

## Meter Installation and Service Lateral Phase 2 Project RFP Addendum #2

**Project Description:**

RFP to provide the installation of approximately 4,500 metered service connections, including meters, meter boxes, backflow prevention assemblies, and all related appurtenances to support the return of metered potable water service to the Paradise Irrigation District. The project includes the replacement of up to 1,750 service laterals including service saddles, piping, and angle stops as well as all related fittings and materials required for backflow and surface restoration.

**For:**

Paradise Irrigation District  
6332 Clark Rd  
Paradise CA 95969

**Proposals Due:**

11:00 am, Friday May 14, 2021

**Addendum #2 contains the following:**

1. Update to Scope and Bid Due Date & Time
2. Revisions to Bid Form 00300 – Use for Final Bid Submission
3. Revisions to Summary of Work 01110
4. Revisions to Measurement and Payment 01200
5. Revisions to Submittal Procedures 01330
6. Revisions to Demolition 02220
7. Revisions to Valves and Operators 15200

APPROVED: \_\_\_\_\_



COLLEEN BOAK, PE  
Project Engineer  
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530-240-6180

**DATE ISSUED:** May 7, 2021

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## Update to Scope and Bid Due Date & Time

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1. Sealed bids will be received until 11:00 am May 14, 2021 at the Paradise Irrigation District Office, 6332 Clark Rd, Paradise CA 95969.
2. PID has opted to remove from the Project's scope work related to the salvaging of backflow devices, which will instead be altered in the field to a permanent configuration. All revised specifications in this Addendum reflect this change in scope. Specification Section 00300 is being issued as a new clean copy and should be used in submission of the bid. All other revised Specifications have been included in "track changes" format for ease of reference.

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## Revisions to Bid Form 00300 – Use For Final Bid Submission

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1. **Bid Form 00300** – See attached

NOTE TO BIDDER: Use typewriter or BLACK ink for completing this Bid Form.

**SECTION 00300**

**BID FORM**

To: Paradise Irrigation District

Address: 6332 Clark Road,  
Paradise, CA 95969

Project Identification: 19-017, Meter Installation and Service Lateral Replacement  
Phase 2 Project

1. BIDDER'S DECLARATION AND UNDERSTANDING.

1.1 This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm, or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization, or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm, or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.

1.2 In submitting this Bid, Bidder acknowledges and accepts CONTRACTOR's representations as more fully set forth in the Agreement Form.

1.3 In submitting this Bid, Bidder certifies Bidder is qualified to do business in the state where the Project is located as required by laws, rules, and regulations or, if allowed by statute, covenants to obtain such qualification prior to contract award.

2. CONTRACT EXECUTION AND BONDS.

2.1 The undersigned Bidder agrees, if this Bid is accepted, to enter into an Agreement with OWNER on the form included in the Bidding Documents to perform and furnish Work as specified or indicated in the Bidding Documents for the Contract Price derived from the Bid and within the Contract Times indicated in the Agreement and in accordance with the other terms and conditions of the Bidding Documents.

2.2 Bidder accepts the terms and conditions of the Bidding Documents.

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3. INSURANCE.

3.1 Bidder further agrees that the Bid amount(s) stated herein includes specific consideration for the specified insurance coverages.

4. CONTRACT TIMES.

4.1 Bidder agrees to accept Contract Times set forth in the Agreement Form.

5. LIQUIDATED DAMAGES.

5.1 Bidder accepts the provisions in the Agreement Form as to liquidated damages.

6. ADDENDA.

Bidder hereby acknowledges that it has received Addenda

Nos. \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
\_\_\_\_\_ (Bidder shall insert number of each Addendum received) and agrees that Addenda issued are hereby made part of the Bidding Documents, and Bidder further agrees that this Bid includes impacts resulting from said Addenda.

7. SUBCONTRACTORS.

7.1 Bidder agrees to submit with their Bid a listing of all subcontracting firms or businesses that will be awarded subcontracts for portions of the Work which equal or exceed one-half of one percent of the Total Contract Price.

8. SALES AND USE TAXES.

8.1 The Bidder agrees that all federal, state, and local sales and use taxes are included in the stated Bid prices for the Work.

9. BASE BID – OPEN CUT TRENCH INSTALLATION

9.1 Unit Price Work – Schedule A: Metered Potable Service Connection Installation

9.1.1 Bidder proposes to accept full payment for the Unit Price Work proposed herein the amount computed under the provisions of the Bidding Documents and based on the following unit price amounts, it being expressly understood that the unit prices are independent of the exact quantities involved. Bidder agrees that the unit prices represent a true measure of the labor, materials, and services required to furnish and install the item, including all allowances for overhead and profit for each type and unit of Work called for in these Bidding Documents.

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9.2 Bidder agrees to accept as full payment for the proposed Work within the Bidding Documents, based upon the undersigned's own estimate of quantities and costs and including sales, consumer, use, and other taxes, and overhead and profit, the lump sum of:

(words)

(figures)

\_\_\_\_\_ \$ \_\_\_\_\_

\_\_\_\_\_ Dollars

<b>SCHEDULE A</b>				
<b>General Work</b>				
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>1.</b>	<b>Project Mobilization and Demobilization</b>	1 LS	\$	\$
<b>Item 1 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>2.</b>	<b>Project Traffic Control</b>	1 LS	\$	\$
<b>Item 2 Subtotal</b>				\$
<b>Metered Installation</b>				
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>3.</b>	<b>Angle Stop Valve</b>			
<b>3a.</b>	<b>Reset Existing Angle Stop Valve</b>	1,300 EA	\$	\$
<b>3b.</b>	<b>Furnish and Install new Angle Stop Valve</b>	300 EA	\$	\$
<b>Item 3 Subtotal</b>				\$

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Item No.	Description	Quantity and Unit	Unit Price	Extended Total Amount
4.	<b>Furnish and Install Meter Box and Cover</b>			
4a.	Box and Lid for ¾" and 1" Meters	4,000 EA	\$	\$
4b.	Box and Lid for 1.5" and 2" Meters	500 EA	\$	\$
<b>Item 4 Subtotal</b>				\$
Item No.	Description	Quantity and Unit	Unit Price	Extended Total Amount
5.	<b>Install Meter and Meter Interface Unit (MIU)</b>			
5a.	¾" Meter and MIU	3,825 EA	\$	\$
5b.	1" Meter and MIU	450 EA	\$	\$
5c.	1½" Meter and MIU	150 EA	\$	\$
5d.	2" Meter and MIU	75 EA	\$	\$
<b>Item 5 Subtotal</b>				\$
<b>Service Lateral Replacement</b>				
Item No.	Description	Quantity and Unit	Unit Price	Extended Total Amount
6.	Excavation of Existing Corporation Stop	1,750 EA	\$	\$
<b>Item 6 Subtotal</b>				\$
Item No.	Description	Quantity and Unit	Unit Price	Extended Total Amount
7.	Shoring Required (per Service Lateral Installation)	175 EA	\$	\$
<b>Item 7 Subtotal</b>				\$
Item No.	Description	Quantity and Unit	Unit Price	Extended Total Amount
8.	Asphalt Restoration	70,000 SF	\$	\$

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<b>Item 8 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>9.</b>	<b>Concrete Restoration</b>	8,750 SF	\$	\$
<b>Item 9 Subtotal</b>				
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>10.</b>	<b>Furnish and Install Replacement Service Laterals – Open Trench Installation</b> <i>Assumes 875 locations with an average buried depth of 3 ft and an average length of 25 ft.</i>			
	1. 1", 1½", or 2" HDPE	22,000 LF	\$	\$
<b>Item 10 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>11.</b>	<b>Furnish and Install Replacement Service Laterals – Trenchless ("Pulled") Installation</b> <i>Assumes 875 locations with an average buried depth of 3 ft and an average length of 25 ft.</i>			
	1. 1", 1½", or 2" HDPE	22,000 LF	\$	\$
<b>Item 11 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>12.</b>	<b>Furnish and Install Hot Tap Saddle Connections</b> (up to 1050 locations)			
	12a.	4" Water Main		
		1. 1" Service Lateral	95 EA	\$
		2. 1.5" Service Lateral	18 EA	\$
		3. 2" Service Lateral	36 EA	\$
	12b.	6" Water Main		
		1. 1" Service Lateral	260 EA	\$
		2. 1.5" Service Lateral	18 EA	\$

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		3. 2" Service Lateral	175 EA	\$	\$
	12c.	8" Water Main			
		1. 1" Service Lateral	130 EA	\$	\$
		2. 1.5" Service Lateral	10 EA	\$	\$
		3. 2" Service Lateral	45 EA	\$	\$
	12d.	10" Water Main			
		1. 1" Service Lateral	20 EA	\$	\$
		2. 1.5" Service Lateral	5 EA	\$	\$
		3. 2" Service Lateral	10 EA	\$	\$
	12e.	12" Water Main			
		1. 1" Service Lateral	85 EA	\$	\$
		2. 1.5" Service Lateral	15 EA	\$	\$
		3. 2" Service Lateral	45 EA	\$	\$
	12f.	14" Water Main			
		1. 1" Service Lateral	10 EA	\$	\$
		2. 1.5" Service Lateral	5 EA	\$	\$
		3. 2" Service Lateral	10 EA	\$	\$
	12g.	16" Water Main			
		1. 1" Service Lateral	30 EA	\$	\$
		2. 1.5" Service Lateral	10 EA	\$	\$
		3. 2" Service Lateral	18 EA	\$	\$
<b>Item 12 Subtotal</b>					\$
<b>Item No.</b>	<b>Description</b>		<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>13.</b>	<b>Furnish RP Backflow Preventer Assembly</b>				
<b>13a.</b>	<b>1" RP Backflow Preventer</b>		1,350 EA	\$	\$
<b>13b.</b>	<b>1½" RP Backflow Preventer</b>		113 EA	\$	\$

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<b>13c.</b>	<b>2" RP Backflow Preventer</b>	38 EA	\$	\$
<b>Item 13 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>14.1.</b>	<b>Convert Existing Interim RP Backflow Prevention Assembly Configuration to Permanent RP Backflow Prevention Assembly Configuration</b>	1,700 EA	\$	\$
<b>Item 14.1 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>14.2.</b>	<b>Furnish and Install Backflow Prevention Assembly Repair Kit</b>			
<b>14.2a.</b>	<b>¾" – 1" Repair Kit</b>	600 EA	\$	\$
<b>14.2b.</b>	<b>1¼" – 2" Repair Kit</b>	150 EA	\$	\$
<b>Item 14.2 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>15.</b>	<b>Install RP Backflow Prevention Assembly</b>	1,500 EA	\$	\$
<b>Item 15 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>16.</b>	<b>Test RP Backflow Prevention Assembly</b>	3,200 EA	\$	\$
<b>Item 16 Subtotal</b>				\$
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>
<b>17.</b>	<b>Furnish and Install Frost Protection Bag for RP Backflow Assembly</b>			

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<b>17a.</b>	<b>24"x24" Frost Protection Bag (For 1" RP Backflow Assemblies)</b>	1,800 EA	\$	\$
<b>17b.</b>	<b>36"x24" Frost Protection Bag (For 1½" and 2" RP Backflow Assemblies)</b>	200 EA	\$	\$
<b>Item 17 Subtotal</b>				\$
<b>Total (Combine Items 1- 17)</b>				\$

**All other associated items of work and incidentals that are required to complete this project and provide a fully functioning facility in accordance with the contract documents are considered to be included in the Bid Schedule items and no additional compensation will be made by the District.**

### 9.3 Required Subcontract – Schedule B

9.3.1 Bidder proposes to accept full payment for the required subcontract proposed herein the amount computed under the provisions of the Bidding Documents and based on the attached proposal from Zenner USA. Bidder agrees that the lump sum price below represents a true measure of the labor, materials, and services required to furnish and install the items, including all allowances for overhead and profit for each type and unit of Work called for in these Bidding Documents.

9.3.2 Award will be based on the combination of the Schedule A items above as well as Schedule B.

9.3.3 Communication from Zenner USA indicating the base price for this required work is attached to this Specification Section as Appendix A.

9.4 Bidder agrees to accept as full payment for the proposed Schedule B Required Subcontract Work listed below, based upon the undersigned's own estimate of quantities and costs and including sales, consumer, use, and other taxes, and overhead and profit, the lump sum of:

(words)

(figures)

\_\_\_\_\_ \$ \_\_\_\_\_  
 \_\_\_\_\_ Dollars

<b>Schedule B – Required Subcontract</b>				
<b>Item No.</b>	<b>Description</b>	<b>Quantity and Unit</b>	<b>Unit Price</b>	<b>Extended Total Amount</b>

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<b>18.</b>	Zenner Subcontract – Installation of Centralized Transmission Infrastructure for AMI System	1 EA		
<b>Item 18 Total</b>				\$

10. SURETY.

10.1 If Bidder is awarded a construction contract from this Bid, the surety who provides the Performance and Payment Bond(s) shall be:

Whose address is

\_\_\_\_\_

Street

City

State

Zip

11. LICENSE.

11.1 Class \_\_\_\_\_, California Contractor License No.: \_\_\_\_\_.

12. BIDDER.

An Individual

By \_\_\_\_\_

(Individual's name and signature)

A Partnership

By \_\_\_\_\_

(Partnership name)

\_\_\_\_\_

(Name and signature of general partner)

\_\_\_\_\_

(Title)

A Corporation

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By \_\_\_\_\_

(Corporation name)

\_\_\_\_\_

(State of incorporation)

By \_\_\_\_\_

(Name and signature of person authorized to sign)

\_\_\_\_\_

(Title)

(Corporate Seal)

A Joint Venture

By \_\_\_\_\_

(Business name)

\_\_\_\_\_

(Name and signature of person authorized to sign)

By \_\_\_\_\_

(Business name)

\_\_\_\_\_

(Name and signature of person authorized to sign)

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

Name, Phone Number, and Address for receipt of official communications and for additional information on this Bid:

\_\_\_\_\_

\_\_\_\_\_

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SUBMITTED ON \_\_\_\_\_, 2021.

+ + END OF SECTION + +

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## Revisions to Summary of Work 01110

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1. **Summary of Work 01110** – See attached

## SECTION 01110

### SUMMARY OF WORK

#### **PART 1 - GENERAL**

##### **1.1 LOCATION AND DESCRIPTION OF WORK**

A. The Work included in this contract covers the

1. Installation of meters, meter boxes, meter interface units (MIUs), backflow prevention assemblies, and related plumbing components required to establish permanent metered potable service connections at up to 4,500 locations throughout the Paradise Irrigation District (PID) Service Area, and performing related required work, as shown on the included Standard Details. Work includes demolition of existing meter boxes and/or meters as necessary ~~as well as the salvage of designated backflow devices already deployed throughout the service area.~~
2. Replacement of service laterals at up to 1,750 locations of the 4,500 locations mentioned above, including the excavation of corporation stops, hot tapping of water mains, installation of service saddles, corporations stop valves, HDPE service lateral pipe, tracer wire, and angle stops as necessary. Work includes demolition and removal of existing service laterals and reuse of existing corporation stops where conditions allow. This work can be accomplished by trenched or trenchless methods, depending on site conditions.
3. Installation of centralized transmission infrastructure for the AMI system. Equipment shall be provided by PID, and the CONTRACTOR shall be required to subcontract the installation to the system manufacturer, Zenner USA.

B. Up to 4,500 locations will require the following work items for installation of Metered Service:

1. Mobilization to the assigned address or group of addresses. Assigned addresses will be identified by the ENGINEER as requiring one or more of the following categories of work:
  - Service Lateral Installation
  - Meter Assembly Installation
  - Backflow Preventer Assembly Installation and Testing
2. Demolition - Locate existing service lateral connection. If necessary, demolish and remove existing meter box/meter if they are present. Remove any DISTRICT owned piping downstream of the corporation stop as necessary to accommodate installation

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per the Standard Details. CONTRACTOR shall be responsible for the disposal of any demolished materials.

3. Connect to Service Lateral and Set/reset Angle Stop – Locate the existing angle stop valve and expose the valve.
  - a. At an estimated 1,300 locations, the CONTRACTOR will find the service lateral and angle stop valve located above ground in a temporary configuration resulting from a newly replaced service lateral. The service lateral of high-density polyethylene (HDPE) material shall be excavated to a depth that will allow the angle stop valve to be removed and reset according to the permanent configuration requirement outlined in the Standard Details. The HDPE service lateral shall be pinched using pipe crimpers to allow for cutting the pipe down and reinstallation of the angle stop valve at the proper depth. The HDPE pipe shall not be pinched to a point where flow is fully restricted. The original angle stop valve may be reused only if the crimp gasket is replaced within the valve when it is reinstalled. The below grade pipe and angle stop shall be left exposed until such time as the ENGINEER or INSPECTOR can verify the lack of permanent damage or leak at the pinch point. After inspection, this pinch point may be backfilled.
  - b. At an estimated 2,500 locations the CONTRACTOR will find the angle stop valve located within the existing meter box or adjacent to it. Up to 300 of these locations may require the installation of a new angle stop valve if there is not one present, or the valve present is not functional. The angle stop valve shall be excavated to allow the valve to be exercised to accommodate installation of the new meter and backflow preventer assembly as shown in the Standard Details. For any of the following conditions encountered the CONTRACTOR shall perform the actions stated herein.
    - 1) If the angle stop is inoperable or unlocatable, the pipe material of the service lateral shall be determined, and the following actions shall be performed for the respective pipe materials:
      - a) Copper – The service lateral shall be pinched using pipe crimpers and a new angle-stop installed per Standard Detail PID-05. Pipe shall be re-rounded after the pinch. The below grade pipe and angle stop valve shall be left exposed until such time as the ENGINEER or INSPECTOR can verify the lack of permanent damage or leak at the pinch point. After inspection, this pinch point may be backfilled.
      - b) HDPE and Polybutylene – The service lateral shall be pinched using pipe crimpers to allow for reinstallation of the angle stop valve. The HDPE pipe shall not be pinched to a point where flow is fully restricted. The original angle stop valve may be reused only if the crimp gasket is replaced within the valve when it is reinstalled. The below grade pipe and angle stop valve shall be left exposed until such time as the ENGINEER or INSPECTOR can verify the lack of permanent damage or

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leak at the pinch point. After inspection, this pinch point may be backfilled.

- c) All other pipe materials – CONTRACTOR shall notify ENGINEER and provide a detailed summary including service connection, address, pipe material, and the description of problem. CONTRACTOR shall install meter box and backfill any areas excavated outside the extents of the meter box but shall not proceed with installation of meter, MIU, backflow preventor assembly, or any other plumbing components until such time that ENGINEER or PID can assess the site and provide direction.
- 2) If the service has a bullet in the angle stop the CONTRACTOR shall remove the bullet with a bullet key to exercise the angle stop and proceed with the meter installation. Upon completion of work, CONTRACTOR shall replace the bullet to lock the angle stop in the closed position.
- c. At an estimated 1750 locations a Service Lateral Replacement will be required, and the angle stop shall be installed as part of this work (detailed below).
4. Install Box and Meter Assembly - Install concrete meter box so that the top of box is at grade, with a minimum 12" of compacted clearance sloped to drain away in all directions per the Standard Details. The angle stop must be located within the box, with a minimum 3" lateral clearance to the box walls to allow operability. The meter shall be installed according to manufacturer recommendations (Zenner USA) by CONTRACTOR personnel trained and certified for installation of this equipment by the manufacturer, also in accordance with the Contract Documents. The meter shall be connected and positioned generally centered within the meter box, with sufficient clearance to allow for operation of the angle stop, ~~and meter coupler,~~ and ball valve as future maintenance may require. The meter shall be set at the depth shown in the Standard Details.
5. MIU Installation – the Meter Interface Unit shall be installed on each meter according to manufacturer instructions (Zenner USA) and attached to the underside of the meter box lid as shown in the Standard Details and outlined in the Specifications. The MIU must be installed by CONTRACTOR personnel trained and certified by the manufacturer for installation of this equipment.
6. Backflow Preventer Assembly – A backflow preventer assembly shall be installed according to the following:
  - a. At an estimated 2,300 locations a reduced pressure principle backflow prevention (RP) assembly set at an approximate 30" height will already be present. At these locations CONTRACTOR shall record the following: At an estimated 2,000 of these locations, this RP assembly shall be salvaged and removed from the field in such a way as to allow its future reuse, and returned to PID at the Corporation Yard, located at 6332 Clark Road, Paradise CA or another site designated by PID. PID shall establish a contact person for signoff of these deliveries at the Corporation Yard. All RP devices removed from the field shall be recorded in a weekly log

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~~provided to the PID contact person as well as the ENGINEER, noting at minimum the following information:~~

- 1) Serial number
- 2) Address ~~from which the assembly was removed~~
- 3) Size of assembly

Where identified by the ENGINEER, an estimated 600 of these existing RP devices will be left in place. The final connection for active service will be made by the CONTRACTOR to this existing device once the meter assembly has been installed. No test will be performed on these existing devices that remain unchanged.

The remaining 1,700 locations identified by the ENGINEER for -conversion of an existing RP backflow assembly to a permanent RP backflow assembly shall be altered to conform with Standard Detail PID-15 including Condition of the assembly

~~When the existing RP device is salvaged, a new RP device shall be installed in place of the removed device in accordance with the Standard Details. The assembly shall be~~ing reset at the height described in Standard Detail PID-15 with permanent piping connections installed on each side. A ball valve shall be installed on the riser downstream of the RP, as shown in Standard Detail PID-15 Contractor shall reconnect the customer side plumbing to the ball valve on the riser new assembly.

~~Where directed by the ENGINEER, an estimated 750 of these existing RP devices will be left in place. The final connection for active service will be made by the CONTRACTOR to this existing device once the meter assembly has been installed. No test will be performed on these existing devices that remain in situ.~~

- b. If no backflow prevention device is present, CONTRACTOR shall install one according to the Standard Details. Contractor shall reconnect the customer side plumbing to the new assembly.
- c. If a double check valve (DC) assembly is present instead of an RP assembly, the CONTRACTOR shall inform the ENGINEER and seek direction as to whether a test shall be performed on that device.
- d. If any preexisting backflow prevention assembly does not comply with the RP assembly as shown on Standard Detail PID-15, with the exception of height of device and ball valve on riser, -CONTRACTOR shall notify ENGINEER and not commence installation of that meter or meter box until notice to proceed is given by ENGINEER.
- e. If any backflow prevention device other than an RP or DC is present, CONTRACTOR shall notify ENGINEER and not commence installation of a meter or meter box until notice to proceed is given by ENGINEER.

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- f. For any site at which space or other physical constraints prevent the installation of the backflow according to the configuration shown in the Standard Details, consult the ENGINEER for direction and preferred configuration/location of the backflow. Examples are meters in driveways, sidewalks, or similar.
- ~~g. PID will reconfigure as necessary, check, and reissue RP backflow devices removed from the field back to the CONTRACTOR for installation at a different site in accordance with Standard Detail PID-15. Up to 2,000 RP devices may be provided to the contractor for reinstallation in this manner. If one of these devices fails in the field, it may be returned to PID for rebuild and replaced with a new CONTRACTOR provided assembly.~~
7. Backflow Preventer Device Testing – Perform standard testing on all backflow devices installed under this contract.
- a. Testing - Must be performed by a CA NV AWWA Certified Backflow Prevention Assembly Tester. Once final connections are made and all plumbing components are installed, perform standard backflow device testing and return to service within a maximum duration of 4 hours to ensure minimum disruption of water service. Upon completion of testing, pressurize the backflow device by slowly opening the customer side valve. Relief valves damaged in the course of testing the device shall be repaired/replaced and the backflow device tested again. If a new backflow device (not one previously installed by the DISTRICT) fails that has been installed under this contract, the device shall be repaired, using a repair kit, or fully replaced as necessary to ensure the installation of an operable and compliant device. This repair or replacement shall take place same day to minimize disruption of water service and shall not constitute cause for additional payment.
- a.b. If a backflow device previously installed by the DISTRICT and converted as part of this contract to a permanent backflow assembly configuration in compliance with PID-15 is found to fail testing, a repair kit shall be installed, and the device retested. This work shall be compensable.
- b.c. It shall be the CONTRACTOR's responsibility to maintain records of all backflow prevention tests and to convey all electronic and print records to ENGINEER on a weekly basis. If backflow prevention device test records are found to be incomplete or ENGINEER or PID determine that there is reason to question validity of results the CONTRACTOR shall again test the device(s) in question at no additional cost to PID. Each backflow test record must include the following information at minimum:
- 1) Address/ Location of assembly
  - 2) Date
  - 3) Time
  - 4) Name of CA-NV AWWA certified tester

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- 5) Serial number of backflow assembly
  - 6) Result of test
  - 7) Retest results if necessary
8. Contractor shall establish 12 inches of clear compacted space (90% relative compaction), graded slightly to drain away, in all directions around the box and backflow prevention assembly. If the meter box and backflow assembly is to be installed on a slope, the soil shall be cut or built up to accomplish the required dimension unless otherwise approved by the ENGINEER. If necessary, a slope of 1:1 may be established outside of this 12" dimension to meet existing grade.
  9. Any adjacent areas disturbed by the necessary scope of work above shall be restored to the same or better condition, including the replacement of landscaping, turf, soil, concrete, or asphalt.
- C. Up to 1,750 of the 4,500 locations outlined above will also require a Service Lateral Replacement. Each Service Lateral Replacement location will be marked by PID staff in advance with GPS coordinates to indicate the termination point (meter location). The GPS location will be annotated with the size of the lateral to be installed at that location (1", 1.5", 2"). The installation of the service lateral shall be accomplished perpendicular to the main and terminating as close to the marked location as possible. CONTRACTOR shall ensure that installation of meter assembly occurs at the location of the given GPS coordinates using a global navigation satellite system (GNSS) or GPS device. CONTRACTOR shall be responsible for furnishing GPS or GNSS devices for CONTRACTOR's use; devices shall be Bad Elf Flex or equal. A service lateral installation shall include the following work items, as needed for each site:
1. Excavation of a Corporation Stop – CONTRACTOR shall complete a USA ticket for each project site. Once clear, CONTRACTOR shall pothole to locate the marked intersection of the service lateral and main. This excavation can be assumed to be an average of 3' x 3' for bidding purposes.
  2. Hot Tap and Service Saddle Installation – Wherever possible, existing corporation stops shall be reused. Reuse is possible if the corporation stop is found to be sound and operable and within one size increment of the directed service lateral size to install (example: ¾" corporation stop for a 1" service lateral). If the corporation stop is not reusable or not present, the contractor may install a new service saddle and hot tapped connection adjacent to the existing lateral. If a hot tap is necessary, the CONTRACTOR shall ensure a minimum 24" clearance from the existing penetration, a weld, or pipe joint unless approved by the ENGINEER.
  3. HDPE Pipe Installation – CONTRACTOR shall install new service lateral piping in accordance with direction given for that site and the Standard Details and Specifications. This shall include pipe bedding, tracer wire, backfill and termination with an angle stop. Backfill may be accomplished with engineered fill if approved by the DISTRICT. Some services will be assigned for installation in a "double" configuration with a wye and two termination points as shown in Standard Detail

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PID-06. Services may be installed by trenchless methods or open trenched methods depending on site conditions.

4. Shoring – Shoring or other means of protection shall be installed in any location where the excavation reaches or exceeds 5' in depth, in accordance with all local, state, and federal safety requirements.
  5. Concrete Restoration – For any locations where concrete must be removed or is damaged in the course of executing the project Work, concrete shall be restored in accordance with the Contract Documents. This restoration must be completed as soon as possible and shall be replaced in as close a configuration to the preconstruction condition as possible.
  6. Asphalt Restoration – Asphalt removed in order to accomplish project work shall be replaced in accordance with Town of Paradise Standard Details, included in the Contract Documents. Temporary patching of roadways may be allowed to wait for required atmospheric conditions for asphalt pavement. Temporary patching must be installed in a workmanlike fashion, in accordance with industry standards and maintained to that level until such time as the permanent patch may be installed. Arterials in the Town of Paradise require two 3" lifts of asphalt, all other surface streets require a single 3" lift. Striping shall be replaced where it is obliterated by the contract work, unless specifically approved by the ENGINEER. Any striping legend damaged or affected by paving work shall be restored in entirety.
- D. The Work is located in Paradise, CA at various locations throughout the PID Service Area, as designated by PID staff or ENGINEER. Locations will be prioritized in by PID and ENGINEER.
- E. The CONTRACTOR shall be responsible for the execution of Traffic Control as necessary, in order to complete the Work safely, in compliance with all local, State, and Federal regulations. Traffic control may be inspected at any time by the Town of Paradise, OSHA, or any other regulatory body.
- F. The CONTRACTOR shall be responsible for obtaining and operating within a project specific encroachment permit with the Town of Paradise.
- G. The CONTRACTOR shall staff the project at a level to support of the installation of an average of 70 metered service connections per work week.
- H. The Work will be constructed under one contract. The Contract Documents include the following:
1. Volume 1 – Specifications and Standard Details

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## 1.2 COORDINATION

- A. The CONTRACTOR shall be solely responsible for coordination of all of the Work of this Contract.
- B. The CONTRACTOR shall supervise, direct and cooperate fully with all Subcontractors, manufacturers, fabricators, suppliers, distributors, installers, testing agencies and all others whose services, materials or equipment are required to ensure completion of the Work within the Contract Time.
- C. Work of Others:
  - 1. The CONTRACTOR shall engage with Zenner USA for the installation of centralized transmission infrastructure for the Advanced Metering Infrastructure (AMI) System in accordance with the manufacturer warranty requirement. A quotation for this work has been included for reference and use.
  - 2. The CONTRACTOR shall ensure that all personnel engaged in the installation of meters and MIUs shall be trained by the manufacturer for such installation work. Documentation of this training shall be provided to the ENGINEER.
  - 3. The CONTRACTOR shall cooperate with and coordinate CONTRACTOR's Work with the work of any other contractor, utility service companies, or PID's employees performing work at the site.
  - 4. The CONTRACTOR shall also coordinate their Work with the work of others to assure compliance with schedules.
  - 5. The CONTRACTOR shall attend and participate in all project coordination or progress meetings and report on the progress of all Work and compliance with schedules.
  - 6. If any part of the work depends upon the work of others for proper execution or results, the CONTRACTOR shall inspect and promptly report to the ENGINEER any apparent discrepancies or defects in such work of others that render it unsuitable for such proper execution and results.
  - 7. Failure of the CONTRACTOR to so inspect and report shall constitute an acceptance of the work of others as fit and proper except as to defects which may develop in the work of others after execution of the work by the CONTRACTOR.
- D. Interference with work on utilities:
  - 1. The CONTRACTOR shall cooperate fully with all utility forces of PID or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the work.
  - 2. The CONTRACTOR shall schedule the work so as to minimize interference with said relocation, altering, or other rearranging of facilities.

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E. Responsibility for Damage:

1. The CONTRACTOR shall not be responsible for damage done by CONTRACTORS not under their jurisdiction.
2. The CONTRACTOR will not be liable for any such loss or damage, unless it is through the negligence of the CONTRACTOR.
3. The CONTRACTOR shall be responsible for the restoration of project sites that are disturbed in the course of work. This shall include any areas outside the extents shown on the Standard Details.
4. If claims for damaged are received by the DISTRICT pertaining to work completed by the CONTRACTOR as part of this project, the claim information will be provided to the CONTRACTOR for review and resolution. The CONTRACTOR shall keep the ENGINEER informed of the resolution reached.

1.3 SITE CONDITIONS

A. Site Investigation and Representation

1. The CONTRACTOR acknowledges that it has satisfied itself as to the nature and general location of the work, the general and local conditions, particularly those bearing upon availability of transportation, disposal, handling and storage of materials, availability of labor, water, electric power, roads, and uncertainties of weather, tide stages, or similar physical conditions at the site, the conformation and conditions of the ground, the character of equipment and facilities needed preliminary to and during the prosecution of the work and all other matters which can in any way affect the work or the cost thereof under this Contract.
2. The CONTRACTOR further acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials to be encountered from inspecting the site and from evaluating information derived from exploratory work that may have been done by PID or included in these Contract Documents. Any failure by the CONTRACTOR to become acquainted with all the available information will not relieve the CONTRACTOR from responsibility for properly estimating the difficulty or cost of successfully performing the work.
3. Field Verification:
  - a. Before undertaking each part of the work, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements.
  - b. As the work proceeds, the CONTRACTOR shall field verify the depth and location of all buried utilities, and existing systems, and location of hazardous waste and contaminants.

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- c. The CONTRACTOR shall promptly report in writing to the ENGINEER any conflict, error, or discrepancy which the CONTRACTOR may discover and shall obtain a written interpretation or clarification from the ENGINEER before proceeding with any work affected thereby.

## B. Existing Utilities and Improvements

### 1. Location of Underground Utilities:

- a. It shall be the responsibility of the CONTRACTOR to determine the exact location of all utilities and their service connections in addition to the demarcation and management of all Underground Service Alerts (USAs)
- b. All potholing or other procedures for verifying utility location shall be performed by the CONTRACTOR as necessary to prepare for excavation.
- c. The CONTRACTOR shall ascertain the locations of underground utilities the locations of their service laterals work and of service laterals or appurtenances of any other underground utilities which can be inferred from the presence of visible facilities such as buildings, meters and junction boxes prior to doing work that may damage such utilities or interfere with their service.

### d. Utilities Not Shown:

- 1) Attention is directed to the existence of underground utilities not identified in the Contract Documents, located in the vicinity of the Contract Work. It is the responsibility of the CONTRACTOR to make all reasonable efforts to locate, support and protect in place any underground utilities encountered in the course of work.
- 2) If the CONTRACTOR discovers underground a utility not indicated by USA, the CONTRACTOR shall immediately give the ENGINEER and the Utility Company written notification of the existence of such utility.
- 3) Such utilities shall be located and protected from damages as directed by the ENGINEER and the cost of such work will be paid for as extra work as provided in the General Conditions.

### 2. Utility Coordination:

- a. The CONTRACTOR shall notify Underground Service Alert (USA) at least 4 days prior to excavation of each project site location, telephone (800) 642-2444.
- b. The CONTRACTOR shall also contact all utility owners not registered with USA but known to have utilities in the project area to field locate underground utilities at least 4 days prior to excavation.
- c. The CONTRACTOR shall notify all owners of utilities when the Work is in progress and shall make arrangements as necessary to make any emergency repairs.

### 3. Utility Protection and Damage:

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- a. Existing utilities that are shown or that are made known and located to the CONTRACTOR prior to excavation, and that are to be retained, and all utilities that are constructed during excavation operations shall be properly supported and protected from damage during the progress of the work.
  - b. Should any damage to a utility occur during the progress of the work, the CONTRACTOR shall notify PID and the utility at once and render all assistance possible to repair the damage and restore the service, at the expense of the CONTRACTOR.
  - c. No extra compensation will be made for the repair of any services or utility damaged by the CONTRACTOR nor for any damage incurred through neglect or failure to provide adequate protection to existing utilities.
  - d. The provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
  - e. Damaged water pipelines will be repaired by PID at the CONTRACTOR's expense. If the CONTRACTOR fails to pay the cost of repairs to water pipelines within thirty days of receipt of the invoice, PID reserves the right to withhold the amount owed from the CONTRACTOR's Progress Payment.
  - f. Damage Report:
    - 1) In the event that the CONTRACTOR damages any underground utilities not identified by the USA process or depicted on the Service Map with reasonable accuracy (within 3 feet of actual location) or any lateral service the location of which could not be inferred by the CONTRACTOR, a written report thereof shall be made immediately to the ENGINEER.
    - 2) The CONTRACTOR's report shall also advise the ENGINEER of any schedule delays. Compensation for such delays will be determined in accordance with the General Conditions. The CONTRACTOR shall be entitled to no other compensation for any such damage.
4. All utilities encountered along the line of the work shall remain continuously in service during all work under the Contract or unless other arrangements satisfactory to the ENGINEER are made with the owner of said utilities.

C. CONTRACTOR's Responsibility for Utility Facilities and Service

1. Where the CONTRACTOR's operations could cause damage or inconvenience to railway, telephone, television, power, oil, gas, water, sewer, or irrigation systems, the CONTRACTOR shall make all arrangements necessary for the protection of these utilities and services and shall notify ENGINEER at least 24 hours in advance.
2. The CONTRACTOR shall be solely and directly responsible to the owner and operators of such properties for any damage, injury, expense, loss, inconvenience, delay, suits,

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actions, or claims of any character brought because of any injuries or damage which may result from the construction operations under this Contract.

3. Neither the PID nor its officers or agents shall be responsible to a utility owner for damages as a result of the CONTRACTOR's failure to protect utilities encountered in the work.
4. In no event shall interruption of any utility service be allowed outside working hours unless granted by the owner of the utility and approved by the ENGINEER.
5. No sand, mud, rocks or other construction debris shall be disposed of in the sanitary sewers or storm sewers.
6. The CONTRACTOR shall replace, at its own expense, any and all existing utilities or structures removed or damaged during construction, to their existing condition unless otherwise provided for in these Contract Documents.
7. The CONTRACTOR shall repair or replace, at its own expense, all pavement damaged during the construction, to its existing condition unless otherwise provided for in these Contract Documents.

D. Names of Known Utilities Serving the Area

1. The following is a list of the known public utilities serving the area:
  - a. Water – Paradise Irrigation District
  - b. Sewer – None
  - c. Stormwater – None
  - d. Communications – AT&T, Comcast
  - e. Electric – PG&E
  - f. Gas – PG&E
  - g. Traffic signals and loops – Town of Paradise

E. Railroads

1. The CONTRACTOR shall not perform work or occupy any part of railroad property without a permit authorizing the same.

F. Interfering Structures

1. The CONTRACTOR shall take necessary precautions to prevent damage to existing structures whether on the surface, above ground, or underground.
2. The CONTRACTOR shall protect all existing structures, trees, shrubs, and other items on the project site that are to be preserved, by substantial barricades or other

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devices commensurate with the hazard, from injury or destruction by vehicles, equipment, workmen, or other agents.

3. Where existing fences, gates, buildings, or any other structure must be removed to properly carry out the work, or are damaged during the work, they shall be restored at the CONTRACTOR's expense to their original condition or better.
4. Without additional compensation, the CONTRACTOR may remove and replace in a condition as good as or better than original, any small structures such as fences, and signposts that interfere with the CONTRACTOR's operations. All removal and replacement of small structures, included but not limited to fences and signposts, will first be approved by ENGINEER.

#### G. Field Determinations

1. At each assigned address, the CONTRACTOR shall identify whether an RP, DC, or no backflow device is present.
2. The CONTRACTOR shall locate each service lateral in the field.
3. The CONTRACTOR shall locate each angle stop in the field.
4. The CONTRACTOR shall locate existing RP devices at assigned addresses.
5. The CONTRACTOR shall locate the coordinates of service lateral replacement termination point, using a GPS or GNSS device.

#### H. Field Relocation

1. During the progress of construction, it is expected that minor relocations of the work will be necessary.
2. Such relocations shall be made only by direction of the ENGINEER.
3. If existing structures are encountered that will prevent construction as specified notify the ENGINEER before continuing with the work in order that the ENGINEER may make such field revisions as necessary to avoid conflict with the existing structures.
4. If the CONTRACTOR shall fail to notify the ENGINEER when an existing structure is encountered, and shall proceed with the work despite this interference, CONTRACTOR shall do so at their own risk and at no additional cost to PID.
5. Any CONTRACTOR request(s) for additional compensation or contract time resulting from necessary field relocations will be considered as set forth in the General Conditions.
6. If the CONTRACTOR fails to notify the ENGINEER when a structure which interferes with construction is encountered, and proceeds with the work despite this

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obstruction, the CONTRACTOR shall do so at their own risk and at no additional cost to the OWNER.

#### 1.4 SEQUENCE AND PROGRESS OF WORK

- A. The CONTRACTOR shall submit a Construction Schedule covering the entire Work in accordance with Section 01320, Progress Schedule.
- B. The CONTRACTOR shall incorporate the requirements of Section 01130, Special Project Constraints, into the Construction Schedule.
- C. Alternate Sequence:
  - 1. The CONTRACTOR's schedule may use a different sequence from that shown or specified, if techniques and methods known to the CONTRACTOR will result in cost and time savings to the PID, and still achieve the required objective.
  - 2. The ENGINEER's determination on the acceptability of any alternative sequence from that shown or specified shall be final.

#### 1.5 CONTRACTOR'S USE OF WORK AND/OR STORAGE AREAS

- A. The CONTRACTOR shall be solely responsible for obtaining and paying all costs in connection with any additional work area, storage sites, access to the site or temporary right-of-way, which may be required for proper completion of the Work.
  - 1. It shall be understood that responsibility for protection and safe-keeping of equipment and materials on or near a project site will be entirely that of the CONTRACTOR and that no claim shall be made against PID or their authorized representatives by reason of any act.
- B. The CONTRACTOR shall be required to share use of the premises with other Contractors whose services PID has obtained or will obtain for construction of other facilities on the site.

#### 1.6 REQUIRED PERMITS

- A. The CONTRACTOR shall be responsible for obtaining an Encroachment Permit with the Town of Paradise. This may be coordinated with Kevin Peppas, Construction Inspector. Costs for this permit shall be determined by the Town of Paradise. Any additional costs incurred under this permit as a result of excessive or repetitive inspection prompted by deficiencies in work product or practices by the CONTRACTOR shall be the sole responsibility of the CONTRACTOR.

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**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

++ END OF SECTION ++

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## Revisions to Measurement and Payment 01200

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1. **Measurement and Payment 01200** – See attached

## **SECTION 01200**

### **MEASUREMENT AND PAYMENT**

#### **PART 1 - GENERAL**

##### **1.1 GENERAL**

- A. Payment will be made at the unit price bid for each item listed on the bidding form or as extra work as provided in the General Conditions.
- B. No initial progress payment will be made prior to acceptance by the ENGINEER of the CPM Construction Schedule and the list of anticipated submittals.
- C. No subsequent progress payment will be made prior to receipt by the ENGINEER of the monthly update of the Construction Progress Schedule, as specified in Sections 01310, Project Meetings and 01320, Progress Schedule.
- D. No subsequent progress payment will be made prior to receipt by the ENGINEER of Certified Payrolls for the previous month.

##### **1.2 DESCRIPTION OF UNIT PRICE BID ITEM – SCHEDULE A**

- A. Item 1, Mobilization and Demobilization:

Mobilization for the project as a whole shall include all labor and equipment necessary to assemble in the vicinity of the project and stage said labor and equipment in order to make ready to perform the work. Demobilization for the project as a whole shall include removal of the same once either work had been completed in addition to provision of final correct and complete Inspection Record, accepted by the ENGINEER. This item assumes the total project work includes 4,500 individual project sites.

- 1. Measurement and Payment: This item shall be paid as a 60%/40% split between Mobilization prior to commencement of the work and Demobilization following Final Project Completion and project acceptance by the owner. Demobilization shall include submission of complete and correct Inspection Record to the OWNER.

- B. Item 2 Traffic Control:

This item shall cover traffic control costs for the entire project scope. It shall include all labor, materials, equipment, and supplies necessary to properly execute Traffic Control as needed at each project site, in accordance with all local, state, and federal regulations and safety standards. Conditions at each location will vary, requiring Traffic Control measures to be adjusted appropriately. Considerations shall be made for other Recovery-related operations taking place throughout the Town of Paradise. CONTRACTOR shall not impede such activities and shall take extra precautions to plan Traffic Control and in road work to accommodate such activities.

- 1. Measurement and Payment: The CONTRACTOR shall be paid as a percentage of overall project completion. If at any point the ENGINEER determines that Traffic Control is not being implemented regularly in accordance with the Contract Documents, payment for this item may be withheld until such time as corrections in methods and execution are made.

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C. Item 3, Angle Stop Valve:

This item shall include all labor, materials, equipment, and supplies necessary to either remove and reset an existing angle stop valve or install a new angle stop where one was not previously installed, per the Standard Details. Contractor shall not cause leakage or permanent damage to any piping "pinched" in order to accomplish this installation. Final install shall be in a workmanlike manner, in accordance with industry standards.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of an angle stop valve in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 1,300 sites will require the resetting of existing angle stops and up to 300 sites will require the installation of a new angle stop.

D. Item 4, Furnish and Install Meter Box and Cover:

This item shall include all labor, materials, equipment, and supplies necessary to excavate, install base rock, and install a meter box sized for either ¾" to 1" meter assemblies or 1½" to 2" meter assemblies in accordance with the Standard Details. This item shall include the removal and disposal of any remaining meter box or meter still in place following the Camp Fire of 2018. No payment shall be made for this item of work until the required grade and clearance surrounding the meter box installation have been deemed acceptable by the ENGINEER, including the housekeeping of the project site.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of a meter box and cover of the appropriate size in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 4,500 sites will require the installation of a meter box and cover, including those locations where adjacent meter boxes are set as part of a banked set with no further installation of meter (estimated 1,000).

E. Item 5, Install Meter and Meter Interface Unit (MIU):

This item shall include all labor, materials, equipment, and supplies necessary to install a Zenner flowmeter and Meter Interface Unit (MIU), per the Specifications and Standard Details and in accordance with manufacturer recommendations. Installation shall be completed by personnel trained and certified by the manufacturer (Zenner USA) in the installation of Zenner equipment. Size of meter to be installed at each location shall be determined by the ENGINEER.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of a flow meter and MIU, according to size installed as directed by the ENGINEER for each site. It is anticipated that up to 3,825 sites will require a ¾" flow meter, 450 sites will require a 1" flowmeter, 150 sites will require a 1.5" flow meter, and 75 sites will require a 2" flowmeter, for a total of 4,500 sites.

F. Item 6, Excavation of Corporation Stop at a Project Site Location:

This item will include all labor, materials, equipment, and supplies required to excavate and expose the corporation stop at a project site location identified by the OWNER for service lateral replacement. The OWNER or ENGINEER will perform an inspection and

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assessment of the corporation stop and main at the location and determine whether the existing corporation stop may be reused. A standard pothole may be assumed to be 4'x4' in size. Excavations outside that scale resulting from mismarked utilities or other items outside the contractor's control may result in the billing of more than one pothole for a project site.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each site excavation of the corporation stop directed by the OWNER, regardless of whether work was completed at the site following the assessment of the main and valve at that location. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 1,000 sites will require exploratory excavation of the corporation stop for assessment.

G. Item 7, Shoring Required at a Project Site Location:

This item shall include all labor, materials, equipment, and supplies necessary to properly shore an excavation or trench at a project site location identified by the OWNER, in accordance with all local, State, and Federal safety standards. This will apply where excavation or trenching exceeds five feet or the maximum depth and/or soil conditions outlined in said standards. If conditions exceed commonly available industry standard shoring equipment, a professionally engineered system may be required.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each site identified by the OWNER where an excavation or trench is determined to require shoring in order to meet local, State, and Federal safety regulations. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 175 sites will require shoring.

H. Item 8, Asphalt Restoration:

This item shall include all labor, materials, equipment, and supplies necessary to restore or replace asphalt damaged or removed from each project site location resulting from the execution of contract work. This shall include the restoration of asphalt pavement per Specification Section 02770 as well as the Standard Details included in the Contract Documents. A temporary cold patch may be made and maintained, to be replaced with a full hot-mix asphalt (HMA) patch at the earliest opportunity.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price per square foot (SF) included in the Bid Form for each site identified by the OWNER where contract work is executed and resulting in the removal of or damage to existing asphalt paving. Payment shall not be made for asphalt restoration until such time as HMA is fully restored as well as any required striping. Each instance of asphalt restoration shall be measured, documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 70,000 square feet will require Asphalt Restoration. It can be assumed that an average of 125 square feet of asphalt may be required at a site where restoration is required.

I. Item 9, Concrete Restoration:

This item shall include all labor, materials, equipment, and supplies necessary to restore or replace concrete damaged or removed from each project site location resulting from the execution of contract work. This shall include the restoration of concrete according to

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Specification Section 03300 and 03900 as well as the Standard Details included in the Contract Documents.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price per square foot (SF) included in the Bid Form for each site identified by the OWNER where contract work is executed and resulting in the removal of or damage to existing concrete. Each instance of concrete restoration shall be measured, documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 8,750 square feet will require Concrete Restoration. It can be assumed that an average of 10-20 square feet of concrete may be required at a site where restoration is required.

J. Item 10, Furnish and Install Replacement Service Laterals (Open Trench Installation):

This item shall include all labor, equipment, materials, and supplies required to install replacement service laterals at an estimated 875 locations throughout PID's service area, as identified by the ENGINEER. Service laterals installed shall be High-density Polyethylene (HDPE) in 1", 1.5", or 2" sizes, determined in the field by PID or the ENGINEER based on field conditions and in accordance with Specification Sections 01130, 15100, and 15100 PSDS HDPE - SL. For bidding purposes, CONTRACTOR may assume an average service lateral length of 25 ft and an average buried depth of 3 ft. This shall include the demolition and removal of existing service lateral piping where possible, and where an existing corporation stop can be operated. Conditions will vary and final configuration, size, and location of each lateral will be determined by the ENGINEER on site. New service lateral piping will be connected to an existing corporation stop or a new hot tap as determined by the ENGINEER and installed in accordance with Standard Details included in the Contract Documents. The CONTRACTOR shall be paid at the unit price per linear foot (LF) included in the Bid Form for each service lateral installed at the direction of the OWNER or ENGINEER. Measurements of the actual linear footage of pipe installed will be taken in the field at each location and agreed to between the CONTRACTOR and the ENGINEER.

1. Measurement and Payment for Item 10: Open Trench Installation

Payment for the total linear footage at each location where work is completed shall be at the unit price per linear foot (LF) for Item 10 included in the Bid Form for each service lateral installed at the direction of the OWNER or ENGINEER. Measurements of the actual linear footage of pipe installed will be taken in the field at each location and agreed to between the CONTRACTOR and the ENGINEER. Payment for service lateral installation is contingent upon completion of site restoration, final grading and removal of materials and spoils from each site.

K. Item 11, Furnish and Install Replacement Service Laterals (Trenchless Installation):

This item shall include all labor, equipment, materials, and supplies required to install replacement service laterals at an estimated 875 locations throughout PID's service area, as identified by the ENGINEER. Trenchless Installation is used, depth of service line and fill material will match existing conditions. Trenchless Installation of the service lateral will consist of removing the existing lateral and pulling the replacement lateral into its place while maintaining in-situ backfill conditions. Service laterals installed shall be High-density Polyethylene (HDPE) in 1", 1.5", or 2" sizes, determined in the field by PID or the ENGINEER based on field conditions and in accordance with Specification Sections 01130, 15100, and 15100 PSDS HDPE - SL. For bidding purposes, CONTRACTOR may assume an average service lateral length of 25 ft and an average buried depth of 3 ft. Conditions will vary and final configuration, size, and location of each lateral will be determined by the

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ENGINEER on site. New service lateral piping will be connected to an existing corporation stop or a new hot tap as determined by the ENGINEER and installed in accordance with Standard Details included in the Contract Documents. The CONTRACTOR shall be paid at the unit price per linear foot (LF) included in the Bid Form for each service lateral installed at the direction of the OWNER or ENGINEER. Measurements of the actual linear footage of pipe installed will be taken in the field at each location and agreed to between the CONTRACTOR and the ENGINEER.

1. Measurement and Payment for Item 11: Trenchless Installation

Payment for the total linear footage at each location where work is completed shall be at the unit price per linear foot (LF) for Item 11 included in the Bid Form for each service lateral installed at the direction of the OWNER or ENGINEER. Measurements of the actual linear footage of pipe installed will be taken in the field at each location and agreed to between the CONTRACTOR and the ENGINEER. Payment for service lateral installation is contingent upon completion of site restoration, final grading and removal of materials and spoils from each site.

L. Item 12, Furnish and Install Hot Tap Saddle Connections:

This item shall include all labor, equipment, materials, and supplies necessary to install hot tap saddle connections given the main and lateral size configurations called out in the Bid Form 00300, Schedule A and in accordance with the Standard Details included in these Contract Document. Each main must be assessed to determine the appropriate size service saddle for the application. Main materials and sizes vary (OD, Standard, etc) and must be field verified. For each project site location identified by the OWNER, the ENGINEER or OWNER's representative will make a determination upon excavation and assessment of the existing corporation stop, whether the existing valve may be adapted and used, or whether a new hot tap will be necessary. Main depth will vary. Service lateral size will be determined in the field by the ENGINEER.

~~1.~~ Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each hot tap installed, based on main and lateral size at that location. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 1050 sites will require a hot tap to facilitate installation of the new service lateral at that location.

~~2.1.~~

M. Item 13, Furnish RP Backflow Prevention Assembly:

This item shall include all materials and parts necessary to ~~install-furnish~~ a reduced pressure principle (RP) backflow prevention device at each address where a meter is installed. ~~PID may supply up to 2,000 RP Backflow Prevention Assemblies, removed from the field by the CONTRACTOR during the course of contract work, reconfigured by PID staff, and reissued to the CONTRACTOR for permanent installation at new project sites. CONTRACTOR shall provide new RP Backflow devices for the remaining quantity of sites, approximately 1,500 sites3,200.~~

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for furnishing an RP assembly in accordance with the Contract Documents, according to the size of device installed at each site. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to ~~1,3502,880~~ locations will require a new 1" RP device, ~~113240~~ locations will require a new 1½" RP device, and ~~3880~~ locations will require a new 2" RP device, for a total of ~~1,5003,200~~ new devices

provided by the CONTRACTOR, ~~with 2,000 1" devices provided by PID for the CONTRACTOR's installation.~~

N. Item 14.1, Convert Existing Interim RP Backflow Prevention Assembly Configuration to Permanent RP Backflow Prevention Assembly Configuration~~Salvage RP Backflow Prevention Assembly:~~

This item shall include all labor, equipment, and supplies necessary to ~~salvage and existing RP device as convert existing interim RP backflow prevention assembly configurations to permanent RP backflow prevention assembly configurations as~~ directed by the ENGINEER. ~~This device shall be removed from the field, documented per the Specifications, and returned to PID at a designated location by the DISTRICT.~~

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each ~~salvage of an~~ conversion of an interim RP assembly configuration to a permanent RP assembly configuration in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to ~~1,700~~ 2,000 sites will require conversion from an interim configuration to a permanent configuration~~the salvage of an RP backflow prevention device.~~

O. Item 14.2, Furnish and Install Backflow Prevention Assembly Repair Kit

This item shall include all labor, equipment, and supplies necessary to furnish and install backflow prevention assembly repair kits at backflow devices installed under this contract that have failed testing, or as determined by the ENGINEER.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of a backflow prevention assembly repair kit in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 750 sites may require the installation of a backflow prevention assembly repair kit.

~~O.~~ P. Item 15, Install RP Backflow Prevention Assembly:

This item shall include all labor, equipment, materials and supplies necessary to install a reduced pressure principle (RP) backflow prevention device at each address where a meter is installed. This shall include the final reconnection of the customer side plumbing to the newly installed RP assembly, per the Standard Details.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of an RP assembly in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to ~~1,500~~ 3,200 sites will require the installation of an RP backflow prevention device.

~~P.~~ Q. Item 16, Test RP Backflow Prevention Assembly:

This item shall include all labor, materials, equipment, and supplies necessary to test and record the result for each RP backflow prevention assembly installed under this contract. Testing shall be accomplished by a person or persons trained and certified to do so by the CA NV chapter of the American Water Works Association (CA NV AWWA). This shall

include documentation as required by the Specifications and transmitted to the ENGINEER before payment can be made.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of an RP assembly in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 3,200 sites will require the testing of an RP backflow prevention device.

Q-R. Item 17, Furnish and Install Frost Protection Bag for RP Backflow Prevention Assembly:

This item shall include all labor, materials, equipment, and supplies necessary to furnish and install a frost protection bag for each RP backflow prevention assembly installed under this contract.

1. Measurement and Payment: The CONTRACTOR shall be paid at the unit price included in the Bid Form for each installation of Frost Protection Bag for an RP assembly in accordance with the Contract Documents. Each instance shall be documented and agreed to in the field between the CONTRACTOR and the ENGINEER. It is anticipated that up to 3,200 sites will require the installation of a frost protection bag for an RP backflow prevention device.

### 1.3 DESCRIPTION OF LUMP SUM BID ITEM – SCHEDULE B (REQUIRED SUBCONTRACT)

A. Item 18, Zenner USA Subcontract – Installation of Centralized Transmission Infrastructure for AMI System:

This item shall include all labor, equipment, materials, and supplies required to install required ZENNER USA collectors and repeaters as determined by Zenner USA to be necessary for the function of the AMI system. PID will supply collector and ~~repeater~~ ~~repeater~~ equipment. This equipment must be installed by a Zenner USA representative per the manufacturer warranty. The CONTRACTOR shall be paid as a percentage of overall completion at the lump sum price included in the Bid Form for these services.

1. Measurement and Payment: Payment for the installation of centralized AMI transmission infrastructure provided by PID shall be as a percentage of overall completion according to the lump sum price for Item 18 included in the Bid Form. Installation of the required equipment shall be overseen and approved by the ENGINEER.

### 1.4 PROGRESS PAYMENTS

A. Progress Payment Request Submittal:

1. Unless otherwise mutually agreed, by the 25th of each month, the CONTRACTOR shall prepare and submit monthly progress payment requests for work completed through the 25th day of the previous month.
2. Said payment request shall be based on the breakdown of activities as specified in the Bid Form.
3. The monthly schedule update shall be submitted as part of the monthly progress payment report.

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- B. The ENGINEER will review progress payment requests and make a determination of the actual unit quantities based on an approximate measurement of all materials supplied and work performed in the field.
- C. In the event that the CONTRACTOR fails to provide the OWNER with an acceptable Monthly Contract Installation Record Submittal in accordance with Section 01330, the OWNER shall deduct compensation for such monthly submittal as provided in Section 01320. Said deduction shall become the sole property of the OWNER.
- D. Retention:
  - 1. From the amount thus determined, five percent thereof will be deducted as retention by OWNER for performance security.
  - 2. Acceptance of separate components shall not operate to release performance retention.
  - 3. The amount of all payments previously made to the CONTRACTOR and any amounts due the OWNER from the CONTRACTOR for supplies, materials, services, damages, or otherwise deductible under the terms of the contract will be deducted from the remainder.
  - 4. The remaining amount will be paid as a progress payment by the OWNER to the CONTRACTOR on the third Friday of the succeeding month or as soon thereafter as is practical.
- E. In addition to the retention under Paragraph D above, the whole or part of any payment of the estimated amount due the CONTRACTOR may be withheld as an additional retention if such course be deemed necessary to protect the OWNER from loss due to the CONTRACTOR's failure to perform any of the following: (1) meet CONTRACTOR's payment obligations; (2) execute the work; (3) correct defective work; (4) settle damages as provided; or (5) produce substantial evidence that no stop notices will or have been filed, and/or if it has been determined that unpaid balances may be insufficient to complete the work.
- F. All material and work covered by progress payments thereupon become the sole property of the OWNER, but this provision shall not be construed as relieving the CONTRACTOR from sole responsibility for all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the OWNER's right to require fulfillment of all of the contract terms. Said CONTRACTOR's obligation extends through the close of the warranty period.
- G. Payment for Materials:
  - 1. At their sole discretion, the ENGINEER will approve items for which partial payment is to be made.
  - 2. Proper storage and protection of materials shall be provided by the CONTRACTOR. Final payment shall be made only for materials actually incorporated in the work and, upon acceptance of the work, all materials remaining for which advance payments had been made shall revert to the CONTRACTOR, unless otherwise agreed, and partial payments made for these items shall be deducted from the final payment for the work.

#### 1.5 FINAL PAYMENT

- A. Upon the completion of the work as determined by the ENGINEER, a Notice of Acceptance will be issued and recorded with the County.

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- B. The OWNER will pay to the CONTRACTOR within 60 days after filing of the Notice of Acceptance, or as soon thereafter as practicable, the remaining amount due the CONTRACTOR including retainage, less all prior payments and advances whatsoever to or for the account of the CONTRACTOR for supplies, materials, services, damages, stop notices, or otherwise deductible under the terms of the contract.
- C. All prior estimates and payments including those relating to extra work shall be subject to correction by this payment, which throughout this contract is called "Final Payment".

**1.6 RELEASE OF CLAIMS:**

- A. Neither the final payment nor any part of the retained percentage shall become due until the CONTRACTOR shall have delivered to the OWNER a complete release of all claims against the OWNER arising under and by virtue of this contract and related to undisputed amounts, including claims of Subcontractors and suppliers of either materials or labor.
- B. If disputed contract claims in stated amounts are unresolved 35 days after issuance of the Notice of Acceptance, a progress payment of undisputed amounts and retained funds will be made by OWNER upon receipt of a release specifically excluding the disputed contract claims.
- C. Claims by the OWNER against the CONTRACTOR for liquidated damages or actual damages or other causes will be a valid basis for withholding of funds by the OWNER.
- D. Upon resolution of disputed claims, the CONTRACTOR shall execute a supplemental release and, upon delivery the OWNER will make final payment.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

+ + END OF SECTION + +

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## Revisions to Submittal Procedures 01330

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1. **Submittal Procedures 01330** – See attached

**SECTION 01330**  
**SUBMITTAL PROCEDURES**

**PART 1 - GENERAL**

**1.1 GENERAL**

- A. General:
1. This Section outlines in general the items that the CONTRACTOR must prepare or assemble for submittal during the progress of the work.
  2. There is no attempt herein to state in detail all of the procedures and requirements for each submittal.
  3. The CONTRACTOR's attention is directed to the individual Specification Sections in these Contract Documents, which may contain additional and special submittal requirements.
  4. The OWNER reserves the right to direct and modify the procedures and requirements for submittals as necessary to accomplish the specific purpose of each submittal.
  5. The CONTRACTOR shall anticipate resubmitting submittals for major pieces of equipment and for control systems.
  6. Should the CONTRACTOR be in doubt as to the procedure, purpose, or extent of any submittal, inquiries shall be directed to the ENGINEER.
- B. Schedule of Submittals:
1. Within 15 days of the Notice to Proceed, the CONTRACTOR shall submit a complete list of anticipated submittals, including specification/drawing references.
  2. This list shall be updated with "late start" submittal dates within 15 days of submittal of the CONTRACTOR's Construction Schedule.
  3. The submittal dates shall be updated upon approval of the Construction Schedule and periodically thereafter.
  4. Any additional submittals shall also be included in updates.

**1.2 ADMINISTRATIVE SUBMITTALS**

- A. The CONTRACTOR is reminded of their obligation as required by law to make required submittals promptly to the applicable federal, state, or local agency. Failure to comply with this requirement may result in the withholding of progress payments and make the CONTRACTOR liable for other prescribed action and sanctions.
- B. The CONTRACTOR shall submit to the ENGINEER a copy of all letters relative to the Contract, transmitting notifications, reports, certifications, certified payrolls, and the like, that the CONTRACTOR submits directly to a federal, state, or other governing agency.
- C. During the performance of the Contract, the CONTRACTOR shall maintain on a daily basis, and submit to the ENGINEER as requested, full and correct information as to the number of persons employed in connection with each subdivision of the work, the classification, rate of pay, citizenship status, and address of each person, and the cost, source, and amount of each class of materials delivered, equipment received, and major construction equipment used in each subdivision of the work.
- D. Certified Payroll:

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1. No later than the 25th day of each month, the CONTRACTOR shall submit to the ENGINEER a copy of the CONTRACTOR's certified payroll for the previous month, and if requested, copies of certified payrolls for Subcontractors.
2. The payrolls shall include for each employee the full name, address and social security number; the correct classification and rate of pay (including rates of contributions for, or costs assumed to provide various fringe benefits); daily and weekly hours worked; itemized deductions and actual wages paid.
3. The certified payrolls shall be on State of California forms.

### 1.3 TECHNICAL SUBMITTALS

#### A. General:

1. Requirements in this Section are in addition to any specific requirements for submittals specified in other divisions and Sections of these Contract Documents.
2. Submittal Contents and Numbering:
  - a. Each submittal shall contain material pertaining to no more than one equipment or material item and shall have the specification Section and applicable paragraph number clearly identified on the front of the submittal transmittal form.
  - b. Each submittal shall be sequentially numbered starting with the first one delivered.
  - c. Resubmittals shall include the number of the original submittal plus the suffix ".1" for the first resubmittal, ".2" for the second resubmittal, etc. (e.g., submittal 3.0, 3.1, 3.2, etc.).
  - d. Submittals not conforming to these requirements will be rejected.
3. Submitted data shall be fully sufficient in detail for determination of compliance with the provisions and intent of the Contract Documents.
4. Coordination Responsibilities:
  - a. Shop drawing submittal and coordination are the responsibility of the CONTRACTOR; this responsibility shall not be delegated in whole or in part to Subcontractors or suppliers.
  - b. Designation of work "by others," if shown on shop drawings, shall mean that the work will be the responsibility of the CONTRACTOR rather than the Subcontractor or supplier who has prepared the shop drawings.
5. No equipment or material for which listings, drawings, or descriptive material is required shall be fabricated, purchased, or installed until the ENGINEER has reviewed and accepted such lists, final shop drawings, or other descriptive material. Installation of such equipment or material without accepted submittals will be considered defective work.
6. Submittal Review Time:
  - a. Submittals will be acted upon by the ENGINEER as promptly as possible and returned to the CONTRACTOR not later than the time allowed for review in Paragraph B.2 below.
  - b. The CONTRACTOR shall provide in their Construction Schedule the time for OWNER review of each submittal (and resubmittal for major equipment and control systems) in accordance with the allowable time specified herein and in Section 01320, Progress Schedule.
  - c. This required time for OWNER review shall not be a cause for delay in contract completion nor shall it be a reason for an extension of contract time.
  - d. If the CONTRACTOR is required by the OWNER to resubmit data, then neither the time required for the CONTRACTOR to prepare and resubmit such data, nor the required time for OWNER review, shall be a cause for delay in contract completion or for an extension of contract time.

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- e. Responsibility for time required for preparing and submitting required data shall be assigned solely to the CONTRACTOR.
- 7. Excessive Submittal Review:
  - a. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the second submission of a submittal item.
  - b. Additional costs of the ENGINEER's review beyond the second submission shall be the responsibility of the CONTRACTOR and may be deducted from the monthly progress payments.
  - c. This applies to all submittals including shop drawings.
- 8. Changes After Review:
  - a. After a submittal has been reviewed and accepted, no changes or substitutions in that submittal will be allowed without the ENGINEER's approval.
  - b. If allowed, the CONTRACTOR will be responsible for the additional costs for engineering, administrative, clerical or other work required for additional review.
- 9. Intent of Review:
  - a. Shop drawings will be reviewed for general conformance with the drawings and specifications.
  - b. The intent of the review is to determine if the CONTRACTOR is submitting materials and equipment which are in general conformance with the Contract Documents.
  - c. Detailed review of dimensions, sizes, space requirements, coordination with other equipment, and other construction details is not performed.
  - d. Additional work and costs, resulting from errors in the shop drawings shall be the CONTRACTOR's responsibility and liability.
  - e. Accuracy, coordination, and completeness of shop drawings shall be the sole responsibility of the CONTRACTOR, including responsibility to backcheck comments, corrections, and modifications from the ENGINEER's review before fabrication.
- 10. The CONTRACTOR shall indicate on the submittal transmittal form if and how the submittal deviates from the contract requirements.
- 11. Shop drawings, layout diagrams, catalog cuts and data, test reports, and information in sufficient detail to show complete compliance with all specified requirements shall be furnished to the ENGINEER, covering but not limited to the following items:

- Aggregate Base Course
- Asphalt mixes
- Concrete mixes
- Engineered fill
- Gravel bedding
- Imported fill
- Landscaping
- Pipe, fittings, valves and specials
- Precast concrete
- Backflow assemblies and test procedures
- Plumbing fixtures
- Sheet pile, shoring and bracing
- Signs and Traffic Control Devices
- Temporary dewatering systems and equipment

B. Submittal Procedure:

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1. The CONTRACTOR shall submit to the ENGINEER for review one (1) electronic PDF copy of each submittal via email (shop drawings, electrical diagrams, and catalog cuts for fabricated items and manufactured items furnished under this Contract, etc.) The ENGINEER's response shall be similarly electronically transmitted via PDF in email.
2. Shop drawings shall be submitted in sufficient time to allow the ENGINEER not less than twenty (20) working days for examining the shop drawings except for designs for turnkey items for which thirty (30) working days will be allowed, and substitutions for which (40) working days will be allowed.
3. Shop drawings shall be accurate, distinct, and complete, and shall contain all required information, including satisfactory identification of items, units, and assemblies in relation to the Contract Drawings and Specifications.
4. CONTRACTOR Certification:
  - a. Shop drawings shall be submitted only by the CONTRACTOR, who shall indicate by a signed stamp on the shop drawings, or other approved means, that the CONTRACTOR has checked and approved the shop drawings, and that the work shown is in accordance with Contract requirements and has been checked for dimensions and relationship with work of all other trades involved.
  - b. Submitting incomplete or unchecked shop drawings for the ENGINEER to correct or finish will not be acceptable, and shop drawings that, in the opinion of the ENGINEER, indicate that they have not been checked by the CONTRACTOR will be rejected and returned to the CONTRACTOR for resubmission in the proper form.
5. Return of Reviewed Submittals:
  - a. When the shop drawings have been reviewed by the ENGINEER, the appropriate number of submittals will be returned to the CONTRACTOR appropriately stamped.
  - b. If major changes or corrections are necessary, the shop drawing will be rejected and returned to the CONTRACTOR with the need for such changes or corrections indicated.
  - c. The CONTRACTOR shall correct and resubmit rejected shop drawings in the same manner and quantity as specified for the original submittal.
  - d. If changes are made by the CONTRACTOR (in addition to those requested by the ENGINEER) on the resubmitted shop drawings, such changes shall be clearly explained in a transmittal letter accompanying the resubmitted shop drawings.
6. The review of such shop drawings and catalog cuts by the ENGINEER shall not relieve the CONTRACTOR from responsibility for correctness of dimensions, fabrication details, coordination with other work, and space requirements, or for deviations from the Contract Drawings or Specifications, unless the CONTRACTOR has called attention to such deviations in writing by a letter accompanying the shop drawings and the ENGINEER approves the change or deviation in writing at the time of submission; nor shall review by the ENGINEER relieve the CONTRACTOR from the responsibility for errors in the shop drawings.
7. The CONTRACTOR agrees that shop drawing submittals processed by the ENGINEER do not become Contract Documents and are not Change Orders; that the purpose of the shop drawing review is to establish a reporting procedure and to permit the ENGINEER to monitor the CONTRACTOR's progress and understanding of the design.

#### C. Record Drawings

1. The CONTRACTOR shall deliver to the OWNER one complete set of Installation Records for OWNER records before the contract will be accepted by the OWNER. The Installation Record will consist of detailed database (Excel or other ENGINEER approved file type) of work items completed, delineated by address and/or

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coordinates, including size and quantity of materials installed, and any required serial numbers and/or test results.

2. Installation Record

- a. The CONTRACTOR shall keep an up-to-date database of completed work, including size and quantity of materials installed, and any required serial numbers and/or test results, delineated by address or coordinates.
- b. The CONTRACTOR shall record within the Installation Record, all items and metrics of work completed in addition to any changes from or additions to the work described in the Contract Documents, as approved by the ENGINEER.
- c. Information to be recorded in the Installation Record shall include at minimum, but shall not be limited to, the following:
  - 1) Locations where service laterals are installed
    - a) All relevant bid items and quantities/sizes of materials installed for each service lateral
    - b) Size and linear footage of pipe installed
    - c) Configuration of service lateral (single or double)
    - c) Hot taps where installed
    - d) Any other relevant notes
  - 2) Locations where meter assemblies are installed
    - a) All relevant bid items and quantities/sizes of materials installed for each meter assembly
    - b) Size of meter
    - c) Meter identifier
    - d) MIU identifier
  - 3) Locations where backflow assemblies are installed
    - a) All relevant bid items and quantities/sizes of materials installed for each backflow assembly
    - b) Size of backflow
    - c) Backflow identifier
    - d) Date/Time and Results of backflow test
    - e) Identifier for any ~~salvaged~~-backflow device
  - 4) Additions to and/or deletions from the work, including all contract change orders.
  - 5) Other details showing as-built conditions, which are shown differently or only in general on the Drawings.
  - 6) Location of buried features located during construction except utility service connections.
- d. It is the CONTRACTOR's responsibility to ensure that any changes, deletions, specific construction details, etc., performed by a Subcontractor are recorded on the Contract Record Drawings.
- e. Once every month, starting from the completion of mobilization as defined in Section 01505, Mobilization, the CONTRACTOR shall provide the OWNER with a copy of the then up-to-date Installation Record in accordance with the provisions under Section 01200, Measurement and Payment, and Section 01320, Progress Schedule.
- f. At the end of the work, prior to Project Closeout, the CONTRACTOR shall provide the OWNER with the complete red-lined PID Service Maps, showing all "as-built" conditions.
- g. See also Section 01800, Operational Completion and Project Closeout.

3. Electronic Progress of Work

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- a. The ENGINEER will provide GIS based access in addition to Microsoft Excel-based lists of the sites where work will be assigned, with the following one or multiple categories of work assigned for each address or GPS location:
    - Service Lateral Installation
    - Meter Assembly Installation
    - Backflow Prevention Assembly Installation
  - b. These sites will be assigned in order of workflow to be executed by the CONTRACTOR.
  - c. During the progress of the work, the CONTRACTOR shall record on ENGINEER's GIS based resource which sites are in progress as well as which have been completed. Recording of work progress, completed installation, or any other information on ENGINEER's GIS based resource shall not be replace the requirement for CONTRACTOR to maintain an Installation Record.
  - d. All information recorded in the electronic database or on GIS shall be thorough and complete. Work not documented in this manner will not be considered complete or compensable.
- D. Certificates of Compliance:
1. A Certificate of Compliance shall be furnished for materials specified to a recognized standard or code prior to the use of any such materials in the work.
  2. The ENGINEER may permit the use of certain materials or assemblies prior to sampling and testing if accompanied by a Certificate of Compliance.
  3. The certificate shall be signed by the manufacturer of the material or the manufacturer of assembled materials and shall state that the materials involved comply in all respects with the requirements of the Specifications.
  4. A Certificate of Compliance shall be furnished with each lot of material delivered to the work and the lot so certified shall be clearly identified in the certificate.
- E. Quality Assurance
1. Source limitations: To the greatest extent possible for each unit of work, the CONTRACTOR shall provide products, materials, or equipment of a singular generic kind from a single source.
  2. Compatibility of options:
    - a. Where more than one choice is available as options for CONTRACTOR's selection of a product, material, or equipment, the CONTRACTOR shall select an option which is compatible with other products, materials, or equipment already selected.
    - b. Compatibility is a basic general requirement of product/material selections.
- F. Review by ENGINEER
1. After review by the ENGINEER of each of the CONTRACTOR's submissions, the material will be returned to the CONTRACTOR with actions defined as follows:
    - a. NO EXCEPTIONS TAKEN: Accepted subject to its compatibility with further submittals and additional partial submittals for portions of the work not covered in this submittal. Does not constitute approval or deletion of specified or required items not shown in the partial submittal.
    - b. MAKE CORRECTIONS NOTED: Same as 1.a., except that minor corrections as noted shall be made by the CONTRACTOR.
    - c. REVISE AND RESUBMIT: Rejected because of major inconsistencies or errors which shall be resolved or corrected by the CONTRACTOR prior to subsequent review by the ENGINEER.

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- d. REJECTED - RESUBMIT: Submitted material does not conform to Plans and Specifications in major respect, e.g., wrong item, wrong size, model, capacity, or material.
- 2. Review actions (a) and (b) above constitute acceptance by the ENGINEER of the submittal.
- G. Requests for Information
  - 1. Requests for Information about the Contract Documents shall be directed by the CONTRACTOR to the ENGINEER using a Request for Information (RFI) form as agreed to by the OWNER and the ENGINEER. Such requests shall not be transmitted directly to the ENGINEER from a Subcontractor or Supplier.
  - 2. A separate form shall be used for each specific item for which information is required. Requests for Information for more than one item using a single RFI form will be permitted only when the items are so functionally related that expediency indicates review of the group of items as a whole.
  - 3. The ENGINEER will reply to the CONTRACTOR's Request for Information as soon thereafter as practicable.
- H. Construction Photographs
  - 1. Provide photographs showing the preconstruction site, construction progress, and the post-construction site for each project site location, including those where the corporation stop is exposed, but no further work is conducted.
  - 2. Format: Photographs shall be digital format
    - a. Digital Format:
      - 1) Digital photos shall be taken with a minimum 3.5 mega pixel density and provided in JPG format.
      - 2) Digital photo files shall be provided on a flash drive accompanied by a text file that lists the file name, date photo was taken, and brief description of the photograph and an address where the photograph was taken.
  - 3. Take a minimum of 2 photos of the preconstruction site and property adjacent at each project location.
  - 4. Take a minimum of 2 photos of the traffic control measures (if applicable) in effect at each project location.
  - 5. Take a minimum of 2 photos showing the progress of construction at each location.
  - 6. Take a minimum of 2 photos of the post-construction site and the property adjacent to the perimeter of the site.

**PART 2 - PRODUCTS (NOT USED)**

**PART 3 - EXECUTION (NOT USED)**

+ + END OF SECTION + +

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## Revisions to Demolition 02220

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1. **Demolition 02220** – See attached

## **SECTION 02220 DEMOLITION**

### **PART 1 - GENERAL**

#### **1.1 DEFINITIONS**

- A. "Demolish": CONTRACTOR shall remove from the site as property of CONTRACTOR. Demolition includes disconnecting, removal, loading, repairs, cleanup, transportation, unloading, disposal permits and fees, disposal, and all other items required to remove the material from the site.
- B. "Salvage": CONTRACTOR shall remove from area of Work and place in location designated by ENGINEER. Equipment is property of PID. Salvage includes disconnecting, removal, repairs, cleanup, loading, transportation, unloading, and all other items required to remove and relocate the material.
- C. "PID to Remove": PID will remove from area of Work prior to CONTRACTOR commencing demolition Work for this area.
- D. "Relocate": CONTRACTOR shall relocate material to new locations stated herein. Relocation includes disconnecting, removal, reconnecting, attaching, repairs, and all other items required to relocate material to new location.
- E. "Abandon": CONTRACTOR shall disconnect and leave in place as specified.
- F. "Materials": Any and all items and objects that are scheduled or specified to be demolished, salvaged, removed, relocated, or abandoned.

#### **1.2 SUBMITTALS**

- A. Action Submittals:
  - 1. Product Information: Grout, sealants, and bonding agents to be used for patching.
- B. Informational Submittals:
  - 1. Plan and schedule phased demolition, including limits of demolition, as part of and consistent with the progress schedule specified in Section 01320, PROGRESS SCHEDULE.
  - 2. Methods of demolition and equipment proposed to demolish materials.
  - 3. Copies of any authorizations and permits required to perform Work.
  - 4. Repair procedures for demolition of materials beyond the listed materials :
    - a. corporation stop valve, service lateral, angle stop valve, meter, meter box, customer side valve, and backflow prevention assembly.

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## **PART 2 - PRODUCTS**

### **2.1 GENERAL**

- A. CONTRACTOR shall provide all materials and equipment in suitable and adequate quantity as required to accomplish the Work shown, specified herein, and as required to complete the Project.

## **PART 3 - EXECUTION**

### **3.1 GENERAL**

- A. Scope of Work is based on available information. The Work may differ slightly from what is specified. CONTRACTOR shall be responsible for determining the work required by inspecting the site.

### **3.2 SAFETY REQUIREMENTS**

- A. All Work shall be performed in conformance with all applicable rules and regulations pertaining to safety.
- B. Hazardous Materials:
  - 1. See General Conditions.
  - 2. Existing facilities, or portions thereof, to be demolished may contain hazardous materials such as asbestos cement piping, residual chemicals in existing or abandoned piping, lead-based paint, mercury seals, or other unknown hazardous materials.

### **3.3 SEQUENCE**

- A. Be responsible for the sequence of Work.
- B. Conform to constraints as specified in Section 01130, Special Project Constraints.

### **3.4 COORDINATION**

- A. Coordination with ENGINEER:
  - 1. Materials not stated herein may only be demolished, salvaged, removed, relocated or abandoned if approved by ENGINEER in the field.
  - 2. Verify materials scheduled to be demolished, salvaged, removed, relocated, or abandoned with ENGINEER prior to performing Work.
  - 3. Do not remove materials without prior approval of ENGINEER.
  - 4. Do not remove materials without taking photographs for the construction record. If there is a question about a material that was demolished, salvaged, removed, or relocated the ENGINEER may require these photos be provided.
  - 5. Provide at least 3 working days' notice to ENGINEER prior to start of Work.
  - 6. Provide temporary services during interruptions in excess of 4 hours to affected services or facilities as acceptable to ENGINEER.
  - 7. ENGINEER will indicate limits of Work.
- B. Coordination with Utility Owners:

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1. Notify utility owners to turn off affected services or facilities before starting Work.
2. Provide not less than 72 hours notice to utility owners prior to shutdown, unless otherwise directed by utility owners.
3. Provide temporary services during interruptions to affected services or facilities as acceptable to utility owners.

### 3.5 DEMOLITION

#### A. General:

1. Inspect condition of materials to be demolished prior to bidding to assess potential for salvage value.
2. All materials from the demolition process shall be removed safely from the project site on the same day of demolition. They shall be disposed of in accordance with applicable federal, state, and city regulations. CONTRACTOR is responsible for determining these regulations and shall bear all costs associated with disposal of the materials.

#### B. Pavement and Curbs:

1. Provide saw cut at all concrete and pavement surfaces and curb removal limits and where neat connection lines are required.
2. Surfaces exposed by demolition activities shall be repaired and finished to provide a uniform, smooth, level transition between adjacent surfaces. If surfaces are left disturbed beyond a single workday, they shall be secured or cordoned off to allow for safe resumption of vehicular or foot traffic, whichever is applicable.

#### C. Water Utilities:

1. Support utility lines exposed by Work.
2. For water lines to be capped and terminated, provide a permanent leakproof closure. Closure type shall be as recommended by ENGINEER.

#### D. Meter Boxes:

1. Demolish existing meter box if material is not concrete. If a concrete meter box is encountered, coordinate with ENGINEER regarding whether to leave in place and use for the required installation.

### 3.6 RELOCATION EXISTING DEVICES

- A. CONTRACTOR will document the condition, location, and serial number of RP Backflow Preventer Assemblies present at assigned work locations. ~~which are identified by the ENGINEER to be salvaged and returned to the PID Corporation Yard. Salvaged RP assemblies shall be delivered to the PID Corporation Yard, or another location as directed by the DISTRICT, in the same working day they were removed.~~
- B. Existing RP backflow prevention assemblies shall not be damaged during re~~configuration~~configuration into a permanent assembly~~moveal~~.
- C. Properly store and maintain materials in same condition as when removed.
- D. Clean and protect materials from dust, dirt, natural elements, ~~and store as directed.~~

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### 3.7 ABANDONMENT

- A. Piping and Conduits:
  - 1. General: Piping and conduits to be temporarily or permanently abandoned shall be capped with a watertight plug at demolished end in a manner that will prevent entrance of soil, groundwater, or moisture.
  - 2. Pressurized Services: Install restrained caps or plugs at the demolished ends as approved by ENGINEER.

### 3.8 REPAIR AND REPLACEMENT

- A. Any damaged materials scheduled to be salvaged or relocated shall be repaired by the CONTRACTOR to the satisfaction of ENGINEER or replaced at the CONTRACTOR's expense.
- B. Any damage to areas not within the limits of demolition Work specified herein shall be repaired or replaced to original precontract conditions at the CONTRACTOR's sole expense. CONTRACTOR shall provide ENGINEER with pre- and post-site photographs. ENGINEER shall determine whether the repair or replacement of damaged areas is acceptable based on field conditions and/or photographs.

### 3.9 DISPOSAL

- A. Dispose of materials offsite in licensed landfills and in accordance with all local, state, and federal regulations. CONTRACTOR is responsible for obtaining any and all necessary permits for disposal.

+ + END OF SECTION + +

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## Revisions to Valves and Operators 15200

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1. **Valves and Operators 15200** – See attached

**SECTION 15200**  
**VALVES AND OPERATORS**

**PART 1 - GENERAL**

**1.1 SUBMITTALS**

- A. Shop Drawings:
  - 1. Product data sheets for make and model.
  - 2. Complete catalog information, descriptive literature, specifications, and identification of materials of construction.
- B. Tests and inspection data.
- C. Operation and Maintenance Data as specified in Section 01330, SUBMITTAL PROCEDURES.

**1.2 PRODUCT DELIVERY, STORAGE, AND HANDLING**

- A. In accordance with manufacturer's directions.

**PART 2 - PRODUCTS**

**2.1 GENERAL**

- A. All valves shall be the same size as the pipe in which they are installed, unless specifically noted otherwise on the Drawings.
- B. All valves shall include all appurtenant parts (handwheels, valve stems, operating nut, etc.) for a complete operating valve.
  - 1. Valve shall be, as much as practical, fully factory assembled.
- C. All valves shall open by turning counter-clockwise. Maximum force required for operation shall be 40 lbs.

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- D. All valves shall be installed in place with enough clearance to be easily operable in the future, considering any required tools or access requirements.
- E. All materials used in construction, modification or repair of Paradise Irrigation District water supply facilities shall be NSF 61 certified. No chemical, material, lubricant, or product may be used in the production, treatment, or distribution of drinking water that will result in contact with the drinking water, including process media, protective materials, joining and sealing materials, pipes and related products, and mechanical devices used in treatment/ transmission/ distribution systems, that has not been tested and certified as meeting the specifications of NSF International/ American National Standard Institute (NSF/ANSI) 61-2005 / Addendum 1.0-2005 (Drinking Water System Components – Health Effects).
- F. All materials used in construction, modification, or repair of Paradise Irrigation District water supply facilities shall comply with the requirements set forth in California Assembly Bill 1953 (AB 1953). AB 1953 prohibits the introduction of any pipe, pipe or plumbing fitting, or fixture that is not lead free into a public water system, or any plumbing in a facility providing water for human consumption.
- G. Where Lead-Free Bronze or Brass is specified, materials shall be in compliance with California Health & Safety Code Section 116875. Not more than a weighted average of 0.25 percent of the wetted surface of the valve shall be lead.
- H. Coatings and Linings:
  - 1. Provide factory-applied coatings as described herein.
  - 2. Where liquid epoxy coatings are specified, coatings shall conform to AWWA C550.
- I. Nuts, Bolts and Washers
  - 1. Hex Bolts: ASTM A320/A320M, Type 304 stainless steel, Grade B8, Class 2
  - 2. Nuts: ASTM F594, Type 304 stainless steel, Grade B8, Class 2
  - 3. Washers: Type 304 stainless steel

## 2.2 BALL VALVES

- A. **BAV-01LF:** Lead-Free Ball Valve, 2 inches and smaller:
  - 1. Service: Potable Water, Angle Stop
  - 2. Features:
    - a. Solid one-piece tee-head and stem

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- b. Padlock wing for locking valve in closed position
- c. Dual EDPM O-rings in the stem
- d. Molded EDPM rubber seats with reinforcing ring support
- e. Fluorocarbon-coated brass ball
- f. The letters "NL" are cast into the main body for lead free identification.
- g. All brass that comes in contact with potable water conforms to AWWA standard C800 (ASTM B584, UNS C89833). Brass components that do not come in contact with potable water conform to AWWA Standard C800 (ASTM B62 and ASTM B584, UNS C83600, 85-5-5-5).

3. Manufacturer and Products:

- a. Ford Meter Box Company 1" BA43-444W-Q
- b. Ford Meter Box Company 1.5" BFA43-666W-Q
- c. Ford Meter Box Company 2" BFA43-777W-Q
- d. or DISTRICT approved equal

B. **BAV-02LF:** Lead-Free Ball Valve, 2 inches and smaller:

1. Service: Potable Water, Customer Valve

2. Features:

- a. Lead Free forged copper silicon alloy body and adapter
- b. Machine chrome plated lead free brass ball
- c. All wetted surfaces that come in contact with potable water are certified to NSF/ANSI standards 61 and 372.
- d. PTFE stem packing seal, thrust washer, and seats
- e. Temperature Range: -40°F to 400°F
- f. Rated 600 psig WOG, 150 psig WSP
- g. Zinc-coated steel hand lever operator with vinyl grip

3. Manufacturer and Products:

a. Threaded:

- 1) WATTS LFFBV-3C
- 2) Or DISTRICT approved equal

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C. **CRP-01:** Ball Corporation Valve 1 Inch to 2 Inch:

1. Features:
  - a. Rated 300 psi working pressure
  - b. All brass that comes in contact with potable water conforms to AWWA Standard C800 (ASTM B584, UNCS C89833)
  - c. "NL" cast into body for lead-free identification
  - d. Ends are integral or secured with adhesive to prevent unintentional disassembly
  - e. Spring tip gasket provides hydraulic seal
2. Manufacturers and Products:
  - a. Ford Meter Box Company 1" FB1100-4-Q-NL
  - b. Ford Meter Box Company 1-1/2" FB1100-6-Q-NL
  - c. Ford Meter Box Company 2" FB1100-7-Q-NL
  - d. Or DISTRICT approved equal

2.3 BACKFLOW PREVENTERS

A. **BFP-01:** Reduced-Pressure Principle Backflow Prevention Assembly:

1. Service: Water.
2. Materials:
  - a. Main valve body and access covers: Low lead cast bronze (ASTM B584)
  - b. Seat Ring and Internal Polymers: Noryl
  - c. Seat Disc Elastomers: silicone
  - d. Fasteners and Springs: Stainless Steel, 300 series
  - e. Ball Valve Handles: Stainless Steel
3. Features:
  - a. Two check valves with an independent relief valve between the valves,
  - b. Two tightly closing resilient-seated shut-off valves
  - c. Test cocks, in accordance with AWWA C511
  - d. Rated 175 psi maximum working pressure,

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- e. Meets requirements of USC Foundation for Cross-Connection Control and Hydraulic Research.
- f. Ends: as required for installation as shown on Drawings
- g. Coatings and Linings (steel and cast iron):
  - 1) Liquid epoxy, 12 mil minimum, for valve interior and exterior.
  - 2) For potable water applications, epoxy lining shall be NSF 61 approved.
- 4. Manufacturers and Products:
  - a. Wilkins 975XL2 (1"–2")

## 2.4 OPERATORS:

### A. General:

- 1. Operator force not to exceed 40 pounds under any operating condition, including initial breakaway.

## 2.5 ACCESSORIES

### A. T-Handled Operating Wrench:

- 1. One each steel operating wrench, length varies, may utilize extensions where required.
- 2. Manufacturers and Products:
  - a. Mueller; No. A-24610.
  - b. Clow No.; F-2520.
  - c. Or Equal.

### B. Cast Iron Valve Box: Designed for traffic loads, sliding type, with minimum of 6-inch ID shaft.

- 1. Box: Concrete with cast iron ring with minimum depth of 9 inches.
- 2. Lid: Cast iron, minimum depth 3 inches, marked WATER.
- 3. Extensions: Cast iron.

### C. Frost Protection Bag

- 1. Fabric: Herculite 10W laminated with 2,000hour rating

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- a. Flame Resistance
  - 1) After Flame (sec): 0.3
  - 2) Char Length (in): 4.1
- b. Adhesion Lbs/2in: 40
- c. Break Strength (lbs/in): W 125, F100
- d. Tear Strength (lbs): W 34, F 35
- e. Hydrostatic Burst (psi): 17C
- 2. Insulation: R19 Faced
- 3. Thread:
  - a. Star Ultra Dee (a continuous multifilament bonded polyester sewing thread)
  - b. Tex Size: 135
  - c. Ticket Size: DB138
  - d. Strength: Avg: 21.2 lbs, IND.MIN: 19.1 lbs
  - e. Elongation: Avg: 15.0, MIN: 11.0, MAX: 19.0
  - f. Yield: 2,687 Yds/lb
- 4. Hook and Loop Closure
  - a. Hook #70: A heavy-duty tape providing high performance characteristics
  - b. Look #71: A napped loop designed specifically for engagement with Hook #70
  - c. Average Shear (psi): 13.0
  - d. Average Peel (PIW): 1.3
  - e. Tension (PSI): 6.0
- 5. Grommet: #3 Spurred Rolled
- 6. Manufacturers and Products:
  - a. B&E Security Covers; 24"x24", SC2424
  - b. B&E Security Covers; 36"x24", SC3624

#### D. Zurn Wilkins Repair Kit

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1. ¾" – 1" RK114-975 XLC

~~b.2.~~ 1 ¼" – 2" RK34-975XLC

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

#### A. Cleaning:

1. Clean all mating faces of valve (threads, flange faces, etc.) prior to assembly.
2. Remove all debris from valve body prior to assembly.
3. Take extra care to clean mating faces of existing pipe and fittings which may have corrosion, dirt, debris and mineral build-up which should be removed for a proper fit.

#### B. Apply joint compound, lubricant, thread sealing tape or compound etc. as recommended by valve manufacturer for proper installation prior to installation.

#### C. Install valves in accordance with the following schedule and as noted on the Drawings:

### **3.2 INSTALLATION**

#### A. Install valves per manufacturer's recommendations.

#### B. Install valves so handles operate from fully open to fully closed without encountering obstructions.

#### C. Install valves in the standard location and orientation shown in PID Standard Details for easy access for routine operation and maintenance. Any alternative installation orientation must be approved in advance by the ENGINEER. Access should be such that an operator can operate the valve without special accommodations or equipment.

#### D. For installation of meters that are to be connected with a locked curb stop, the bullet shall be removed using a bullet key and replaced upon completion of work.

#### E. For backflow preventer installation the device shall be a minimum of 12" above grade and not more than fifteen inches (15") above grade measured from the bottom of the device with a minimum of twenty-four inches (24") side clearance.

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### 3.3 TESTS AND INSPECTION

- A. Valve may be either tested while testing pipelines, or as a separate step.
- B. Test that valves open and close smoothly under operating pressure conditions.
- C. Count and record number of turns to open and close valve, account for any discrepancies with manufacturer's data.
- D. For all newly installed backflow preventer devices or devices for which assembly was modified, the device shall be tested by a certified CA-NV AWWA Backflow Prevention Assembly Tester, to ensure that the backflow preventer is functioning properly prior to activation of service.
  - 1. The results of each individual test shall be documented thoroughly on the DISTRICT's backflow prevention test form. Information on the test form includes but is not limited to the following:
    - a. Address/ Location of assembly
    - b. Date
    - c. Time
    - d. Name of CA-NV AWWA certified tester
    - e. Serial number of the device tested
    - f. Size of the device tested
    - g. Results of test and/or retest if necessary
  - 2. All such test records shall be provided to the ENGINEER for conveyance to Paradise Irrigation District. Electronic and print test records for backflow devices, organized by location, shall be provided to the ENGINEER weekly, along with the CONTRACTOR's pay application.
  - 3. If a backflow preventer device fails the required testing, it must either be repaired or replaced and retested until a passing result is certified and recorded.

+ + END OF SECTION + +

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