

**MARTISWOODS HYDROPNEUMATIC PUMP STATION
ADDENDUM NO. 1**

This document consists of 12 sheets (9 - 8.5" x 11" and 3 - 11" x 17"). It is the responsibility of the Bidder to assure and guarantee by acknowledging the receipt of this Addendum in the Bid Forms, that the Bidder has received the addendum in its entirety, and that the Bidder accepts all conditions contained herein.

1. SECTION 00310 – MEASUREMENT AND PAYMENT

On Page 00310-2, delete Article 3.1.A in its entirety. Replace it with the following:

“A. No specific unit of measurement shall apply to the lump sum item “Pump Station Grading.””

2. SECTION 01610 – DISTRICT FURNISHED EQUIPMENT

On Page 01610-2, insert the following into Part 4 as additional equipment to be furnished by the District:

Description	Quantity
IFM Px3227 Pressure Transducer (Detail 2 on Drawing D3)	1
IFM PG2453 Pressure Transducer	1
IFM EVT006 Sensor Cable - 82 feet long	2
In-Tank Level Sensor (ES18 on Drawing E5)	1

3. SECTION 02225 – SALVAGE AND DEMOLITION

On Page 02225-4, insert the following as Article 3.07.J:

“J. The exterior paint on the existing elevated tank has been tested for heavy metals. A copy of the test report can be found at the end of this Section. The CONTRACTOR shall perform additional analyses as necessary to ensure compliance with all appropriate regulations related to demolition of the elevated tank.”

4. SECTION 02225 – SALVAGE AND DEMOLITION

On Page 02225-4, insert the following as Article 3.07.K:

“K. A fabrication drawing for the existing elevated tank is given in Figure 02225-1. This figure was produced by the steel tank fabricator. The DISTRICT does not have any other fabrication drawings related to the elevated tank and its foundations. This figure is provided for information purposes only and the DISTRICT cannot verify whether the information contained in the drawing is accurate.”

5. SECTION 02225 – SALVAGE AND DEMOLITION

After Page 02225-5, insert the attached laboratory analysis from Silver State Analytical Laboratories.

6. SECTION 02225 – SALVAGE AND DEMOLITION

After Page 02225-5, insert Figure 02225-1.

7. DRAWING E-3 – SINGLE LINE DIAGRAM & SCHEDULES

Delete Drawing E-3 in its entirety and replace it with Drawing E-3 (dated 9/16/2021) included in this addendum.

8. DRAWING E-5 – LIGHTING AND GROUNDING PLAN

Delete Drawing E-5 in its entirety and replace it with Drawing E-5 (dated 9/16/2021) included in this addendum.

9. DRAWING E-6 – CONDUIT AND WIRE LIST

Delete Drawing E-6 in its entirety and replace it with Drawing E-6 (dated 9/16/2021) included in this addendum.

END OF ADDENDUM



Silver State Labs-Reno
1135 Financial Blvd
Reno, NV 89502
(775) 857-2400 FAX: (888) 398-7002
www.ssalabs.com

May 29, 2020
Workorder 20050557

Clay Walker
TRUCKEE DONNER P.U.D.
11570 Donner Pass Rd
Truckee, CA 96161

Project: Martis Woods Tank

Dear Clay Walker:

It is the policy of Silver State Analytical Laboratory - Reno to strictly adhere to a comprehensive Quality Assurance Plan that ensures the data presented in this report are both accurate and precise. Silver State Analytical Laboratory - Reno maintains accreditation in the State of Nevada (NV-00015) and the State of California (ELAP 2990).

The data presented in this report was obtained from the analysis of samples received under a chain of custody. Unless otherwise noted below, samples were received in good condition, properly preserved and within the hold time for the requested analyses. Any anomalies associated with the analysis of the samples have been flagged with an appropriate explanation in the Analysis Report section of the Laboratory Report.

Sincerely,

Carly Wood
Laboratory Director
1135 Financial Blvd
Reno, NV 89502



Silver State Labs-Reno
1135 Financial Blvd
Reno, NV 89502
(775) 857-2400 FAX: (888) 398-7002
www.ssalabs.com

Analytical Report

Workorder#: 20050557
Date Reported: 5/29/2020

Client: TRUCKEE DONNER P.U.D.
Project Name: Martis Woods Tank
PO #:

Sampled By: Clay Walker

Laboratory Accreditation Number: NV015/CA2990

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
20050557-01	Martis Woods Tank	05/11/2020 11:00	5/12/2020

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Arsenic	EPA 6020	<0.1	mg/L	0.1	KL	05/15/2020 18:25	
Barium	EPA 6020	0.9	mg/L	0.5	KL	05/15/2020 18:25	
Cadmium	EPA 6020	<0.1	mg/L	0.1	KL	05/15/2020 18:25	
Chromium	EPA 6020	78	mg/L	1	KL	05/28/2020 21:30	
Lead	EPA 6020	<0.1	mg/L	0.1	KL	05/15/2020 18:25	
Selenium	EPA 6020	<0.5	mg/L	0.5	KL	05/15/2020 18:25	
Silver	EPA 6020	<0.1	mg/L	0.1	KL	05/15/2020 18:25	

Laboratory Accreditation Number: NV015/CA2990

Laboratory ID	Client Sample ID	Date/Time Sampled	Date Received
20050557-02	Martis Woods Tank	05/11/2020 11:00	5/12/2020

Parameter	Method	Result	Units	PQL	Analyst	Date/Time Analyzed	Data Flag
Lead	EPA 6020	6600	mg/Kg	100	KL	05/20/2020 5:04	LS

Analysis: Metals 6020

Method: EPA 6020

Batch ID: R41482

Method Blank

RunID: 41482 SeqNo 981124 Units: mg/L

Analysis Date: 5/15/2020 5:12:50 PM Analyst: KL

Analyte	Result	Rep Limit	Rep Qual
Arsenic	< 0.0020	0.0020	
Barium	< 0.010	0.010	
Cadmium	< 0.0020	0.0020	
Lead	< 0.0020	0.0020	
Selenium	< 0.010	0.010	
Silver	< 0.0020	0.0020	

Laboratory Control Sample (LCS)

RunID: 41482 SeqNo 981115 Units: mg/L

Analysis Date: 5/15/2020 4:13:10 PM Analyst: KL

Analyte	LCS Spike Added	LCS Result	LCS % Recovery	LCSD Spike Added	LCSD Result	LCSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Arsenic	0.1000	0.10	105								
Barium	0.1000	0.098	98.4								
Cadmium	0.1000	0.10	101								
Lead	0.1000	0.099	98.9								
Selenium	0.5000	0.48	96.7								
Silver	0.1000	0.097	97.3								

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 20050232-01A

RunID: 41482 SeqNo 981133 Units: mg/L

Analysis Date: 5/15/2020 6:12:33 PM Analyst: KL

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Arsenic	0.02478	10.00	9.7	97.0	10.00	10	99.5	2.53	20	70	130	
Barium	0.5839	10.00	10	94.2	10.00	10	94.0	0.224	20	70	130	
Cadmium	0.02184	10.00	9.5	95.1	10.00	9.8	97.9	2.90	20	70	130	
Lead	0.03515	10.00	9.6	95.6	10.00	9.7	96.6	1.02	20	70	130	
Selenium	0	50.00	47	93.2	50.00	47	94.8	1.74	20	70	130	
Silver	0	1.000	0.95	95.1	1.000	1.0	99.8	4.84	20	70	130	

Analysis: Metals 6020 Solid

Method: EPA 6020

Batch ID: R41662

Method Blank

RunID: 41662 SeqNo 983416 Units: mg/Kg

Analysis Date: 5/20/2020 4:44:47 AM Analyst: KL

Analyte	Result	Rep Limit	Rep Qual
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Original

Lead	< 0.0020	0.0020
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Laboratory Control Sample (LCS)

RunID: 41662 SeqNo 983413 Units: mg/L

Analysis Date: 5/20/2020 4:24:51 AM Analyst: KL

Analyte	LCS Spike Added	LCS Result	LCS % Recovery	LCSD Spike Added	LCSD Result	LCSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Lead	0.1000	0.11	106								

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 20050557-02A

RunID: 41662 SeqNo 983420 Units: mg/Kg

Analysis Date: 5/20/2020 5:11:22 AM Analyst: KL

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Lead	6585	100.0	7300	735	100.0	6700	94.8	9.15	20	70	130	S

Analysis: Metals 6020

Method: EPA 6020

Batch ID: R41940

Method Blank

RunID: 41940 SeqNo 992492 Units: mg/L

Analysis Date: 5/28/2020 8:15:51 PM Analyst: KL

Analyte	Result	Rep Limit	Rep Qual
Chromium	< 0.0020	0.0020	

Laboratory Control Sample (LCS)

RunID: 41940 SeqNo 992479 Units: mg/L

Analysis Date: 5/28/2020 6:19:29 PM Analyst: KL

Analyte	LCS Spike Added	LCS Result	LCS % Recovery	LCSD Spike Added	LCSD Result	LCSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Chromium	0.1000	0.11	106								

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 20050956-01A

RunID: 41940 SeqNo 992496 Units: mg/L

Analysis Date: 5/28/2020 8:49:07 PM Analyst: KL

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Chromium	0.02220	10.00	10	104	10.00	10	99.4	4.32	20	70	130	



100

P.O. or Project #

1

of 6

Results To: PHONE: (775) 857 - 2400 FAX: (775) 857 - 2404 E-Mail sem@sem-analytical.com		Invoice To:		Results To:	
Client Name Truckee Donner PUD		E-mail		Compliance Monitoring Yes: ☐ No: ☒	
Mailing Address 11570 Donner Pass Road		Phone: 530-582-3926 Fax:		SEM COC Form Revised 10/02/13	
City Truckee	State CA	Zip 96161	Report Attention:		
Invoice To:			Client Name Truckee Donner PUD		
Mailing Address 11570 Donner Pass Road			E-mail		
City Truckee			State CA		
Zip 96161			Invoice Attention:		
Sampled by: car walker			Signature: [Signature]		
Date 5-11-20			Time 11:00		
Sample 7			Sample Identification Martis Woods Tank		
Preservative* See Key Below			Number of Containers		
Lead/TCLP 7			Total PB		
Turnaround Time/Results/Invoice			Standard: ☐ Rush (Surcharge will Apply) Same Day: ☐ 3 Day: ☐ 1 Day: ☐ 4 Day: ☐ 2 Day: ☐ 5 Day: ☐ Other (specify): ☐ Rush results will be issued after 2:00pm		
Send Results Via: Mail: ☒ Email: ☒ Fax: ☐ Phone: ☐ Excel Spreadsheet: ☐ Send Invoice Via: Mail: ☒ Email: ☐ Fax: ☐			Remarks		
Relinquished By: [Signature]			Print Name CLAY WALKER		
Received By: [Signature]			Company TDPUD		
Relinquished By: [Signature]			Date 5-12-20		
Received By: [Signature]			Time 11:00		
Relinquished By: [Signature]			Company SSAC		
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Received By: [Signature]			Time 		

Definitions:

LCS: Laboratory Control Sample; prepared by adding a known mass of target analytes to a specified amount of de-ionized water and prepared with the batch of samples, used to calculate Accuracy (%REC).

LCSD: LCS Duplicate; used to calculate both Accuracy (%REC) and Precision (%RPD)

MBLK: Method Blank; a sample of similar matrix that is processed simultaneously with and under the same conditions as samples through all steps of the analytical procedure, and in which no target analytes or interferences are present at concentrations that impact the analytical results for sample analyses.

MS: Matrix Spike; prepared by adding a known mass of target analytes to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available, used to calculate Accuracy (%REC)

MSD: Matrix Spike Duplicate; used to calculate both Accuracy (%REC) and Precision (%RPD)

RPD: Relative Percent Difference; comparison between sample and duplicate and/or MS and MSD.

PQL: Practical Quantitation Limit; the limit to which data is quantitated for reporting.

MDL: Method Detection Limit; the limit to which the instrument can reliably detect.

MCL: Maximum Contaminant Level; value set according to EPA guidelines.

Qualifiers:

* - Analyte exceeds Safe Drinking Water Act MCL, does not meet drinking water standards.

C - Analyte value below Safe Drinking Water Act MCL, does not meet drinking water standards.

B - Analyte found above the PQL in associated method blank.

G - Calibration blank analyte detected above PQL.

H - Sample analyzed beyond holding time for this parameter.

J - Estimated Value; Analyte found between MDL and PQL limits.

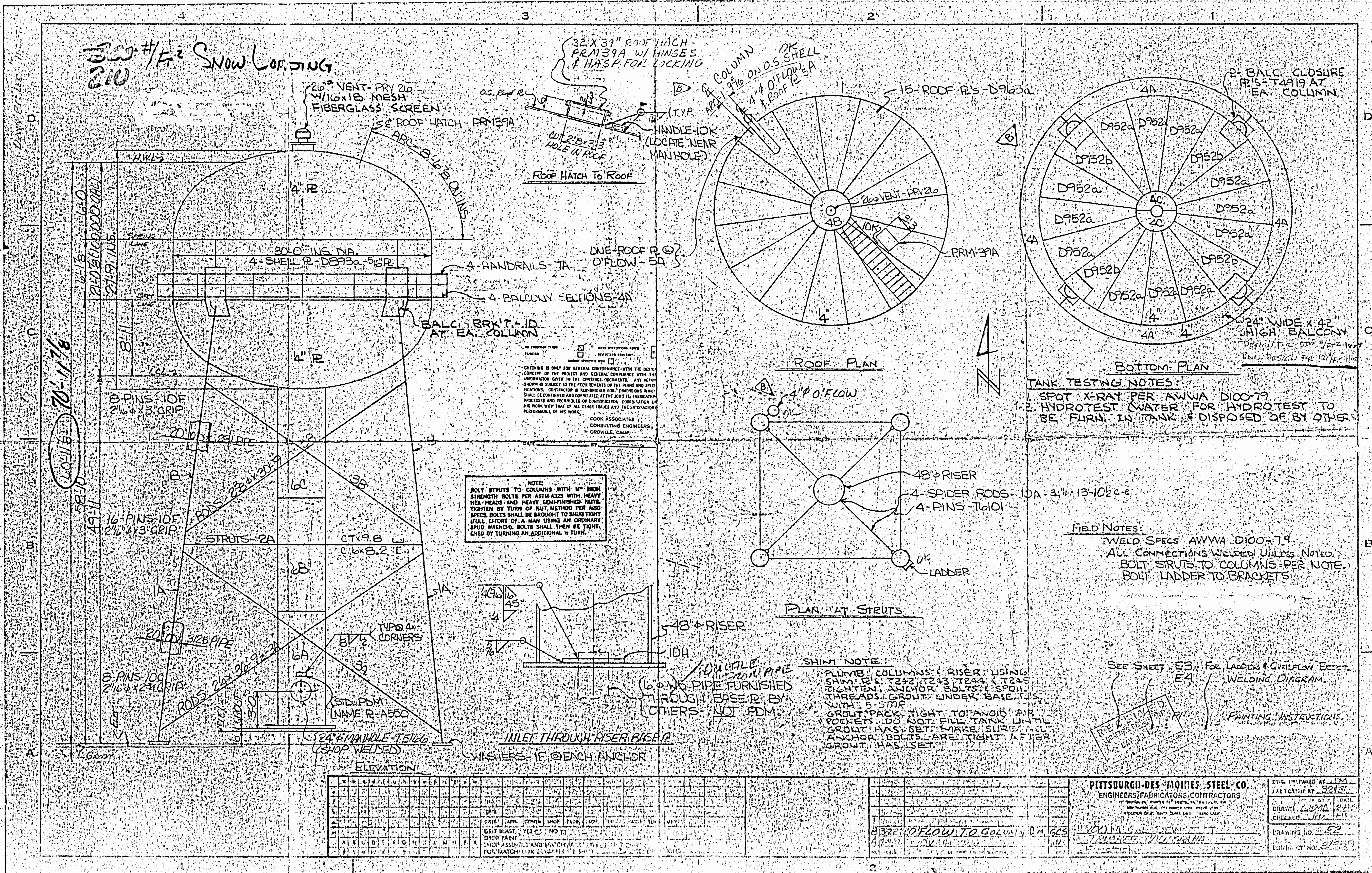
L - Sample concentration is at least 5 times greater than spike contribution. Spike recovery criteria do not apply.

R - RPD between sample and duplicate sample outside the RPD acceptance limits.

S - Batch MS and/or MSD were outside acceptance limits, batch LCS was acceptable.

W - Sample temperature when received was out of limit as specified by method.

Z - Batch LCS and/or LCSD were outside acceptance limits.



FILE SPEC: P:\Client\Projects\Truckee Donner PUD 568\987 Martiswoods Hydropneumatic Pump Station\5.0 Drawings\5.2 DWG\5.2.7 SHEETS\987_E1-E5.dwg
PLOT DATE: Sep 16, 2021 - 12:31pm

PANEL DP SCHEDULE										
LOCATION:		MARTISWOODS					MAIN BKR:		800A	
VOLTAGE:		230V					SYSTEM:		1Φ, 3W	
NAMEPLATE:		DP					BUS RATING:		800A	
MOUNTING:		INSIDE MSWB		PHASE LOADS			SC LEVEL:		18 KAIC	
CKT	LOAD	VA	CB	L1	L2	CB	VA	LOAD	CKT	
1	PANEL LP	4660	60/2	68715		700/2	64055	PUMP CONTROLLER	2	
3		4727			68782		64055		4	
5	SPD	0	60/2	5060		50/2	5060	UNIT HEATER	6	
7		0			5060		5060		8	
9	SPACE	0	-	0		20/2	0	SPARE	10	
11		0			0		0		12	
13		0		-			-	0	SPACE	14
15		0					-	0		16
17		0				-	0	18		
19		0				-	0	20		
NOTES:				A	B					
				73775 VA	73842 VA		147.6 KVA	615.1 A		

PANEL LP-1 SCHEDULE									
LOCATION:		MARTISWOODS				MAIN BKR:		MLO	
VOLTAGE:		120/240V				SYSTEM:		1Φ, 3W	
NAMEPLATE:		LP-1				BUS RATING:		100A	
MOUNTING:		INSIDE MSWB		PHASE LOADS		SC LEVEL:		18 KAIC	
CKT	LOAD	VA	CB	A	B	CB	VA	LOAD	CKT
1	INTERIOR LIGHTS	198	20/1	738		20/1	540	INTERIOR RECEPTACLES	2
3	EXHAUST FAN	1127	20/1		1227	20/1	100	PRESSURE SENSOR	4
5	EXTERIOR WALL LIGHTS	101.5	20/1	1101.5		60/2	1000	GENERATOR LOAD CENTER PANEL	6
7	RTU	1000	20/1		2000		1000		8
9	MECHANICAL CONTROL PANEL	1920	20/1	2720		20/1	800	SWBOARD HEATER	10
11	GEN TAP BOX BLOCK HEATER	1500	20/1		1600	15/1	100	FLOW METER	12
13	GEN TAP BOX BATT CHARGER	100	20/1	100		20/1	0	SPARE	14
15	SPARE	0	20/1				0	SPARE	16
17	SPACE					20/1	0	SPARE	18
19	SPACE							SPACE	20
21	SPACE							SPACE	22
23	SPACE				0			SPACE	24
NOTES:				A	B				
				4660 VA	4827 VA		9.5 KVA	39.5 A	

KEY NOTES:

- CONTRACTOR SHALL COORDINATE PLACEMENT OF TRANSFORMER WITH LIBERTY UTILITIES AND ADHERE TO LIBERTY UTILITIES STANDARDS.
- CONTRACTOR SHALL ADHERE TO ALL APPLICABLE LIBERTY UTILITIES STANDARDS FOR COMMERCIAL/INDUSTRIAL SERVICE INSTALLATIONS. SOME OF WHICH INCLUDE: CIO001M, CD0004U, TE0001U, SUB01X.
- TRANSFORMER TO BE SIZED BY LIBERTY UTILITIES.
- GENERATOR TAP BOX SHALL BE DISCONNECTED WHEN THE PERMANENT STANDBY GENERATOR IS INSTALLED. THIS IS AN ACCESSORY WITH THE IEM SWITCHBOARD.

UTILITY DIVISION OF WORK		
	RESPONSIBILITY	
	CONTRACTOR	UTILITY
POWER POLES		X
PRIMARY CONDUITS	X	
PRIMARY CONDUCTORS		X
TRANSFORMER PAD	X	
TRANSFORMER		X
BOLLARDS	X	
SECONDARY CONDUITS	X	
SECONDARY CONDUCTORS		X
TRANSFORMER CONNECTIONS		X
UTILITY METER		X
C/T ENCLOSURE	X	
CURRENT AND VOLTAGE XFMRs	X	
PULLBOXES / VAULTS	X	
X - INDICATES RESPONSIBILITY		
UTILITY INFORMATION		
UTILITY	LIBERTY UTILITIES	
UTILITY PROJECT NUMBER	8800-0220-9181	
POINT OF CONTACT	ENRI MENDOZA	
ADDRESS	701 NATIONAL AVE.	
CITY, STATE, ZIP	TAHOE VISTA, CA 96148	
VOICE	(775) 857-8728	
FAX		
EMAIL	enri.mendoza@libertyutilities.com	

- NOTES
- ALL WORK PERFORMED BY THE CONTRACTOR UNDER THIS SECTION MUST CONFORM TO THE UTILITY STANDARDS. IF A CONFLICT BETWEEN THE UTILITY STANDARDS AND DETAILS SHOWN ON THIS PLAN SET EXIST, THE UTILITY STANDARDS AND REQUIREMENTS SHALL TAKE PRECEDENCE.
 - CONTRACTOR SHALL REVIEW THE UTILITY ENGINEERED DRAWINGS PRIOR TO COMMENCING WORK FOR THE UTILITY SERVICE. NO CHANGE ORDERS OR CHARGES WILL BE ACCEPTED OR ALLOWED IF CONTRACTOR BEGINS WORK PRIOR TO REVIEWING AND MEETING WITH UTILITY REPRESENTATIVES ONSITE.
 - CONTRACTOR SHALL SUBMIT SERVICE ENTRANCE EQUIPMENT AND CONDUITS FOR UTILITY REVIEW AND ACCEPTANCE PRIOR TO ORDERING. THE APPROVAL OF THIS EQUIPMENT MUST BE SUBMITTED TO THE OWNER AS PROOF OF ACCEPTANCE BY THE UTILITY.
 - THE CONTRACTOR SHALL SCHEDULE, COORDINATE AND ATTEND ALL REQUIRED INSPECTIONS, TEST, OR MEETINGS, AS REQUIRED BY THE UTILITY. ALL WORK MUST BE PERFORMED IN FULL COMPLIANCE WITH UTILITY REQUIREMENTS OR DIRECTIVES. THESE INSPECTIONS, TESTS AND MEETINGS ARE IN ADDITION TO ANY ITEMS REQUIRED UNDER THIS CONTRACT BUT SHALL BE COVERED BY THE CONTRACTOR.

LOAD CALCULATIONS		
CONNECTED LOAD	147.6	KVA
+25% LARGEST MOTOR	3.0	KVA
+25% CONTINUOUS LOAD (ASSUMED)	3.5	KVA
NEW CONNECTED LOAD	154.1	KVA
AMPS @ 240V, 1-PH	642.0	AMPS
BUS RATING @ 240V, 1-PH	800.0	AMPS
NEC OCPD	800.0	AMPS

BID SET

TRUCKEE DONNER PUBLIC UTILITY DISTRICT
MARTISWOODS HYDROPNEUMATIC PUMP STATION

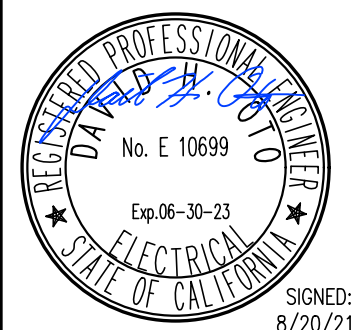
SINGLE LINE DIAGRAM & SCHEDULES

PLACER COUNTY

CALIFORNIA

**FARR WEST
ENGINEERING**

5510 LONGLEY LANE
RENO, NEVADA 89511
PHONE: (775) 851-4788
FAX: (775) 851-0766
FARRWESTENGINEERING.COM

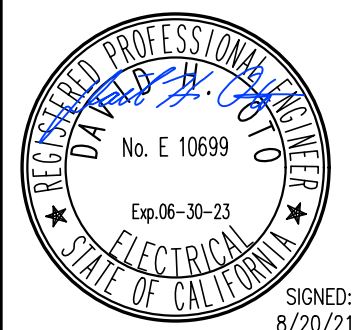


SIGNED: 8/20/21

ONE INCH AT FULL SCALE:		REVISION		JOB NO.:		1987	
DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

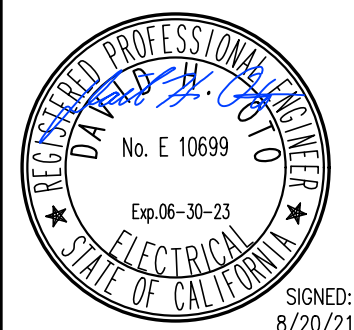


SIGNED: 8/20/21

ONE INCH AT FULL SCALE:		REVISION		JOB NO.:		1987	
DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

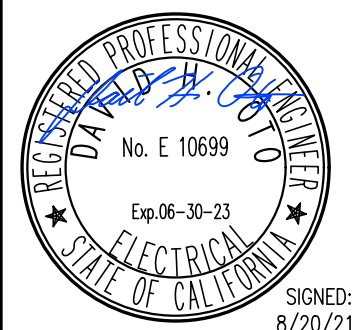


SIGNED: 8/20/21

ONE INCH AT FULL SCALE:		REVISION		JOB NO.:		1987	
DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

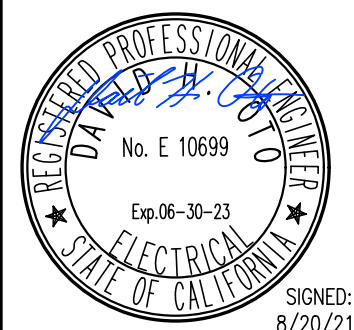


SIGNED: 8/20/21

ONE INCH AT FULL SCALE:		REVISION		JOB NO.:		1987	
DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

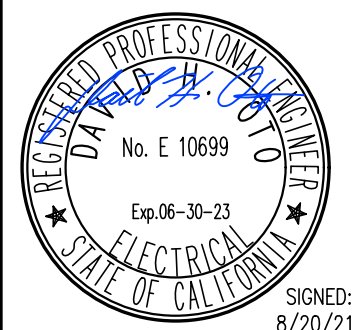


SIGNED: 8/20/21

ONE INCH AT FULL SCALE:		REVISION		JOB NO.:		1987	
DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

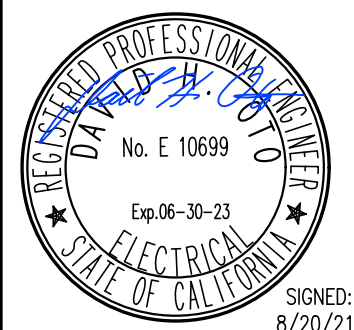


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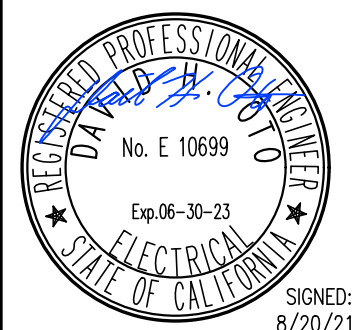


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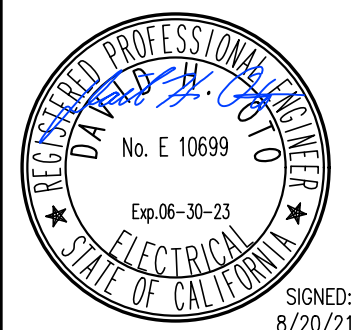


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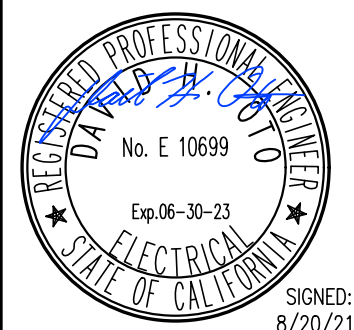


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UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

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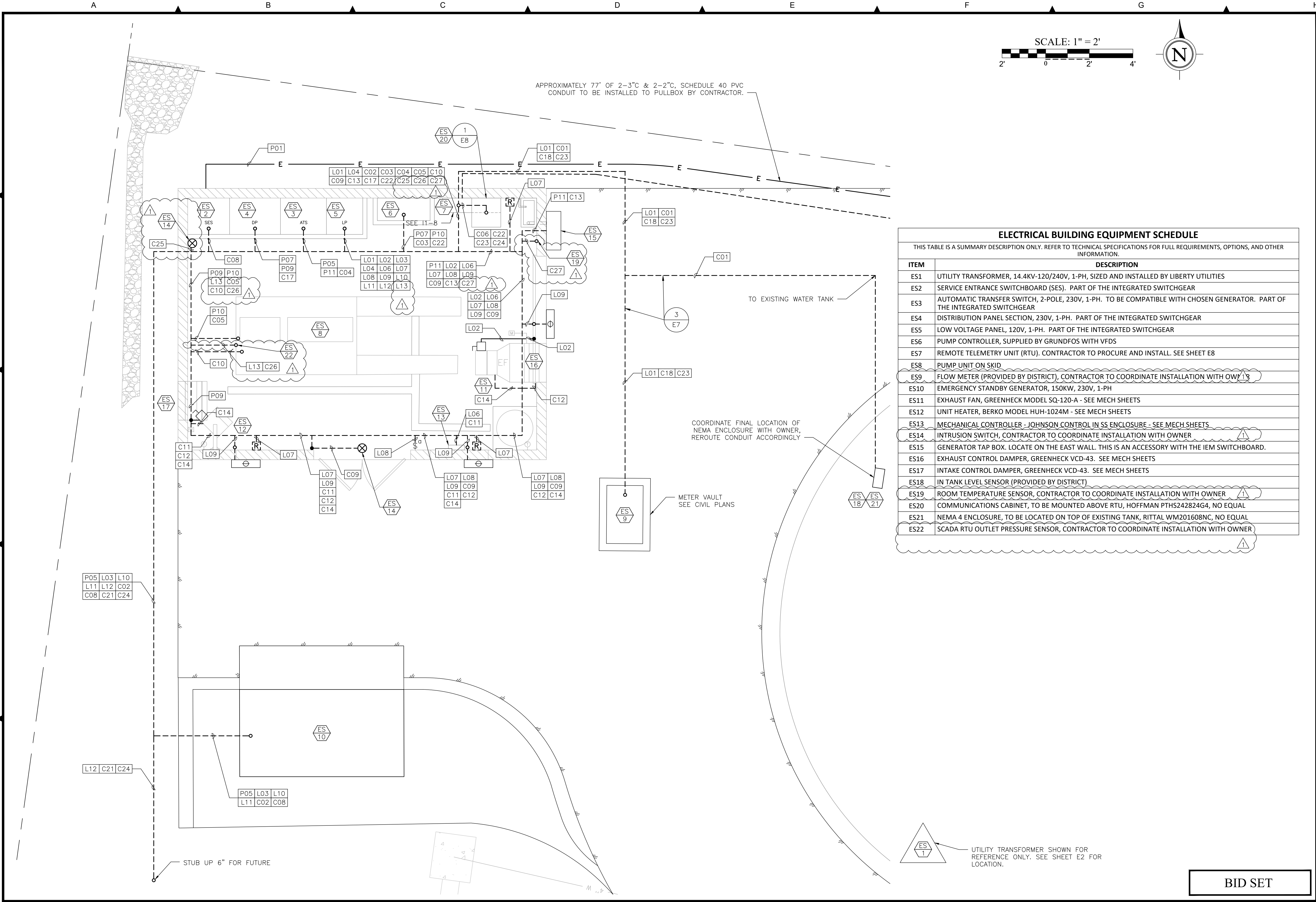
SIGNED: 8/20/21

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DESCRIPTION	DATE	BY	APP	DATE	DATE	DATE	DATE
ADDITIONAL CONTROL WIRING	9/16/21	TBG	DHO				

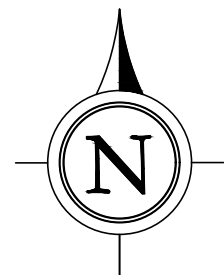
UTILITY DIVISION OF WORK		RESPONSIBILITY	
		CONTRACTOR	UTILITY

UTILITY DIVISION OF WORK		RESPONSIBILITY
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FILE SPEC: P:\Client\Projects\Truckee Donner PUD 568\987 Martiswoods Hydropneumatic Pump Station\5.0 Drawings\5.2 DWG\5.2.7 SHEETS\987_E1-E5.dwg
PLOT DATE: Sep 16, 2021 - 12:31pm



SCALE: 1" = 2'



ELECTRICAL BUILDING EQUIPMENT SCHEDULE	
THIS TABLE IS A SUMMARY DESCRIPTION ONLY. REFER TO TECHNICAL SPECIFICATIONS FOR FULL REQUIREMENTS, OPTIONS, AND OTHER INFORMATION.	
ITEM	DESCRIPTION
ES1	UTILITY TRANSFORMER, 14.4KV-120/240V, 1-PH, SIZED AND INSTALLED BY LIBERTY UTILITIES
ES2	SERVICE ENTRANCE SWITCHBOARD (SES). PART OF THE INTEGRATED SWITCHGEAR
ES3	AUTOMATIC TRANSFER SWITCH, 2-POLE, 230V, 1-PH. TO BE COMPATIBLE WITH CHOSEN GENERATOR. PART OF THE INTEGRATED SWITCHGEAR
ES4	DISTRIBUTION PANEL SECTION, 230V, 1-PH. PART OF THE INTEGRATED SWITCHGEAR
ES5	LOW VOLTAGE PANEL, 120V, 1-PH. PART OF THE INTEGRATED SWITCHGEAR
ES6	PUMP CONTROLLER, SUPPLIED BY GRUNDFOS WITH VFDS
ES7	REMOTE TELEMETRY UNIT (RTU). CONTRACTOR TO PROCURE AND INSTALL. SEE SHEET E8
ES8	PUMP UNIT ON SKID
ES9	FLOW METER (PROVIDED BY DISTRICT), CONTRACTOR TO COORDINATE INSTALLATION WITH OWNER
ES10	EMERGENCY STANDBY GENERATOR, 150KW, 230V, 1-PH
ES11	EXHAUST FAN, GREENHECK MODEL SQ-120-A - SEE MECH SHEETS
ES12	UNIT HEATER, BERKO MODEL HUH-1024M - SEE MECH SHEETS
ES13	MECHANICAL CONTROLLER - JOHNSON CONTROL IN SS ENCLOSURE - SEE MECH SHEETS
ES14	INTRUSION SWITCH, CONTRACTOR TO COORDINATE INSTALLATION WITH OWNER
ES15	GENERATOR TAP BOX. LOCATE ON THE EAST WALL. THIS IS AN ACCESSORY WITH THE IEM SWITCHBOARD.
ES16	EXHAUST CONTROL DAMPER, GREENHECK VCD-43. SEE MECH SHEETS
ES17	INTAKE CONTROL DAMPER, GREENHECK VCD-43. SEE MECH SHEETS
ES18	IN TANK LEVEL SENSOR (PROVIDED BY DISTRICT)
ES19	ROOM TEMPERATURE SENSOR, CONTRACTOR TO COORDINATE INSTALLATION WITH OWNER
ES20	COMMUNICATIONS CABINET, TO BE MOUNTED ABOVE RTU, HOFFMAN PTHS242824G4, NO EQUAL
ES21	NEMA 4 ENCLOSURE, TO BE LOCATED ON TOP OF EXISTING TANK, RITTAL WM201608NC, NO EQUAL
ES22	SCADA RTU OUTLET PRESSURE SENSOR, CONTRACTOR TO COORDINATE INSTALLATION WITH OWNER

ONE INCH AT FULL SCALE:

REVISION

JOB NO.: 1987

DATE: AUGUST 2021

SCALE: AS SHOWN

DESIGNED: DO

DRAWN: NS

CHECKED: MS

FARR WEST ENGINEERING
5510 LONGLEY LANE
RENO, NEVADA 89511
PHONE: (775) 851-4788
FAX: (775) 851-0766
FARWESTENGINEERING.COM

SIGNED: 8/20/21

TRUCKEE DONNER PUBLIC UTILITY DISTRICT
MARTISWOODS HYDROPNEUMATIC PUMP STATION
LIGHTING AND GROUNDING PLAN
PLACER COUNTY
CALIFORNIA

SHEET NUMBER
E5
35 OF 48

FILE SPEC: P:\Client\Projects\Truckee Donner PUD 568\987 Martiswoods Hydropneumatic Pump Station\5.0 Drawings\5.2 DWG\5.2.7 SHEETS\987_E6-E10.dwg
PLOT DATE: Sep 16, 2021 - 12:32pm

MARTISWOODS CONDUIT AND WIRE LIST														
NOTE: MINIMUM CONDUIT SIZE SHALL BE 3/4", MINIMUM WIRE SIZE FOR ALL CIRCUITS OVER OR EQUAL TO 120V SHALL BE #12 XHHW + #12 GROUND OR LARGER UNLESS OTHERWISE NOTED.														
CONDUIT	FROM	TO	CONDUIT			POWER		GROUND	SIGNAL/CONTROL			DATA		REMARKS
			QTY	SIZE	TYPE	QTY	SIZE	SIZE	QTY	SIZE	TYPE	QTY	TYPE	
P00	LIBERTY UTILITIES	UTILITY TRANSFORMER	1	4"	PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE - TRANSFORMER SELECTED AND INSTALLED BY LIBERTY UTILITIES
P01	UTILITY XFMR	SES INTEGRATED SWITCHBOARD UGPS/CT COMPT	2	3"	SCHED 40 PVC	-	-	-	-	-	-	-	-	PULLROPE - WIRE SIZED AND INSTALLED BY LIBERTY UTILITIES
P02	SES INTEGRATED SWITCHBOARD UGPS/CT COMPT	SES INTEGRATED SWITCHBOARD MAIN BREAKER	-	-	-	-	-	-	-	-	-	-	-	-
P03	SES INTEGRATED SWITCHBOARD UGPS/CT COMPT	NOT USED	-	-	-	-	-	-	-	-	-	-	-	-
P04	SES INTEGRATED SWITCHBOARD MAIN BREAKER	SES INTEGRATED SWITCHBOARD AUTOMATIC TRANSFER SWITCH	3	SETS	-	2	300	1/0	-	-	-	-	-	-
P05	STANDBY DIESEL GENERATOR	SES INTEGRATED SWITCHBOARD AUTOMATIC TRANSFER SWITCH	3	3"	RMC/PVC SCH40	2	300	1/0	-	-	-	-	-	-
P06	SES INTEGRATED SWITCHBOARD AUTOMATIC TRANSFER SWITCH	SES INTEGRATED SWITCHBOARD DISTRIBUTION SECTION	2	SETS	RMC/PVC SCH40	2	500	1/0	-	-	-	-	-	-
P07	SES INTEGRATED SWITCHBOARD DISTRIBUTION SECTION	PUMP CONTROLLER	2	3"	RMC/PVC SCH40	2	500	1/0	-	-	-	-	-	CIRCUIT DP-2, 4
P08	SES INTEGRATED SWITCHBOARD DISTRIBUTION SECTION	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	1	SET	RMC/PVC SCH40	2	#4	#6	-	-	-	-	-	-
P09	SES INTEGRATED SWITCHBOARD DISTRIBUTION SECTION	UNIT HEATER	1	1"	RMC/PVC SCH40	2	#6	#10	-	-	-	-	-	CIRCUIT DP-6, 8
P10	PUMP CONTROLLER	PUMP SKID	3	3"	RMC/PVC SCH40	2	300	1/0	-	-	-	-	-	-
P11	SES INTEGRATED SWITCHBOARD AUTOMATIC TRANSFER SWITCH	GENERATOR TAP BOX	3	3"	RMC/PVC SCH40	2	300	1/0	-	-	-	-	-	-
L01	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	METER VAULT	1	1"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	LP1 - 12
L02	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	EXHAUST FAN	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1 - 3
L03	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	STANDBY DIESEL GENERATOR CONTROL PANEL	1	1"	RMC/PVC SCH40	2	#6	#8	-	-	-	-	-	CIRCUIT LP1 - 6
L04	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	REMOTE TELEMETRY UNIT	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1 - 7
L05	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	NOT USED	-	-	-	-	-	-	-	-	-	-	-	-
L06	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	MECHANICAL CONTROLLER	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	-
L07	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	INTERIOR RECEPT.	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1 - 2
L08	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	INTERIOR LIGHTS	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1 - 1
L09	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	EXTERIOR LIGHTS	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1- 5
L10	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	GENERATOR	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1- 11
L11	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	GENERATOR BATTERY CHARGER	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	CIRCUIT LP1 - 13
L12	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	EXISTING ELEVATED TANK	1	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	-
L13	SES INTEGRATED SWITCHBOARD LIGHTING PANELBOARD	PRESSURE SENSOR	1	3/4"	RMC/PVC SCH40	2	#12	#12	-	-	-	-	-	-
C01	REMOTE TELEMETRY UNIT	EXISTING WATER TANK	2	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE
		EXISTING WATER TANK, EXISTING EXTERIOR LADDER, STUB UP	1	1"	RMC/PVC SCH40	-	-	-	-	-	2	LMR 400	N MALE TERMINATION ON TANK SIDE, TNC MALE TERMINATION ON CABINET SIDE, 2 FEET EXTRA ON CABINET SIDE, MOUNTED ON UNISTRUT 24" APART	
C02	REMOTE TELEMETRY UNIT	STANDBY DIESEL GENERATOR CONTROL PANEL	1	1"	RMC/PVC SCH40	-	-	-	4	#14	THWN	1	CAT6	SHIELDED
C03	REMOTE TELEMETRY UNIT	PUMP CONTROLLER	3	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	1	CAT6	SHIELDED
C04	REMOTE TELEMETRY UNIT	SES INTEGRATED SWITCHBOARD AUTOMATIC TRANSFER SWITCH	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C05	REMOTE TELEMETRY UNIT	PUMP SKID	1	1"	RMC/PVC SCH40	-	-	-	4	#14	THWN	-	-	-
C06	REMOTE TELEMETRY UNIT	COMMUNICATIONS CABINET	2	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE, ONE CONDUIT ON EACH SIDE OF COMMUNICATIONS CABINET
C07	SHUNT TRIP	SES INTEGRATED SWITCHBOARD MAIN BREAKER	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C08	SHUNT TRIP	STANDBY DIESEL GENERATOR BREAKER	1	1"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C09	REMOTE TELEMETRY UNIT	BUILDING INTRUSION SWITCH	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C10	REMOTE TELEMETRY UNIT	FLOOD SWITCH	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C11	MECHANICAL CONTROLLER	INTAKE CONTROL DAMPER 1 (CD-1)	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C12	INTAKE CONTROL DAMPER 1 (CD-1)	EXHAUST CONTROL DAMPER 2 (CD-2)	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C13	REMOTE TELEMETRY UNIT	GENERATOR TAP BOX	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C14	INTAKE CONTROL DAMPER 1 (CD-1)	EXHAUST FAN	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C15	FLOW METER	METER VAULT	1	1"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	MANUFACTURER CABLE
C16	REMOTE TELEMETRY UNIT	BOX 'TB'	2	2"	PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE
C17	REMOTE TELEMETRY UNIT	SES INTEGRATED SWITCHBOARD DISTRIBUTION SECTION	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	24V N.O. CONTACT ON SPD
C18	REMOTE TELEMETRY UNIT	METER VAULT	1	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE
C19	REMOTE TELEMETRY UNIT	ROOM TEMPERATURE SENSOR	1	1"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C20	REMOTE TELEMETRY UNIT	FLOW METER	1	1"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C21	REMOTE TELEMETRY UNIT	EXISTING ELEVATED TANK	2	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE
C22	COMMUNICATIONS CABINET	PUMP CONTROLLER	1	3/4"	RMC/PVC SCH40	-	-	-	-	-	-	1	CAT5e/6	RED
C23	COMMUNICATIONS CABINET	FLOW METER	1	1'	RMC/PVC SCH40	1	#12	#12	-	-	-	1	RS-485	-
C24	COMMUNICATIONS CABINET	EXISTING ELEVATED TANK	1	2"	RMC/PVC SCH40	-	-	-	-	-	-	-	-	PULLROPE
C25	REMOTE TELEMETRY UNIT	BUILDING INTRUSION SWITCH	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C26	REMOTE TELEMETRY UNIT	PRESSURE SENSOR	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
C27	REMOTE TELEMETRY UNIT	TEMPERATURE SENSOR	1	3/4"	RMC/PVC SCH40	-	-	-	2	#14	THWN	-	-	-
NOTES		PVC-40/RMC - PVC-40 CONDUIT UNDERGROUND, RMC-PVC AT THE 90 DEGREE TRANSITIONS AND ALL VERTICAL CONDUITS UP TO 12 INCHES AND THEN TRANSITION TO RMC. TSPR = TWISTED SHIELDED PAIR												

ONE INCH AT FULL SCALE:

REVISION
1

JOB NO.: 1987
DATE: AUGUST 2021
SCALE: AS SHOWN
DESIGNED: DO
DRAWN: NS
CHECKED: MS

FARR WEST
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REGISTERED PROFESSIONAL
ELECTRICAL ENGINEER
No. E 10699
Exp. 06-30-23
SIGNED: 8/20/21

CALIFORNIA

TRUCKEE-DONNER PUBLIC UTILITY DISTRICT
MARTISWOODS HYDROPNEUMATIC PUMP STATION

CONDUIT AND WIRE LIST

PLACER COUNTY

SHEET NUMBER
E6
36 OF 48

BID SET