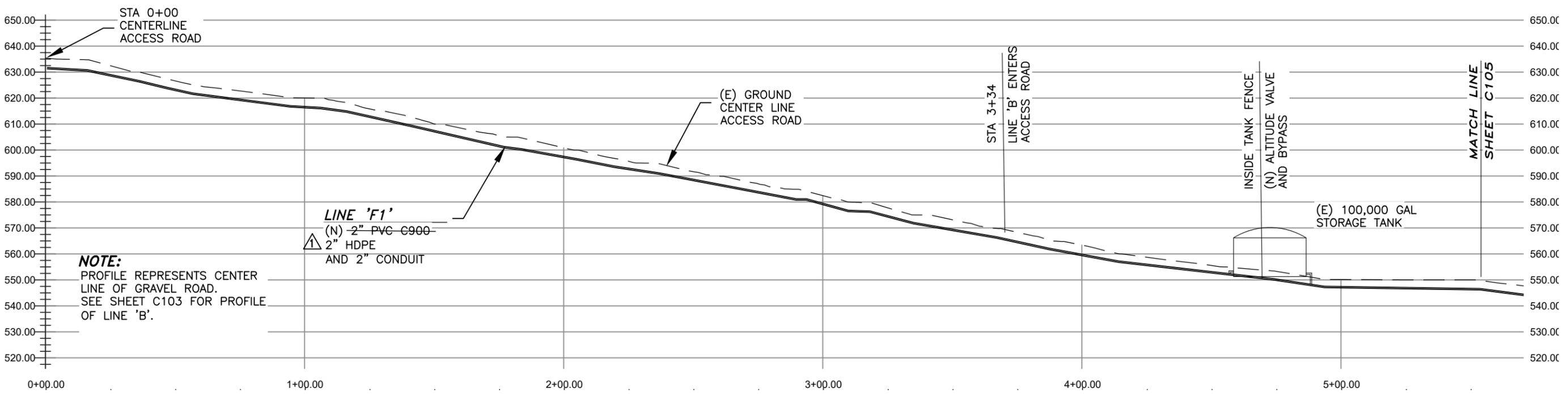
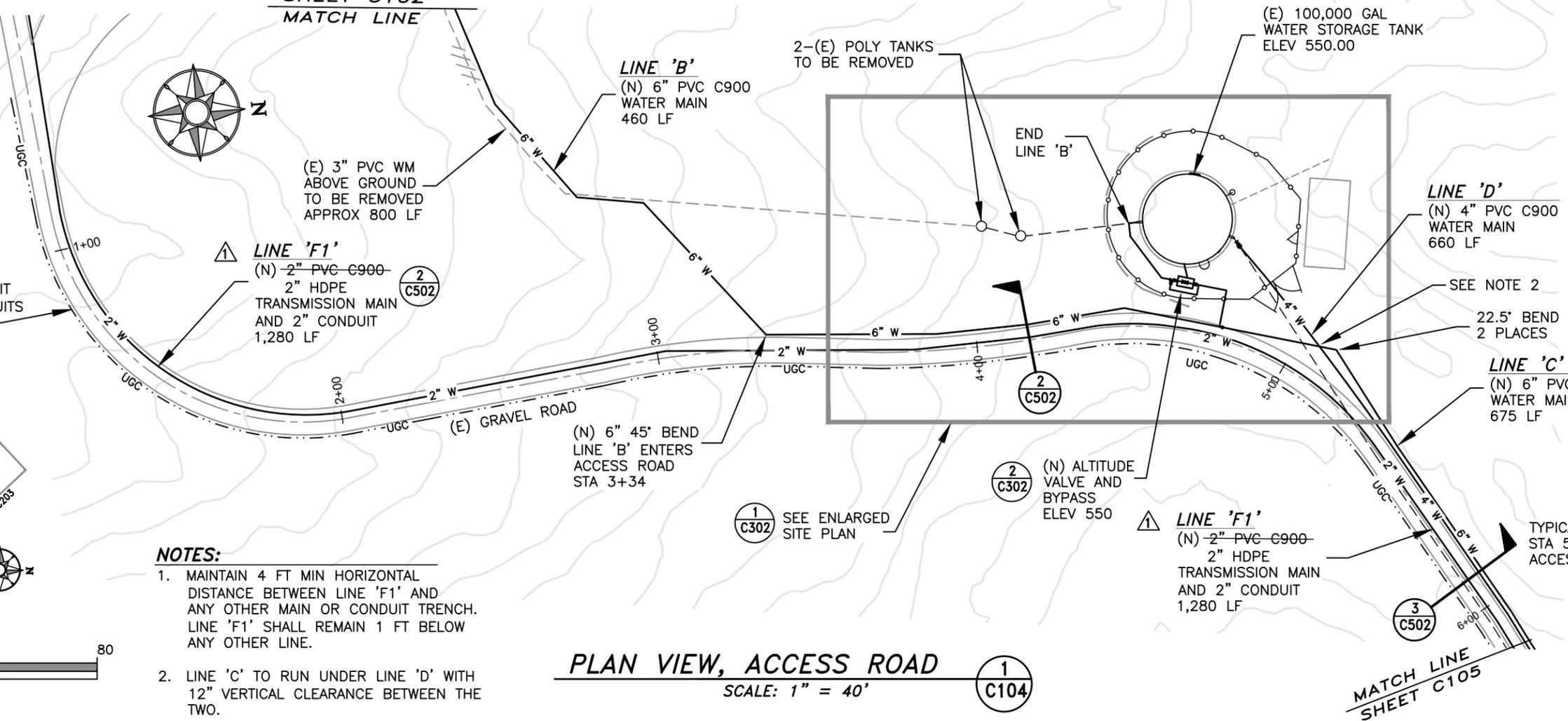


(N) 4" ELECTRIC CONDUIT AND 3-2" COMM CONDUITS IN JOINT TRENCH 1,250 LF EACH



- NOTES:**
1. MAINTAIN 4 FT MIN HORIZONTAL DISTANCE BETWEEN LINE 'F1' AND ANY OTHER MAIN OR CONDUIT TRENCH. LINE 'F1' SHALL REMAIN 1 FT BELOW ANY OTHER LINE.
 2. LINE 'C' TO RUN UNDER LINE 'D' WITH 12" VERTICAL CLEARANCE BETWEEN THE TWO.

PLAN VIEW, ACCESS ROAD
SCALE: 1" = 40'



NOTE:
PROFILE REPRESENTS CENTER LINE OF GRAVEL ROAD. SEE SHEET C103 FOR PROFILE OF LINE 'B'.

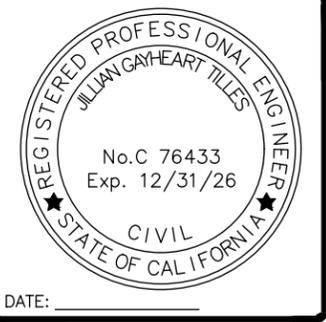
PROFILE, ACCESS ROAD
HORIZ SCALE: 1" = 40'
VERT SCALE: 1" = 40'

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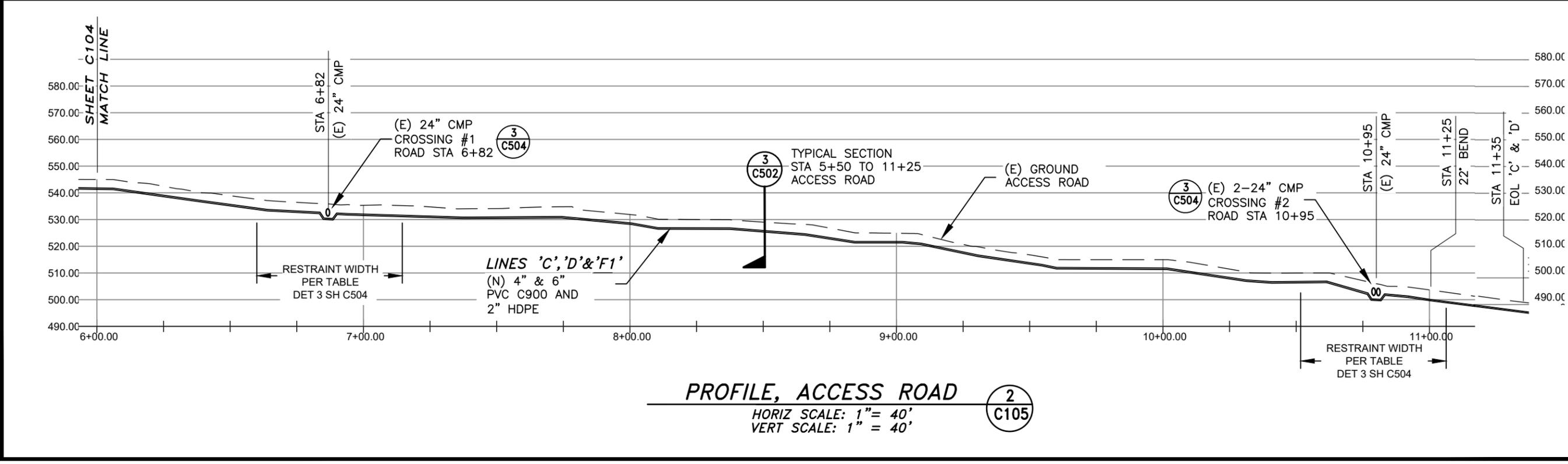
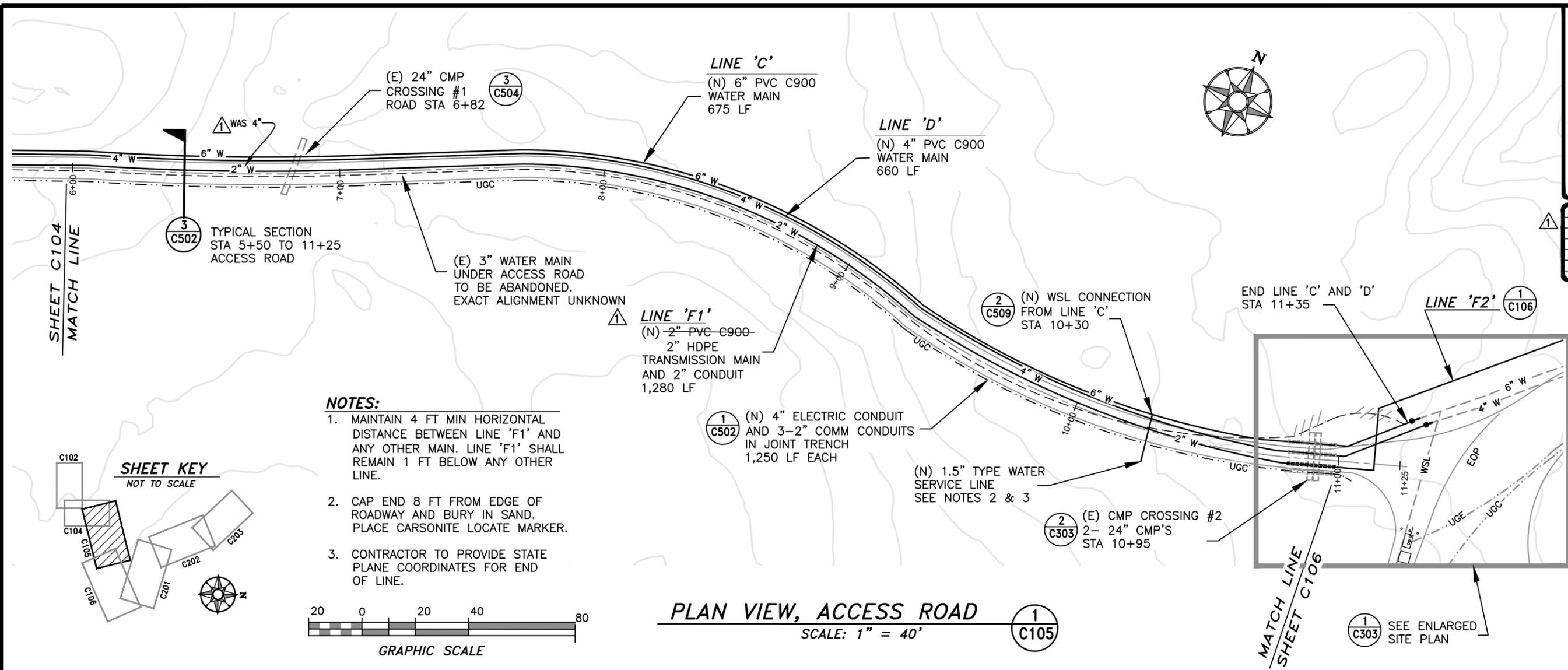
KE-NEK WATER TREATMENT PLANT AND KE-NEK WATER MAIN
PLAN & PROFILE, ACCESS ROAD

DRAWING NO.: CAO-21-F05 SCALE: AS NOTED DATE: 10-2-24
DRAWN BY: D. O'GORMAN
FILE NAME: CAO-15-E56-1 LAYOUT NAME: C104 PROJ. ENG: JILLIAN TILLES



DATE: _____

DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES	DMOG



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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN & PROFILE, ACCESS ROAD

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C105
PROJ. ENG.: JILLIAN TILLES

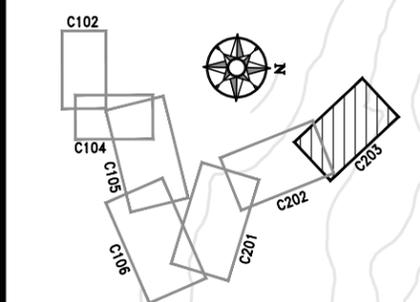
SCALE: AS NOTED
DATE: 10-2-24

DRAWING NO.: CAO-21-F05
DRAWN BY: D. O'GORMAN

NOTES:

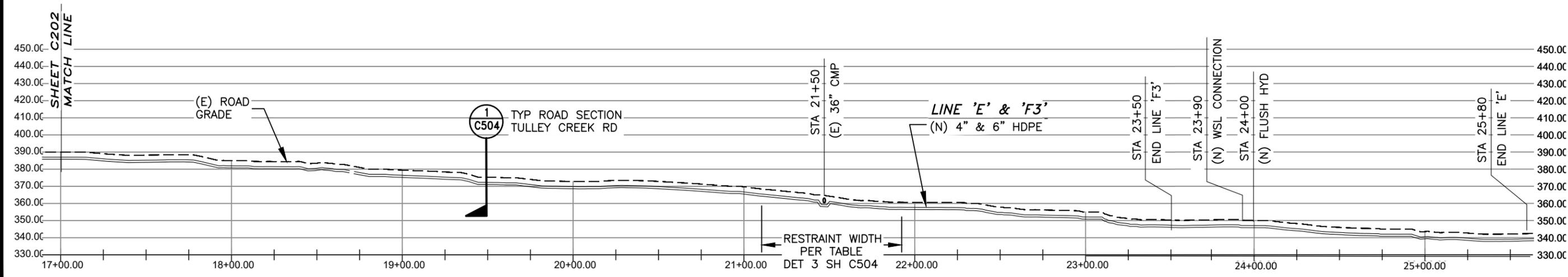
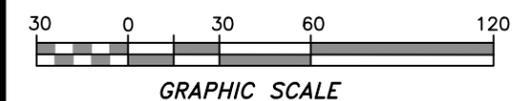
- WHEREVER LINES 'E' & 'F3' COME OUT FROM UNDER ROADWAY AND INTO THE ROAD SHOULDER USE TRENCH DETAILS
- MAINTAIN 4 FOOT MIN HORIZONTAL DISTANCE BETWEEN 4" AND 6" HDPE WATER MAINS. 6" SHALL REMAIN 1' ABOVE 4".
- EXACT LOCATION OF 3" WATER MAIN CROSSING IS UNKNOWN. CONTRACTOR TO LOCATE PRIOR TO CONSTRUCTION IN THIS AREA.

2
C504

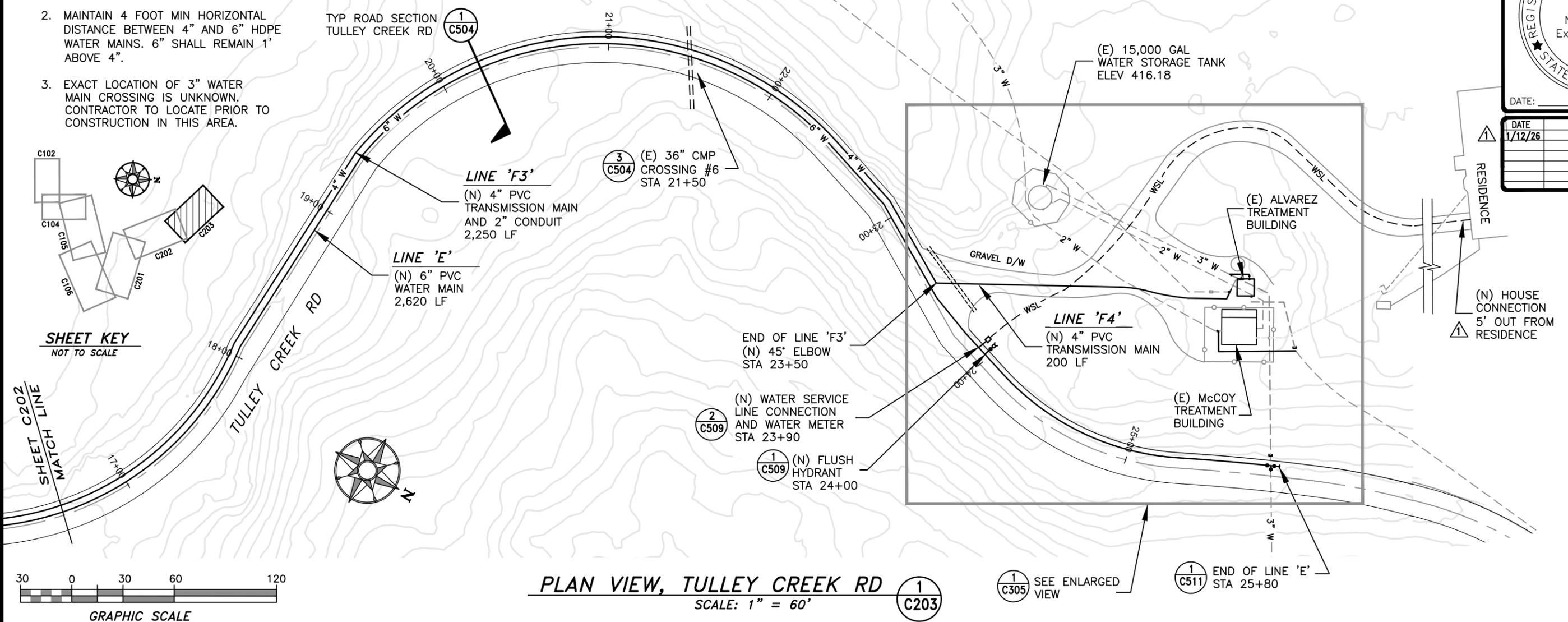


SHEET KEY
NOT TO SCALE

SHEET C202
MATCH LINE



PROFILE, TULLEY CREEK RD
HORIZ SCALE: 1" = 60'
VERT SCALE: 1" = 50'



PLAN VIEW, TULLEY CREEK RD
SCALE: 1" = 60'

REGISTERED PROFESSIONAL ENGINEER
JILLIAN GAHEART TILLES
No. C 76433
Exp. 12/31/26
CIVIL
STATE OF CALIFORNIA

DATE: _____

DATE	REVISIONS	INIT.
1/12/26	ADDED NOTE	DMOG

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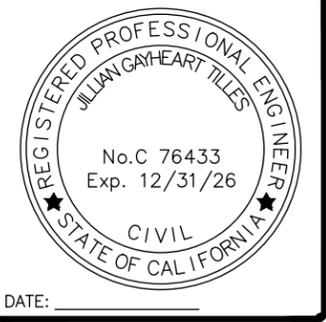


KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
PLAN & PROFILE, TULLEY CREEK RD

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C203
PROJ. ENG: JILLIAN TILLES

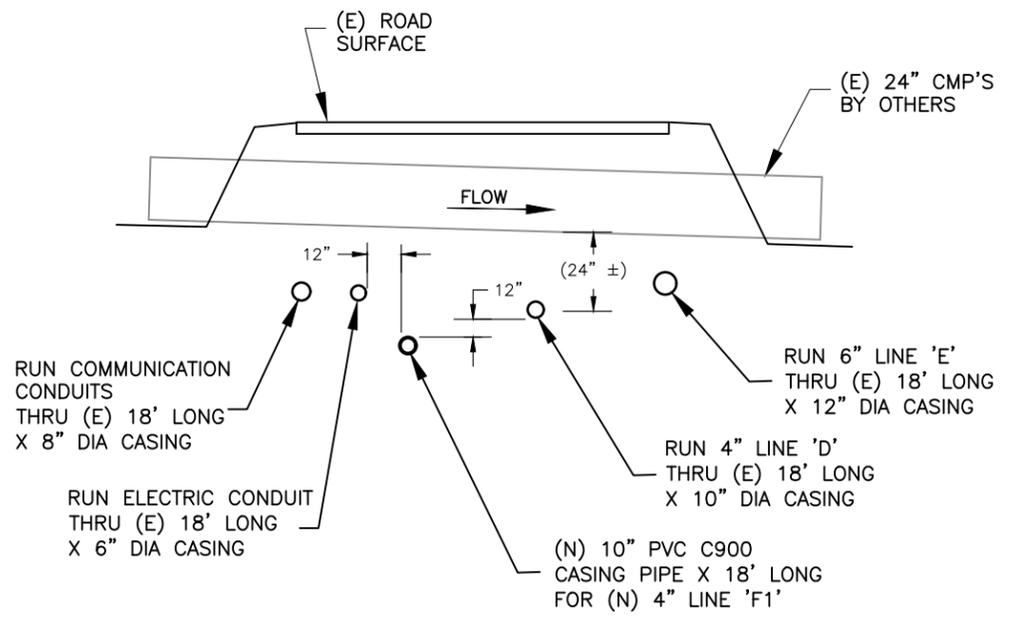
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN



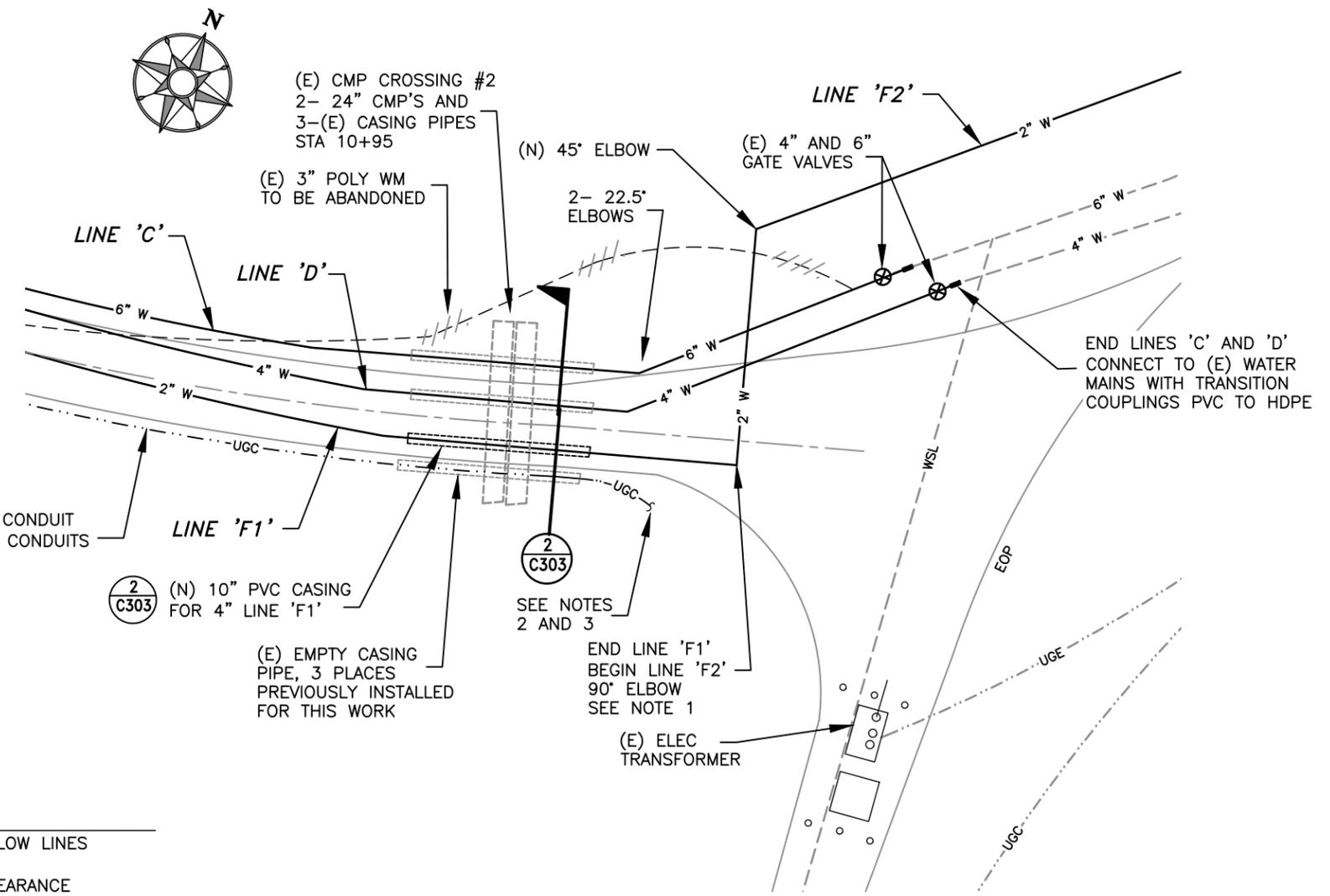
DATE: _____

DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES/DRAIN	DMOG



DETAIL, CMP CROSSING
NOT TO SCALE

2
C303



- NOTES:**
1. LINE 'F2' TO RUN BELOW LINES 'C' AND 'D'.
MIN 12" VERTICAL CLEARANCE
 2. COORDINATE END POINT CONNECTIONS FOR ELECTRIC CABLES FROM TREATMENT PLANT WITH YUROK PLANNING DEPARTMENT.
 2. COORDINATE END POINT CONNECTIONS FOR COMMUNICATIONS CABLES FROM TREATMENT PLANT WITH YUROK CONNECT.

**ENLARGED PLAN VIEW,
END OF ACCESS RD**
SCALE: 1" = 40'
NOT TO SCALE

1
C303

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KE-NEK WATER TREATMENT PLANT
AND KE-NEK WATER MAIN
ENLARGED SITE PLAN, TULLEY CREEK RD

FILE NAME: CAO-15-E56-1
LAYOUT NAME: C303
PROJ. ENG: JILLIAN TILLES

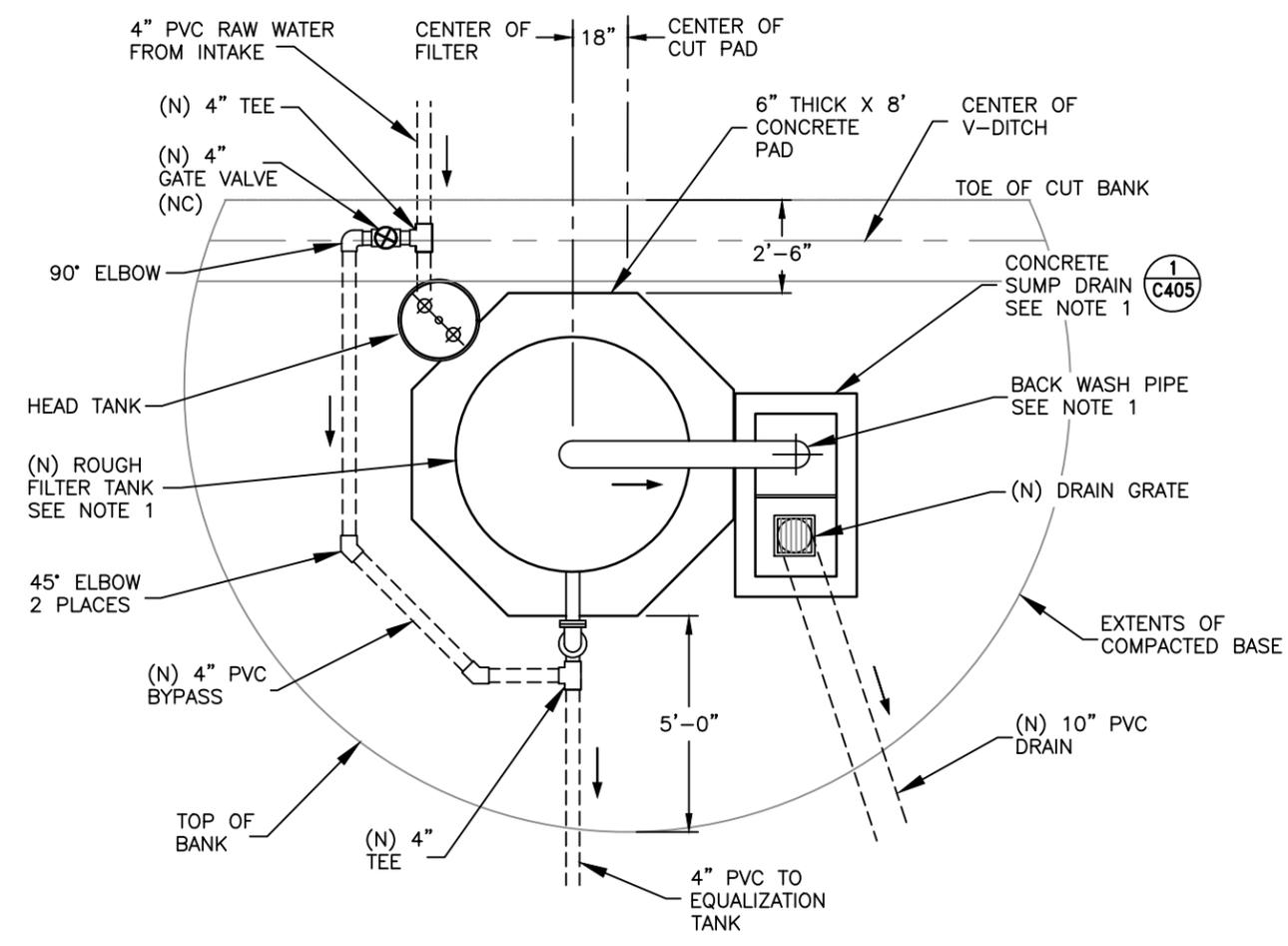
DRAWING NO.: CAO-21-F05
SCALE: AS NOTED
DATE: 10-2-24

DRAWN BY: D. O'GORMAN



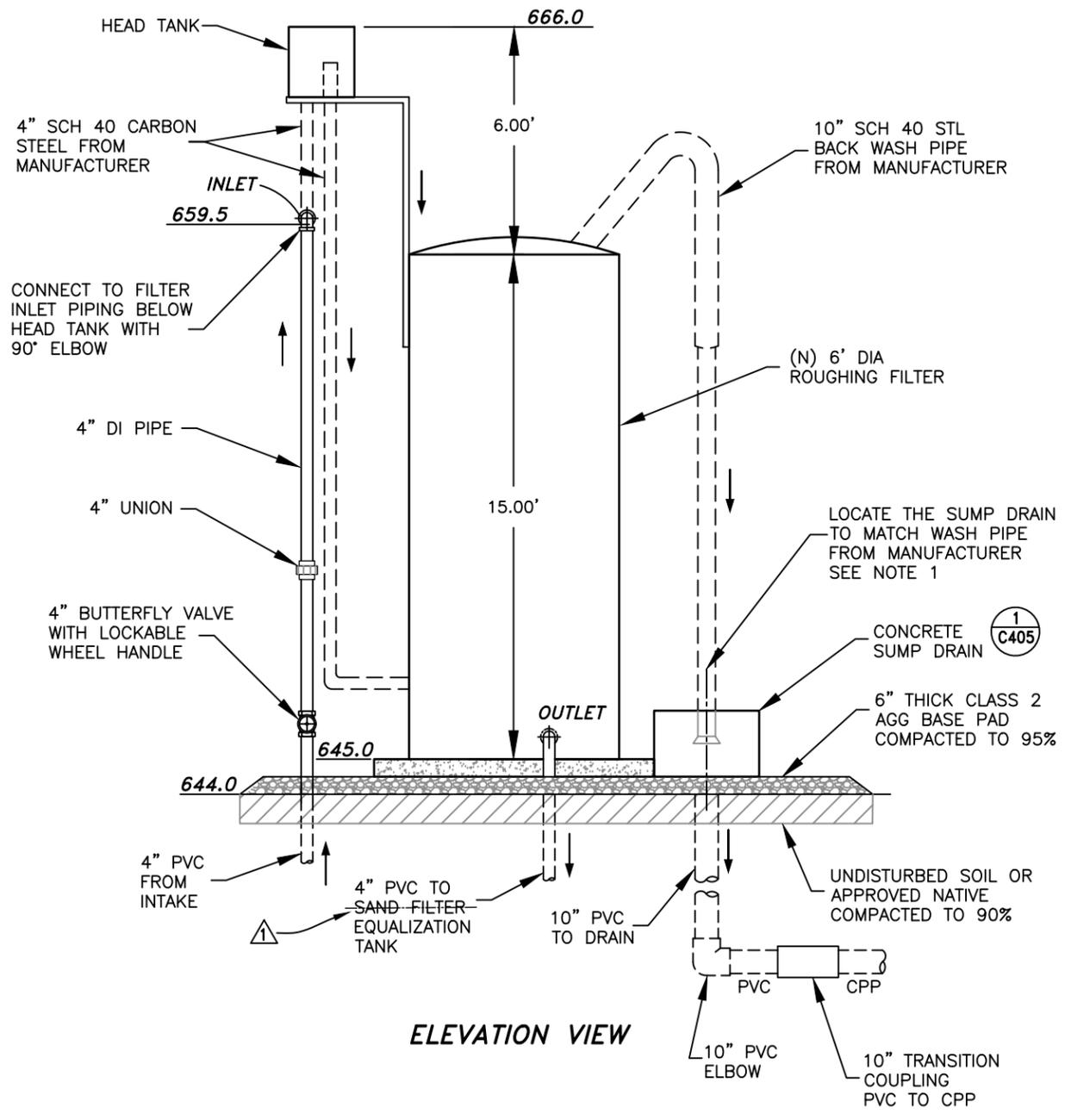
DATE: _____

DATE	REVISIONS	INIT.
1/12/26	REVISED NOTES	DMOG



PLAN VIEW

- NOTES:**
1. LOCATE THE SUMP DRAIN STRUCTURE SO THAT THE CENTER OF THE BACK WASH PIPE IS CENTERED OVER THE SUMP DRAIN AS SHOWN.
 2. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL PIPE SIZES, TYPES AND FITTINGS FOR ALL CONNECTIONS TO THE ROUGH FILTER AS SUPPLIED BY THE FILTER MANUFACTURER.



ELEVATION VIEW

ROUGH FILTER DETAIL
NOT TO SCALE

1
C404

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KE-NEK WATER TREATMENT PLANT AND KE-NEK WATER MAIN ROUGH FILTER DETAIL

DRAWING NO.: CA0-21-F05 SCALE: AS NOTED DATE: 10-2-24
FILE NAME: CA0-15-E56-DET LAYOUT NAME: C509 PROJ. ENG: JILLIAN TILLES

DRAWN BY: D. O'GORMAN