

Manager's Report

9/15/2023

Administration

1. Joint Use Agreement Draft provided to Cal Fire for reivew.
2. JPIA Risk Transfer Grant Reviewing for potential projects
3. ARPA Funds Funding agreement was received on Sept. 13th. Need to review.
4. Shop Building Mezzanine PACE Engineering completing cost estimates.
5. Anniversaries
Tina - 19 yrs (Sep - temp since June)
Teddi - 8 yrs (Aug - temp since prior Nov)
Dan - 5 yrs (Aug - worked as a work site learner in spring)
James - 3 years (Sep)
Ellison - 2 yrs (Sep)
Chris - 12 yrs (Aug)

Committee Meetings

R&P Committee

Future Meeting: Sept/Oct
AC pipe - small diameter review and prioritize
Draft RFQP for AMI Metering System
Capital Improvement Program Review
JPIA Risk Transfer Grant Review

Personnel Committee

Future Meeting: TBD

Ordinance Committee

Future Meeting: TBD

Finance Committee

Future Meeting: TBD
Carr Fire Funds reallocation

Public Info. Committee

Future Meeting: TBD

Operations

1. Leaks

Current

FYTD

Mainline Leaks - Repaired

0

1

Service Leaks - Repaired

0

0

Service Lines - Replaced

1

2

Secluded Valley

Service Lines - Planned

2 New Meters - Installed

This past month: **0**
sold to:

Fiscal Year TOTAL: **0**
Annual Projection: **4**
WAC Total **0**

3. Misc Activities

AV Program

Completing maintenance on Avs

Flushing

Conducting dead-end flushing

Promotions

Ellison Demsher & James Leviness promoted to Operator II



Regular Board Meeting of the Board of Directors
Wednesday, September 20, 2023

7:00 PM

AGENDA

TO ADDRESS THE BOARD DURING OPEN TIME OR NOTICED PUBLIC HEARINGS: pursuant to the Brown Act (Government Code Section 54950 et seq.) action or Board discussion can not be taken on open time matters other than to receive the comments, and if deemed necessary, to refer the subject matter to the District Manager for follow up and/or to schedule the matter on a subsequent Board agenda.

ITEM

FUNCTION

PRELIMINARY BUSINESS

1. Call to Order
2. Public Comment Period – Open Time – This time is set for members of the public to address the Board on matters not on the agenda. If your comments concern an item noted on the regular agenda, please address the Board after that item is open for public comments. By law, the Board of Directors cannot discuss or make decisions on matters not on the agenda. The Board will customarily refer these matters to the District Manager's Office. Each speaker is allocated (5) minutes to speak for a maximum of 20 minutes on each subject. Speakers may not cede their time. Comments should be limited to matters within the jurisdiction of the District. After receiving recognition from the Board President, please state your name, residence, and comments.
3. Approval of the minutes of:
August 16, 2023 Regular Board Meeting (Action)
4. Authorize Payment of Bills for Current Expenses (Action)
5. Status of the Budget Report (Information)

NEW BUSINESS

1. Authorization of a Professional Services Agreement with Mead & Hunt for Engineering Services Related to the Muletown Pump Station Generator Project (Action)
2. Authorization to Solicit Bids for the Telemetry Replacement Project (Action)
3. Award the Server Replacement Project (Action)

OLD BUSINESS

1. Tank Coating Program Update (Information)
2. Carr Fire Recovery Project Update (Information)

GENERAL BUSINESS

1. Correspondence (Information)
2. Director's Report (Information)
3. Manager's Report (Information)
4. Committee Reports (Information)
5. Announcements
6. Adjournment

Next Scheduled Board Meeting
October 18, 2023 @ 7:00 P.M.

"This is an equal opportunity provider"

In compliance with the Americans with Disabilities Act, the Centerville Community Services District will make available to any member of the public who has a disability, a needed modification or accommodation, including an auxiliary aid or service, in order for that person to participate in the public meeting. A person needing assistance should contact the district office by telephone at (530) 246-0680, or in person or by mail at 8930 Placer Road, Redding, California 96001, or by e-mail at tteuscher@centervillecsd.com, at least two working days in advance. Accommodations may include, but are not limited to, interpreters, assistive listening devices, accessible seating, or documentation in an alternate format. If requested, this document and other agenda materials can be made available in an alternative format for persons with a disability who are covered by the Americans with Disabilities Act.

August 16, 2023

CENTERVILLE COMMUNITY SERVICES DISTRICT
REGULAR BOARD OF DIRECTORS MEETING

Directors Present: President Whitehead, Vice President Richison, Director Oliver, Director Hopson and Director Woodstrom
Absent: None
Others Present: Collin Bogener, Tina Teuscher and Chris Muehlbacher

PRELIMINARY BUSINESS:

- I Call to Order: President Whitehead called the meeting to order at 7:00 pm.
- II Public Comment Period: President Whitehead opened the public comment period. No comments were received, the public comment period was closed.
- III Authorize Payment of Bills for Current Expenses: Director Richison moved to pay the bills. Director Hopson seconded. Mr. Muehlbacher stated that the payment to Sunrise Excavating is for the repair at the Glendive Bridge. All other payments were routine. The vote was unanimous. Motion carried.
- IV Status of the Budget Report: Mr. Muehlbacher stated that the O&M revenues were \$144,922 versus expenses of \$139,367. He stated that water sales are coinciding as budgeted. Both Zones A and A1 are exceeding what was budgeted.
- Mr. Muehlbacher stated that the Capital revenue was \$13,266 verses expenses of \$38,862. The Skiles' deferred capacity charge is reflected for July.
- Reserve Fund Status Sheet: The total reserve is \$1,134,351.24. He mentioned that the balance for the O&M reserve increased by \$30k. This is money from the capital reserve for capital expenses. He also mentioned that the LAIF interest was reflected.

CONSENT AGENDA:

- I Approval of the minutes of July 19, 2023 Regular Board Meeting: Director Woodstrom moved to pull the minutes from the Consent Agenda. Director Richison seconded.
- The minutes were removed from the consent agenda. Director Woodstrom shared some recommended changes to the minutes under the Committee Reports regarding the AC Pipe.
- Director Woodstrom moved to accept the minutes with the changes. Director Hopson seconded. The vote was unanimous. Motion carried.

NEW BUSINESS:

1. Public Hearing for the Board to Consider Adopting a Final O&M Budget for FY 2023-24 as included in Resolution 2023-09 and Adopting a Capital Budget as included in Resolution 2023-10: President Whitehead opened the public hearing. No comments were received. The public hearing was closed.

Director Woodstrom moved to approve Resolution 2023-09 adopting the final O&M Budget for 2023-24 as well as Resolution 2023-10 adopting the 2023-24 Capital Budget. Vice President Richison seconded.

Director Hopson stated that he does not understand why the customers in both Zones A and A1 are required to pay for the power, repairs and maintenance in their zones while other customers do not have to pay for the repairs and maintenance of the Muletown Pump Station and the Zone C Pump Station. He believes that the District should cover the costs of the power and any repairs or maintenance to the A and A1 pump stations just as they do all other pump stations.

Mr. Muehlbacher explained that the remainder of the District is gravity fed. He stated that the pumps are available at both the C and Muletown Pump Stations for emergencies only. Both Zone A and A1 customers use the power and pump stations to receive water.

President Whitehead called for a roll call vote: Director Woodstrom – yes; Director Oliver – yes; Director Hopson – abstained; Vice President Richison – yes and President Whitehead – yes. Motion carried.

2. Review and Adopt Resolution 2023-11 Determining a Surplus and Ordering a Fund Transfer for Water Assessment 1995-1: Director Woodstrom moved to adopt Resolution 2023-11 determining a surplus and ordering a fund transfer for AD 95-1. Director Oliver seconded.

Mr. Muehlbacher stated that the 1995-1 Assessment was paid in full. There is approximately \$54k left in the Redemption account. It is the Finance Committee's recommendation to move those funds to the O&M reserves.

President Whitehead called for a roll call vote: Director Woodstrom – yes; Director Oliver – yes; Director Hopson – yes; Vice President Richison – yes and President Whitehead – yes. Motion carried.

3. Discussion of Setting a Board Workshop for Review and Prioritization of Capital Projects including the AC Pipe: Mr. Bogener stated that at the Resource and Planning meeting it was suggested to schedule a workshop to discuss the AC Pipe Replacement Project and other capital projects. Director Hopson stated that the Resource and Planning Committee would like to see the Board agree to hold the workshop because the projects are very expensive. Director Woodstrom agreed and stated that he would also like to see a prioritization of all capital improvement projects discussed as well. He also asked if the AC project discussion would only include the 4" pipe or all sizes of AC Pipe. Mr. Muehlbacher stated that the discussion should cover all sizes. Director Oliver suggested that they address each size as its own project.

Director Hopson moved to schedule the workshop. Vice President Richison seconded. Motion carried.

OLD BUSINESS

1. Tank Coating Program update: Mr. Muehlbacher stated that the program has been in effect now for two years. This year the B Tank was fully rehabilitated and the A Tank had some warranty work completed. Visual inspections were completed on the A, A1 and C1 Tanks. The C2 Tank had a complete washout.

He mentioned that he requested advice from Superior Tank Solutions regarding the timing of Tank A1 or C2 needing to be the next priority. The schedule shows Tank A1 receiving a complete rehabilitation; however, C2 may need to be considered first.

2. Muletown Pump Station Generator Project update: Mr. Muehlbacher stated that the budget modification was approved and is simply waiting for a signature. The engineering design contract will be presented to the Board for consideration at the September meeting.
3. Carr Fire Recovery Project update: Mr. Muehlbacher stated that the representative from CALOES contacted him this afternoon and has completed her validation of the expenses and will continue to process the project.

CLOSED SESSION

1. Conference with Legal Counsel – Anticipated Litigation - Significant exposure to litigation pursuant to § 54956.9(b): President Whitehead stated that the Board went into closed session at 8:10 pm and returned at 8:31 pm. He stated that there was no reportable action taken.
2. Real Property Negotiations (§ 54956.8) - Property: Water Treatment Plant: No reportable action was taken.

GENERAL BUSINESS

1. Correspondence: None.
2. Director's Report: None.
3. Manager's Report: Mr. Muehlbacher stated that he has been talking with the operators regarding suggestions for the JPIA Risk Transfer Grant.

He stated that the ARPA Funds are being reviewed by County Counsel. Once the review is complete we should be getting a status update in the near future.

Mr. Muehlbacher stated that the operators replaced a service line on Plateau Circle and repaired a leak on the Glendive Bridge. They have also been performing flushing of all dead ends.

4. Committee Reports: Notes were provided.
5. Announcements: The next Board meeting is September 20, 2023.
6. Adjournment: Meeting adjourned at 8:31 pm

Centerville Community Services District

Budget vs. Actual - O&M Budget

July through August 2023

	Jul - Aug 23	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
41000 · WATER SALES				
41100 · Base Rate	90,352.50	90,200.00	152.50	100.2%
41200 · Consumption Rate	175,597.94	173,000.00	2,597.94	101.5%
41210 · Late Fees	2,638.19	2,600.00	38.19	101.5%
41400 · Pump Zone A (Base Rate)	2,275.50	2,200.00	75.50	103.4%
41450 · Pump Zone A (Power Comp)	5,624.21	4,400.00	1,224.21	127.8%
41500 · Pump Zone A-1 (Base Rate)	806.00	800.00	6.00	100.8%
41550 · Pump Zone A-1(Power Comp)	1,635.41	1,400.00	235.41	116.8%
Total 41000 · WATER SALES	278,929.75	274,600.00	4,329.75	101.6%
41600 · RESERVE FUNDS				
41605 · Consumption Surcharge	6,468.96	6,400.00	68.96	101.1%
41700 · Water Treatment Plant Fee	12,794.92	12,800.00	-5.08	100.0%
41800 · Rate Stabilization Fee	19,190.26	19,200.00	-9.74	99.9%
41900 · Drought Surcharge	-42.92	0.00	-42.92	100.0%
56250 · Transfer Reserve Funds	-38,411.22	-38,400.00	-11.22	100.0%
Total 41600 · RESERVE FUNDS	0.00	0.00	0.00	0.0%
43000 · INTEREST				
43001 · LAIF	8,126.66	6,300.00	1,826.66	129.0%
43002 · Other Interest	2.03	0.00	2.03	100.0%
Total 43000 · INTEREST	8,128.69	6,300.00	1,828.69	129.0%
45000 · OTHER OPER. REVENUE				
45400 · Misc. Revenue	96.98	100.00	-3.02	97.0%
45850 · Backflow Prevention Testing	470.25	250.00	220.25	188.1%
Total 45000 · OTHER OPER. REVENUE	567.23	350.00	217.23	162.1%
Total Income	287,625.67	281,250.00	6,375.67	102.3%
Gross Profit	287,625.67	281,250.00	6,375.67	102.3%
Expense				
51000 · WATER COSTS				
51100 · Raw Water Charge	0.00	4,300.00	-4,300.00	0.0%
51300 · Oper. & Maint. - Clear Creek	22,114.58	13,400.00	8,714.58	165.0%
51305 · Administration - Clear Creek	11,970.59	13,200.00	-1,229.41	90.7%
51315 · Restoration Fee	0.00	3,100.00	-3,100.00	0.0%
51316 · Bureau Trinity PUD Charges	0.00	20.00	-20.00	0.0%
51325 · WINN Act Lawsuit	152.19	400.00	-247.81	38.0%
Total 51000 · WATER COSTS	34,237.36	34,420.00	-182.64	99.5%

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Accrual Basis

Centerville Community Services District

Budget vs. Actual - O&M Budget

July through August 2023

	Jul - Aug 23	Budget	\$ Over Budget	% of Budget
52000 · TRANSMISSION & DISTRIB.				
52100 · General Repair & Maint.	8,473.14	12,000.00	-3,526.86	70.6%
52200 · Operating Supplies & Expense	2,776.09	3,800.00	-1,023.91	73.1%
52400 · Utilities - General Plant	190.05	180.00	10.05	105.6%
52425 · Elect., Muletown Pump Station	594.77	1,000.00	-405.23	59.5%
52450 · Elect., Towerview Pump Station	421.34	400.00	21.34	105.3%
52500 · Utilities Pump Zone A	8,792.54	6,600.00	2,192.54	133.2%
52600 · Utilities Pump Zone A-1	1,518.89	1,300.00	218.89	116.8%
Total 52000 · TRANSMISSION & DISTRIB.	22,766.82	25,280.00	-2,513.18	90.1%
53000 · EQUIPMENT				
53100 · Equipment Repairs & Maint.	1,642.91	1,600.00	42.91	102.7%
53200 · Gasoline	1,405.55	1,800.00	-394.45	78.1%
Total 53000 · EQUIPMENT	3,048.46	3,400.00	-351.54	89.7%
54000 · ADMINISTRATIVE				
54100 · Liability Insurance - District	10,586.66	10,000.00	586.66	105.9%
54150 · Utilities-District Office	1,919.35	1,600.00	319.35	120.0%
54200 · Telephone - District Office	4,061.24	1,800.00	2,261.24	225.6%
54325 · Employee Recognition	70.63	100.00	-29.37	70.6%
54375 · LAFCO	3,727.94	3,400.00	327.94	109.6%
54400 · Miscellaneous	6.58	0.00	6.58	100.0%
54500 · Engineering - District Engineer	3,170.50	800.00	2,370.50	396.3%
54550 · Legal-Dist. Attorney	1,375.60	2,600.00	-1,224.40	52.9%
54600 · Accounting-Audit & Consult	1,800.00	2,000.00	-200.00	90.0%
54625 · Meals	351.95	100.00	251.95	352.0%
54630 · Construction Meals	311.99	100.00	211.99	312.0%
54650 · Office Supplies	1,506.12	1,400.00	106.12	107.6%
54680 · Merchant Fees	228.63	200.00	28.63	114.3%
54700 · Postage	1,094.45	1,600.00	-505.55	68.4%
54750 · Office Equipment (Small)	2,952.89	3,200.00	-247.11	92.3%
54800 · Office Building - R&M	2,045.67	800.00	1,245.67	255.7%
54850 · Directors Compensation	800.00	1,000.00	-200.00	80.0%
54900 · Subscription & Licenses	4,542.49	4,800.00	-257.51	94.6%
Total 54000 · ADMINISTRATIVE	40,552.69	35,500.00	5,052.69	114.2%

Centerville Community Services District

Budget vs. Actual - O&M Budget

July through August 2023

	Jul - Aug 23	Budget	\$ Over Budget	% of Budget
55000 · WAGES & BENEFITS				
55100 · Salaries	67,859.52	69,000.00	-1,140.48	98.3%
55110 · Salaries - Standby	825.00	1,200.00	-375.00	68.8%
55120 · Overtime	1,195.57	1,200.00	-4.43	99.6%
55200 · Salaries - Part Time Employees	3,222.24	3,000.00	222.24	107.4%
55300 · Pension - Retirement	51,731.00	52,600.00	-869.00	98.3%
55400 · Insurance - Emp. Health&Dental	15,955.62	15,800.00	155.62	101.0%
55600 · F.I.C.A.	4,483.86	4,200.00	283.86	106.8%
55700 · Medicare Tax	1,048.64	1,000.00	48.64	104.9%
Total 55000 · WAGES & BENEFITS	146,321.45	148,000.00	-1,678.55	98.9%
Total Expense	246,926.78	246,600.00	326.78	100.1%
Net Ordinary Income	40,698.89	34,650.00	6,048.89	117.5%
Net Income	40,698.89	34,650.00	6,048.89	117.5%

Centerville Community Services District
Profit & Loss Budget vs. Actual - The Capital Budget
 July through August 2023

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 Accrual Basis

	Jul - Aug 23	Budget	\$ Over Budget	% of Budget
Ordinary Income/Expense				
Income				
43000 · INTEREST				
43003 · Shasta Co 422 Interest	75.21	80.00	-4.79	94.0%
Total 43000 · INTEREST	75.21	80.00	-4.79	94.0%
44100 · General Property Tax-422				
44125 · Current Secured Taxes-0&M	3,872.41	4,000.00	-127.59	96.8%
44127 · Current Unitary Taxes	20.75	50.00	-29.25	41.5%
44130 · Curr Sec Adv Teeter	5,267.95	5,300.00	-32.05	99.4%
44135 · Supp Taxes Current	1,371.22	1,400.00	-28.78	97.9%
44140 · Curr Unsecured Taxes	-136.23	0.00	-136.23	100.0%
44145 · Supp Taxes Prior	2.27	0.00	2.27	100.0%
44150 · Prior Year Unsecured Taxes	27.91	50.00	-22.09	55.8%
Total 44100 · General Property Tax-422	10,426.28	10,800.00	-373.72	96.5%
46000 · CAPITAL FUNDS				
46100 · Capacity Fees	1,537.50	1,600.00	-62.50	96.1%
Total 46000 · CAPITAL FUNDS	1,537.50	1,600.00	-62.50	96.1%
49000 · TAXES & ASSESSMENTS				
49350 · Sp./Asst Texas Springs 2001-1	1,995.87	2,000.00	-4.13	99.8%
Total 49000 · TAXES & ASSESSMENTS	1,995.87	2,000.00	-4.13	99.8%
49500 · OTHER CAPITAL REVENUE				
49505 · Other Interest	1.19	0.00	1.19	100.0%
Total 49500 · OTHER CAPITAL REVENUE	1.19	0.00	1.19	100.0%
Total Income	14,036.05	14,480.00	-443.95	96.9%
Gross Profit	14,036.05	14,480.00	-443.95	96.9%
Expense				
57000 · DISTRIBUTION SYSTEM IMPROVE.				
57090 · Tank Coating Program	38,862.50	39,000.00	-137.50	99.6%
Total 57000 · DISTRIBUTION SYSTEM IMPROVE.	38,862.50	39,000.00	-137.50	99.6%

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Accrual Basis

Centerville Community Services District
Profit & Loss Budget vs. Actual - The Capital Budget
July through August 2023

	Jul - Aug 23	Budget	\$ Over Budget	% of Budget
58000 · OTHER CAPITAL EXPENSES				
58080 · Telemetry Replacement Program	5,125.00	11,200.00	-6,075.00	45.8%
Total 58000 · OTHER CAPITAL EXPENSES	5,125.00	11,200.00	-6,075.00	45.8%
Total Expense	43,987.50	50,200.00	-6,212.50	87.6%
Net Ordinary Income	-29,951.45	-35,720.00	5,768.55	83.9%
Net Income	-29,951.45	-35,720.00	5,768.55	83.9%

CENTERVILLE COMMUNITY SERVICES DISTRICT RESERVE FUND STATUS

August 31, 2023

DESCRIPTION	Balance as of 7-1-2022	Balance as of 7-1-2023	Balance as of Last Month	Current Balance	Projected Balance As of 7-1-2024	Goal Range
DESIGNATED RESERVES:						
Operation & Maintenance	\$139,167.32	\$204,925.15	\$235,466.66	\$268,761.03	\$301,000.00	\$480k - \$720k (3)
Water Treatment Plant	\$106,997.81	\$142,309.81	\$154,517.78	\$161,110.92	\$186,000.00	\$170k - \$250k (4)
Carr Fire Funds	\$141,541.24	\$144,040.80	\$145,177.09	\$145,177.09	\$0.00	
Pump Sta. Rep. & Rep. (Zones A & A1)	\$16,359.22	\$17,909.81	\$18,051.09	\$18,051.09	\$24,000.00	
Capital Improvement Reserve	\$523,116.69	\$434,276.16	\$396,923.04	\$356,266.78	\$403,000.00	
Subtotal	\$927,182.28	\$943,461.73	\$950,135.66	\$949,366.91	\$914,000.00	
OBLIGATED RESERVES:						
Capacity Charge	\$80,645.81	\$86,704.43	\$88,157.16	\$88,925.91	\$178,000.00	
Subtotal	\$80,645.81	\$86,704.43	\$88,157.16	\$88,925.91	\$178,000.00	
RESTRICTED RESERVES:						
						<u>Maturity Date</u>
1 1995-1 Redemption Fund	\$53,826.31	\$52,605.70	\$52,606.15	\$0.00	\$0.00	
2 Texas Springs Assessment	\$39,339.93	\$43,451.90	\$43,452.27	\$43,452.27	\$33,000.00	
Subtotal	\$39,339.93	\$96,057.60	\$96,058.42	\$43,452.27	\$33,000.00	
Total Reserve Balance	\$1,047,168.02	\$1,126,223.76	\$1,134,351.24	\$1,081,745.09	\$1,125,000.00	
1 DWR / 1995-1	This Assessment District was formed for improvements to the water distribution and treatment system; which includes the Zone C Pump Station and Tank, matures in 2021.					
2 Texas Springs Assessment	This Assessment District was formed for the water distribution system within the Texas Springs area, matures in 2041.					
3 O&M Goal Range	Goal Range is projected to achieve the Reserve Policy range within 2.7 - 6.4 years using the Rate Stabilization Fee.					
4 WTP Goal Range	Goal Range is projected to achieve the Reserve Policy range within 1.5 - 3 years using the Water Treatment Plant Fee.					

CENTERVILLE



COMMUNITY SERVICES DISTRICT

MEMORANDUM

DATE: September 12, 2023

TO: Board of Directors

FROM: Chris Muehlbacher

SUBJECT: New Business 1 – Authorization of a Professional Services Agreement with Mead & Hunt for Engineering Services Related to the Muletown Pump Station Generator Project

Recommendation

ACTION – It is desired that the Board authorize a professional services agreement with Mead & Hunt.

Discussion

Recently, FEMA provided notice that the budget amendment for the Muletown Pump Station Generator Project was approved. The total project approved is now \$418,500 which FEMA funds 75% and the 25% cost share by REU. Having been approved, this now enables the District to authorize the engineering agreement with Mead & Hunt in an amount not-to-exceed \$124,268 for engineering services related to the Muletown Pump Station Generator Project. The services include: design, bid support and construction services. The agreement specifies that payments will be submitted quarterly to coincide with the FEMA reimbursement process. Doing so limits the time between request and reimbursement for funds expended. Under separate action REU has committed a total of \$125k for this project which equates to a 500k project. It is important to note that the approved budget amendment included the higher engineering costs received as well as an inflation adjustment for the future generator procurement. Engineering design services are projected to take about three months to produce a biddable document. Once completed, an authorization to solicit bids will be requested of the Board.

Financial Impacts

The project is completely funded by FEMA (75%) and REU (25%). While the District will be responsible for making quarterly progress payments to the engineer, it will be reimbursed by FEMA and REU as part of the quarterly FEMA reporting. Staff time will be paid by the District.

Attachment(s)

- Professional Services Agreement
- Proposal

**SERVICES AGREEMENT BETWEEN
THE CENTERVILLE COMMUNITY SERVICES DISTRICT AND MEAD & HUNT, INC.**

THIS AGREEMENT is entered into between the **Centerville Community Services District ("District")** and **Mead & Hunt, Inc. ("Consultant" or "Contractor")** for purpose of the Muletown Pump Station Generator Project. The effective date of this agreement is September 21, 2023.

1. SCOPE OF SERVICES

Subject to the terms and conditions set forth in this Agreement, Consultant shall provide to District the services described in Exhibit A (Scope of Work). Consultant warrants that it possesses the experience, background, and expertise necessary to perform the services described in Exhibit A, and Consultant agrees that it shall provide the services at the time, place and in the manner specified in Exhibit A.

No verbal agreement or conversation with any officer, agent or employee of District, either before, during or after the execution of this Agreement shall affect or modify any of the terms or conditions contained in this Agreement, nor shall any such verbal agreement or conversation entitle Consultant to any additional payment whatsoever under the terms of this Agreement.

This Agreement includes and hereby incorporates in full by reference the following Agreement documents, including all exhibits, drawings, specifications and documents therein, and attachments and addenda thereto:

- A. Request for Qualifications and Proposal
- B. Exhibit A – Cost

2. COMPENSATION AND REIMBURSEMENT OF COSTS

Consultant shall not be compensated for services outside the Scope of Services outlined in Section 1 above unless, prior to the commencement of such services:

- A. Consultant notifies District and District agrees that such services outside the scope of Exhibit A are to be performed;
- B. Consultant estimates the additional compensation required for the additional services, and
- C. District, after notice, approves the additional services and amount of compensation therefore.

District shall pay Consultant for services rendered pursuant to this Agreement in a total amount not to exceed \$123,989.75 as listed in Exhibit A. This payment shall be the only payment to be made to Consultant for services rendered pursuant to this Agreement unless, pursuant to Section I above, District approves additional compensation for additional services.

Consultant shall submit quarterly invoices to District for work completed and reasonable expenses incurred to the date of the invoice. All invoices shall be itemized to reflect the tasks completed and the amount billed for each task.

All invoices sent by Consultant to District shall be paid within thirty (30) days of receipt. All billings that remain unpaid after thirty (30) days shall bear interest until paid at the rate of five percent (5%) per annum or the maximum rate allowed by law, whichever is less.

3. TERM OF AGREEMENT

This Agreement shall commence on September 21, 2023, and shall terminate effective September 30, 2025.

4. DISTRICT'S DUTIES

The District shall make its facilities accessible to Consultant as required for performance of its services and shall provide labor and safety equipment as required by Consultant for such access. District agrees to cooperate with Consultant and be reasonably available to confer with Consultant upon request, to keep Consultant informed of developments and to disclose to Consultant all facts and circumstances of which District is aware which may bear upon Consultant's handling of the matter. District agrees to provide Consultant with such documents and information as District may possess relating to the matter, and to abide by all terms of this Agreement.

5. ADVERTISEMENTS, PERMITS, ACCESS

Unless otherwise agreed to in the Scope of Services, the District shall obtain, arrange and pay for all advertisements for bids, permits and licenses required by local, state or federal authorities.

Consultant represents and warrants to District that it has all licenses, permits, qualifications and approvals of any nature whatsoever which are legally required for Consultant to practice its profession. Consultant represents and warrants to District that Consultant shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this Agreement, any licenses, permits, and approvals which are legally required for Consultant to practice its profession.

6. RELATIONSHIP OF PARTIES, NO THIRD-PARTY BENEFICIARIES

Consultant is an independent contractor under this Agreement. This Agreement gives no rights or benefits to anyone not named as a party to this Agreement, and there are no third-party beneficiaries to this Agreement.

7. SUBCONTRACTS

Consultant may use the services of independent contractors to perform a portion of its obligations under this Agreement without prior written approval by District. Independent contractors and subcontractors shall be provided with a copy of this Agreement and shall agree to be bound by its terms. Consultant shall be the responsible party with respect to all actions of its independent contractors and subcontractors, and shall obtain such insurance and indemnity provisions from its contractors and subcontractors the District shall determine to be necessary.

In the event that the Consultant employs other Contractors (sub-contractors) as part of the work covered by this agreement, it shall be the Consultant's responsibility to require and confirm that each sub-contractor meets the minimum insurance requirements specified above (via as broad as ISO CG 20 38 04 13). The Consultant shall, upon demand of the District, deliver to the District copies such policy or policies of insurance and the receipts for payment of premiums thereon.

8. NO DISCRIMINATION

In the performance of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, sex, national origin, sexual orientation or medical condition. Consultant shall take affirmative action to ensure applicants are employed and that employees are treated during their employment without regard to their race, religion, color, sex, national origin, sexual orientation or medical condition. Such actions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation and selection for training.

9. INSURANCE REQUIREMENTS

- 9.1** To the fullest extent allowed by law, the Contractor/Consultant shall procure and maintain for the duration of the contract, and for five years thereafter, insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor/Consultant, its agents, representatives, employees, or subcontractors.

Errors & Omissions Liability Insurance requirements apply to Consultants performing Professional Services. Construction contractors may disregard this coverage unless specifically required by the Contract Documents.

9.2 Minimum Scope of Insurance:

Coverage shall be at least as broad as:

- a) Insurance Services Office Commercial General Liability coverage (occurrence Form CG 00 01).
- b) Insurance Services Office Form Number CA 00 01 covering Automobile Liability, Code 1 (any auto).
- c) Workers' Compensation insurance as required by the State of California and Employers' Liability insurance.
- d) Errors & Omissions Liability insurance appropriate to the consultant's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.

9.3 Minimum Limits of Insurance:

1.	General Liability: (Including operations, products and completed operations, as applicable.)	\$5,000,000	Combined single limit per occurrence, including operations, products and completed operations.
		\$10,000,000	Aggregate limit for bodily injury, personal, personal injury and property damage. If the general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (coverage as broad as the ISO CG 25 03, or ISO CG 25 04 endorsement provided to the District) or the general aggregate limit shall be twice the required occurrence limit.
2.	Comprehensive Automobile Liability:	\$1,000,000	Owned, non-owned, hired vehicles
3.	Workers' Compensation:	\$1,000,000	As required by the Labor Code of the State of California. The Consultant shall provide workers' compensation coverage as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.

			Waiver of Subrogation (also known as Transfer of Rights of Recovery Against Others to Us): The Consultant hereby agrees to waive rights of subrogation to obtain endorsement necessary to affect this waiver of subrogation in favor of the District, its directors, officers, employees, and authorized volunteers, for losses paid under the terms of this coverage which arise from work performed by the Named Insured for the District; this provision applies regardless of whether or not the District has received a waiver of subrogation from the insurer.
4.	Employers' Liability:	\$1,000,000 \$1,000,000	Per occurrence, bodily injury by disease Each employee, bodily injury by disease
5.	Errors & Omissions Liability:	\$1,000,000 \$2,000,000	Per occurrence Aggregate Limit
6.	Pollution Liability (required when work includes asbestos or lead paint)	\$1,000,000 \$2,000,000	Per occurrence Aggregate Limit

9.4 Deductibles and Self-Insured Retentions:

1. Any deductibles or self-insured retentions must be disclosed to and approved by the District, and shall not reduce the limits of liability. At the option of the District, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the District, its officers, officials, employees and volunteers; or the Contractor/Consultant shall provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention.
2. Policies containing any self-insured retention provisions shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or the District.

9.5 Other Insurance Provisions:

1. It shall be a requirement under this agreement that any available insurance proceeds in excess of the specified minimum Insurance coverage requirements and limits shall be available to the Additional Insured. Furthermore, the requirements for coverage and limits shall be: a) the minimum coverage and limits specified in this Agreement, or b) the full coverage and maximum limits of any Insurance proceeds available to the named insured, whichever is greater.
2. Where subcontractors/subconsultants are used, the Contractor/Consultant agrees to include in their subcontract the same requirements and provisions of this agreement, including the indemnity and insurance requirements to the extent they apply to the scope of the subcontractor's/ subconsultant's work. Subcontractors/subconsultants hired by the Contractor/Consultant agree to be bound to the Contractor/Consultant and the District in the same manner and to the same extent as the Contractor/Consultant is bound to the District under the Contract Documents. Subcontractors/ Subconsultants further agree to include the same requirements and provisions of the contract agreement, including the indemnity and insurance requirements, with any Sub-subcontractors/Sub-subconsultants to the extent they apply to the scope of the Sub-subcontractor's/Sub-subconsultant's work. A copy of the District's Contract Documents, including the indemnity and insurance provisions, shall be furnished to the Subcontractor/Subconsultant upon request.

Subcontractors/Subconsultants responsibility for defense and indemnity obligations shall survive the termination or completion of the contract agreement for the full period of time allowed by law.

3. The limits of insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess insurance. Any umbrella or excess insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and noncontributory basis for the benefit of the District (if agreed to in a written contract or agreement) before the District's own insurance shall be called upon to protect it as a named insured.
4. The defense and indemnification obligations of this contract agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in the contract agreement.
5. The District reserves the right to obtain a full certified copy of any insurance policy and endorsements. Failure to exercise this right shall not constitute a waiver of right to exercise later.

The Commercial General Liability and Automobile Liability policies are to contain, or be endorsed to contain, the following provisions:

1. The District, its officers, officials, employees and volunteers are to be covered as additional insureds as respects: liability arising out of work or operations performed by or on behalf

of the Contractor/Consultant; or automobiles owned, leased, hired or borrowed by the Contractor/Consultant. This shall be at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 10 01 and CG 20 37 10 01, with respect to liability arising out of work or operations performed on or behalf of the Consultant, including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance.

2. The additional insured coverage under the Contractor's/Consultant's policy shall be primary and non-contributory, and will not seek contribution from the District's insurance.

The District, its directors, officers, employees, and authorized volunteers are to be given insured status (at least as broad as ISO Form CG 20 10 11 85 or if not available, through the addition of both CG 20 10 10 01 and CG 20 37 10 01, with respect to liability arising out of work or operations performed by or on behalf of the Consultant including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Consultant's insurance.

3. For any claims related to this project, the Contractor's/Consultant's insurance coverage shall be primary insurance at least as broad as ISO CG 20 01 04 13 as respects the District, its directors, its officers, officials, employees and authorized volunteers. Any insurance or self-insurance maintained by the District, its officers, officials, employees or volunteers shall be excess of the Contractor's/Consultant's insurance and shall not contribute with it.
4. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice has been provided to the District.

If General Liability, Contractors Pollution Liability and/or Asbestos Pollution Liability and or Errors & Omissions coverages are written on a claims-made form:

1. The retroactive date must be shown, and must be before the date of the contract or the beginning of contract work.
2. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.
3. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date, the Contractor/Consultant must purchase an extended period coverage for a minimum of five (5) years after completion of contract work.
4. A copy of the claims reporting requirements must be submitted to the District for review.

5. If the services involve lead-based paint or asbestos identification/remediation, the Contractors Pollution Liability policy shall not contain lead-based paint or asbestos exclusions. If the services involve mold identification/remediation, the Contractors Pollution Liability policy shall not contain a mold exclusion and the definition of "Pollution" shall include microbial matter including mold.

9.6 Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best rating of no less than A:VII, unless otherwise acceptable to the District. Exception may be made for the State Compensation Insurance Fund when not specifically rated.

9.7 Verification of Coverage

Contractor/Consultant shall furnish the District with endorsements effecting coverage required by this clause. The endorsements are to be signed by a person authorized by that Insurer to bind coverage on its behalf. The endorsements are to be on forms provided by the District, unless the insurance company will not use the District's forms. All endorsements are to be received and approved by the District before work commences. However, failure to do so shall not operate as a waiver of these insurance requirements. As an alternative to the District's forms, the Contractor's/Consultant's insurer may provide complete certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

9.8 Waiver of Subrogation

Contractor/Consultant hereby agrees to waive rights of subrogation to obtain endorsement necessary to affect this waiver of subrogation in favor of the District, its directors, officers, employees, and authorized volunteers, for losses paid under the terms of this coverage which arise from work performed by the Named Insured for the District; this provision applies regardless of whether or not the work District has received a waiver of subrogation from the insurer.

9.9 Indemnity and Hold Harmless

Contractor/Consultant shall indemnify and hold harmless the District, their elected officials, officers, employees, agents and volunteers, and each and every one of them, from all claims, suits, actions, costs, attorney's fees, expenses, damages, losses, judgments or decrees arising from or related to this contract of the performance of the Work under it, whether such claims, demands, or liability for injuries occurring after completion of the Work, as well as during the Work's progress. Contractor/Consultants shall incorporate this indemnity clause into its subcontracts. This indemnification will not apply where liability is caused by the active negligence, sole negligence, or willful misconduct of the District, its directors, officers, employees, and authorized volunteers.

Contractor/Consultant shall also indemnify District of any adverse determination made by the Internal Revenue Service or the State Franchise Tax Board against those agencies with respect to Contractor's/Consultant's "independent contractor" status that would establish a liability for failure to make social security or income tax withholding payments.

9.10 Responsibility for Work

Until the completion and final acceptance by District of all the work under and implied by this agreement, the work shall be under the Consultant's responsible care and charge. The Consultant shall rebuild, repair, restore and make good all injuries, damages, re-erections, and repairs occasioned or rendered necessary by causes of any nature whatsoever.

The Consultant shall provide and maintain builder's risk (course of construction) or an installation floater (for materials and equipment) covering all risks of direct physical loss, damage or destruction to the work in the amount specified in this Agreement, to insure against such losses until final acceptance of the work by District. Such insurance shall insure at least against the perils of fire and extended coverage, theft, vandalism and malicious mischief, and collapse. The Policy shall be endorsed with District, its directors, officers, employees, and authorized volunteers named as loss payee, as their interest may appear. The making of progress payments to the Consultant shall not be construed as creating an insurable interest by or for District or be construed as relieving the Consultant or his/her subcontractors of responsibility for loss from any direct physical loss, damage or destruction occurring prior to final acceptance of the work by District.

10. PREVAILING WAGE

Consultant is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq., as well as California Code of Regulations, Title 8, Section 16000, et seq., ("Prevailing Wage Laws"), which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects including the design and preconstruction phases of a covered public works project. Consultant shall defend, indemnify, and hold the District, its elected officials, officers, employees, and agents free and harmless from any claim or liability arising out of any failure or alleged failure of Consultant to comply with the Prevailing Wage Laws.

11. STANDARD OF PERFORMANCE

Consultant shall perform all services required pursuant to this Agreement in the manner and according to the standards observed by a competent practitioner of the profession. All products of any nature, which Consultant delivers to District pursuant to this Agreement, shall be prepared in a professional manner and conform to the standards of quality normally observed by a person practicing the profession of Consultant and its agents, employees and subcontractors assigned to perform the services contemplated by this Agreement.

12. RELIANCE UPON DATA, DOCUMENTS AND RECORDS

Consultant shall be entitled to rely upon the accuracy and completeness of all data furnished by District to Consultant that is used by Consultant in the providing of services under this Agreement. Consultant may retain and use all data furnished to it, except such data which may be marked "confidential", which is required to be returned to the District and shall not be disclosed by Consultant to any third parties without the permission from the District, and may use all plans, designs, specifications and other work

product created by Consultant in providing services hereunder. Any use of such work product which includes proprietary information shall not identify District, nor shall the manner of such use have the effect of identifying District.

13. OWNERSHIP AND USE OF DOCUMENTS AND ELECTRONIC MEDIA DELIVERABLES

All completed reports and other data or documents, or computer media including diskettes and other materials provided or prepared by Consultant in accordance with this Agreement are the property of District, and may be used by District.

14. RESOLUTIONS OF DISPUTES, ATTORNEYS FEES

The laws of the State of California shall govern the interpretation of and the resolution of disputes under this Agreement. The parties agree that any disputes between them may be heard only in the State of California, County of Shasta, and the parties hereby consent to venue and jurisdiction in this court. If any claim, at law or otherwise is made by either party to this Agreement, the prevailing party shall be entitled to its costs and reasonable attorneys' fees. Consultant shall continue with the responsibilities under this Agreement during any dispute unless waived in writing by District.

15. CONFLICT OF INTEREST

- A. Consultant shall disclose any financial, business, or other relationship with the District that may have an impact upon the outcome of this contract, or any ensuing District construction project. Consultant shall also list current clients who may have a financial interest in the outcome of this contract, or any ensuing District construction project, which will follow.
- B. Consultant hereby certifies that it does not now have, nor shall it acquire any financial or business interest that would conflict with the performance of services under this contract.
- C. Consultant hereby certifies that neither Consultant, nor any firm affiliated with Consultant will bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract. An affiliated firm is one, which is subject to the control of the same persons through joint-ownership, or otherwise.
- D. Except for subconsultants or subcontractors whose services are limited to providing surveying or materials testing information, no subconsultant or subcontractor who has provided design services in connection with this contract shall be eligible to bid on any construction contract, or on any contract to provide construction inspection for any construction project resulting from this contract.

16. TERMINATION OF AGREEMENT

If Consultant fails to perform his/her duties to the satisfaction of the District or if Consultant fails to fulfill in a timely and professional manner his/her obligations under this Agreement, or if Consultant violates any of the terms or provisions of this Agreement, then District shall have the right to terminate this Agreement effective immediately upon the District giving written notice thereof to Consultant. In

the event District shall give such notice of termination, Consultant shall immediately cease rendering services pursuant to this Agreement.

Either party may terminate this Agreement on 30 days' written notice. District shall pay Consultant for all work satisfactorily completed as of the date of notice.

District may terminate this Agreement immediately upon oral notice should funding cease or be materially decreased.

In the event District terminates this Agreement:

- A. District shall have full ownership and control of all writings which have been delivered by Consultant pursuant to this Agreement and all drafts of reports and writings which form the basis for any writing or report which would have been otherwise delivered to District pursuant to this Agreement;
- B. District shall pay Consultant the reasonable value of services rendered by Consultant pursuant to this Agreement provided, however, District shall not in any manner be liable for lost profits which might have been made by Consultant had Consultant completed the services required by this Agreement. In this regard, Consultant shall furnish to District such financial information as in the judgment of the District representative is necessary to determine the reasonable value of the services rendered by Consultant.

17. COMPLIANCE WITH LAWS

Consultant shall comply with all applicable laws, ordinances, and codes of the federal, state and local governments.

18. REPRESENTATIVES OF THE PARTIES

The District's representative for this Agreement is:

Chris Muehlbacher, PE
District Manager
Centerville Community Services District
8930 Placer Road
Redding, CA 96001
530-246-0680
cmuehlbacher@centervillecsc.com

All Consultant questions pertaining to this Agreement shall be referred to the above-named person, or the representative's designee.

The Consultant's representative for this Agreement is:

Nancy Moricz
Mead & Hunt, Inc.
180 Promenade Circle, Ste 240
Sacramento, CA 95834
916-971-3961
Nancy.Moricz@meadhunt.com

All District questions pertaining to this Agreement shall be referred to the above-named person.

19. NOTICES

All notices, requests, demands and other communications hereunder shall be deemed given only if in writing signed by an authorized representative of the sender (may be other than the representative referred to in Paragraph 17 above), and delivered by email or facsimile with a hard copy mailed first class, postage prepaid, or when sent by a courier or express services guaranteeing overnight delivery to the receiving party, and addressed to the respective party as follows:

To District: Chris Muehlbacher, PE
District Manager
Centerville Community Services District
8930 Placer Road
Redding, CA 96001

To Consultant: Nancy Moricz
Mead & Hunt, Inc.
180 Promenade Circle, Ste 240
Sacramento, CA 95834

20. ENTIRE AGREEMENT

This document, including all exhibits, contains the entire agreement between the parties and supersedes any oral or written understanding they may have had prior to the execution of this Agreement. Consultant shall be entitled to no other benefits other than those specified herein. No amendments or alterations shall be effective unless in writing and signed by both parties. Consultant specifically acknowledges that in entering into and executing this Agreement, Consultant relies solely upon the provisions contained in this Agreement and no others.

21. SEVERABILITY

If any portion of this Agreement or the application thereof to any person or circumstance shall be invalid or unenforceable to any extent, the remainder of this Agreement shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

22. EMPLOYMENT STATUS

22.1 Consultant shall, during the entire term of this Agreement, be construed to be an independent contractor and nothing in this Agreement is intended nor shall be construed to create an employer-employee relationship, a joint venture relationship, or to allow District to exercise discretion or control over the professional manner in which Consultant perform the services which are the subject matter of this Agreement, provided always, however, that the services to be provided by Consultant shall be provided in a manner consistent with the professional standards applicable to such services. The sole interest of District is to insure that services shall be rendered and performed in a competent, efficient and satisfactory manner. Consultant shall be fully responsible for payment of all taxes due to the State of California or the federal government which would be withheld from compensation if Consultant were a District employee. District shall not be liable for deductions for any amount for any purpose from Consultant's compensation. Consultant shall not be eligible for coverage under District's worker's compensation insurance plan nor shall Consultant be eligible for any other District benefit.

22.2 Indemnification of CalPERS Determination. In the event that Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement claims or is determined by a court of competent jurisdiction or CalPERS to be eligible for enrollment in CalPERS as an employee of the District, Consultant shall indemnify, defend, and hold harmless District for the payment of any employee and/or employer contributions for CalPERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of District.

23. HEADINGS, ASSIGNMENT AND WAIVER

The headings in this Agreement are inserted for convenience only and shall not constitute a part hereof. Neither party to this Agreement shall assign its duties and obligations hereunder without the prior written consent of the other party. A waiver of any part of any provision or a breach of this Agreement must be provided in writing and shall not be construed as a waiver of any other provision or any succeeding breach of the same or any other provisions herein.

24. AUTHORITY

The undersigned hereby represent and warrant that they are authorized by the parties to execute this Agreement.

IN WITNESS WHEREOF, District and Consultant have executed this Agreement below:

CENTERVILLE COMMUNITY SERVICES DISTRICT

By: _____
Chris Muehlbacher
District Manager
Centerville Community Services District

Date

CONSULTANT

By: _____
Nancy Moricz
Mead & Hunt

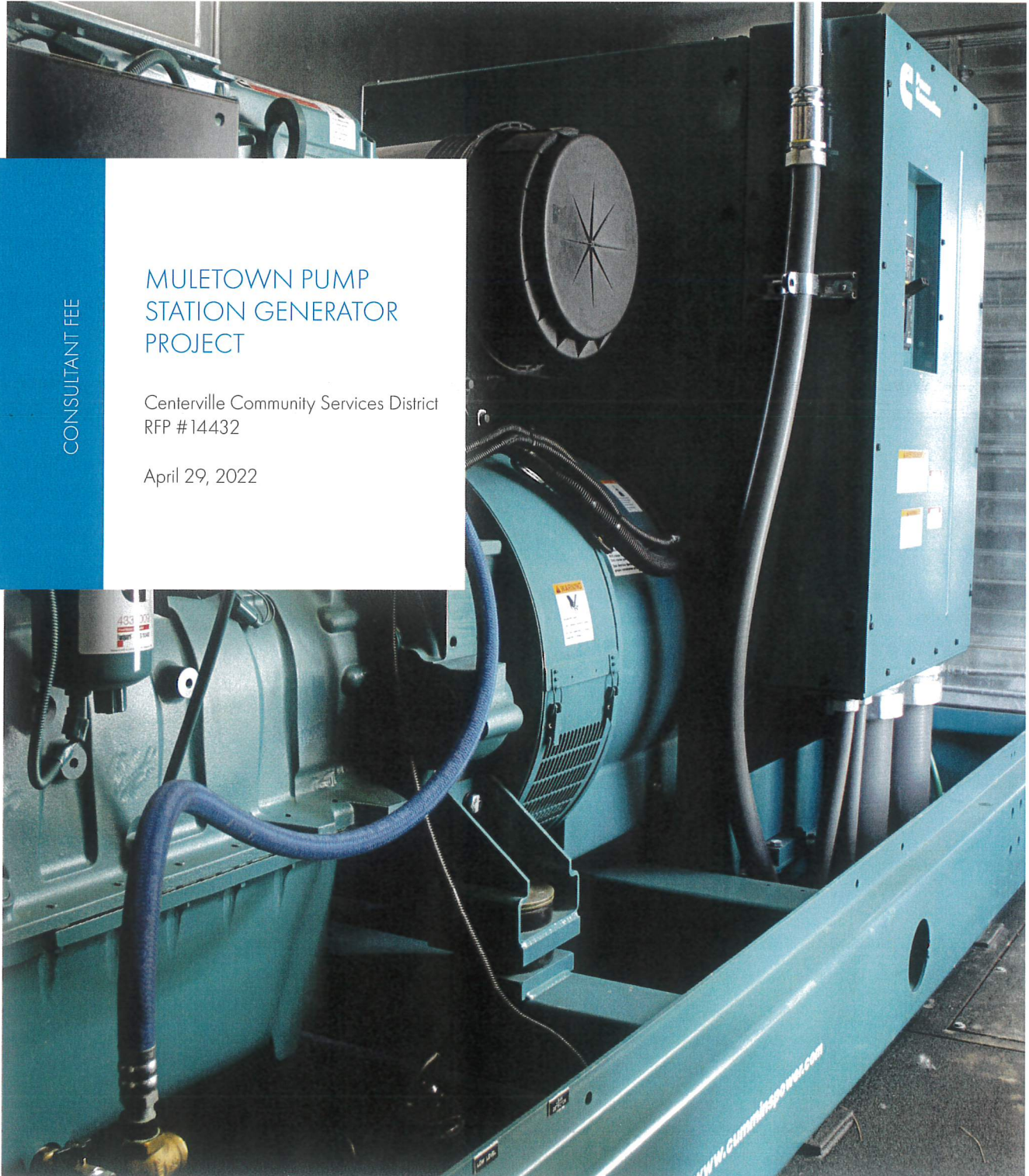
Date

CONSULTANT FEE

MULETOWN PUMP STATION GENERATOR PROJECT

Centerville Community Services District
RFP # 14432

April 29, 2022



CONSULTANT FEE

ASSUMPTIONS

Your project team has developed the following cost information for Centerville Community Services District's (CCSD) consideration, with a not-to-exceed amount of \$124,268, which includes markup and profit. We have included our assumptions and our consultant fee schedule below, along with a non-redacted copy of the MBE/WBE form that was included with the proposal. Labor costs are broken down for each task, and we have included all expenses, subconsultant fees and markups.

CONSULTANT FEE ASSUMPTIONS

Your project team has developed the following assumptions as part of the consultant fee:

- Meetings during design, beyond the initial site visit, will be virtual.
- Commercially-available, California Air Resources Board (CARB) emissions-compliant, pre-packaged generator unit with an integrated sound enclosure and a bottom-mounted fuel tank is the basis of design.
- Details will be confirmed as part of the load assessment and sizing.
- CCSD to provide all available and relevant as-built data, equipment/instrument data and historical information for existing project components. Electrical data is assumed to be as-built. Mead & Hunt will review and confirm relevant data.
- CCSD to provide access and lockout/tagout for electrical inspections.
- CCSD will provide historical power use data.
- No shade structure is needed.
- If a new electrical enclosure is needed this work is out of scope.
- Existing programmable logic controller (PLC) can accept the necessary analog and digital data inputs or is easily expandable.
- Supervisory control and data acquisition (SCADA) programming will be completed by others from functional descriptions developed by Mead & Hunt (with operator input).
- There is adequate space and size for the new automatic transfer switch (ATS) in the location indicated.
- No geotechnical services provided. CCSD to be responsible for necessary data for design of the generator and shade structure foundation.
- Mead & Hunt will provide the following support during bid and construction:
 - » Technical bid support responses
 - » Attend pre-bid meeting (in-person)
 - » Respond to contractor/supplier questions (up to three addenda)
 - » Provide drawings, modifications and clarifications during bid
 - » Attend one pre-construction conference (in-person)
 - » Conduct submittal reviews (up to 10, including resubmittals)
 - » Provide technical assistance for change orders (one)
 - » Respond to RFIs (up to six)
 - » Design clarifications in response to RFIs (up to two)
 - » Engineering inspections (up to 4), including final inspection.

CONSULTANT FEE: ASSUMPTIONS

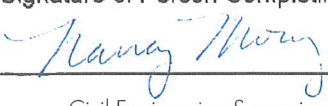
- » Inspections and testing (up to 2 site visits) and 10 compression tests performed by CGi
- » Prepare record drawings based upon contractor and inspection field notes, provided by CCSD to Mead & Hunt
- Construction support will be limited to critical-stage inspections, final electrical start-up and functional acceptance testing, final punch-list walk-through, and designer support for change management.
- CCSD will prepare and file CEQA exemption.
- Permitting and environmental coordination effort is limited to assistance with:
 - » Shasta County Air Quality Management District air permit.
 - » Compliance with the Aboveground Petroleum Storage Act administered by the Shasta County Department of Resource Management Environmental Health Division, Tier 1.
- CCSD to pay any permitting fees directly.
- No surveying work is included in our scope of work, per the RFP. If the need for surveying services arises, our team has an experienced local firm ready to complete those optional tasks for an additional fee.
- Since the generator unit package will include sound attenuation and there are no apparent "sensitive neighbors," no additional acoustical design is included in our fee estimate. Our team has a subconsultant available to perform acoustical services and check post construction noise levels, for an additional fee, if the need arises.

CONSULTANT FEE SCHEDULE

Task	Personnel	Key Mead & Hunt Personnel										Additional Mead & Hunt Staff										Mead & Hunt Labor Hours Subtotal	Mead & Hunt Labor Subtotal	Subcontractor (Lump Sum Fee, including 10% markup)	Totals
		Mintz, Nancy	Sullivan, Steve	Rockwood, Nathan	Darlington, Thomas	Winchell, Brandon	Lowe, Eric	Armstrong, Marilee	Kashwade, Jeff	Engineer III	Engineer I - Civil	Engineer I - Structural	Engineer II - Structural	Engineering Technician I	Senior Engineering Technician	Administrative Assistant									
		\$/hr * 5	\$ 216.00	\$ 278.00	\$ 278.00	\$ 196.00	\$ 196.00	\$ 249.00	\$ 156.00	\$ 196.00	\$ 176.00	\$ 138.00	\$ 138.00	\$ 156.00	\$ 108.00	\$ 170.00	\$ 108.00								
1.0 Project Management	35	17	2			5			5							17	\$11	\$ 16,592.00	\$ -	\$ -	\$ 16,592.00				
1.1 Coordination meetings, agendas and summaries	14	7				5			5							5	\$ 36	\$ 7,370.00			\$ 7,370.00				
1.2 Schedule management and updates	7	2														9	\$ 9	\$ 2,034.00			\$ 2,034.00				
1.3 Prepare and submit monthly progress reports	7	2														5	\$ 14	\$ 2,554.00			\$ 2,554.00				
1.4 Quality Assurance Quality Control Plan/Program	1	6	2													2	\$ 11	\$ 2,656.00			\$ 2,656.00				
1.5 Correspondence and file maintenance	7															5	\$ 12	\$ 1,998.00			\$ 1,998.00				
2.0 Data Collection						2					2					2	\$ 6	\$ 884.00			\$ 884.00				
2.1 Review/evaluate record drawings, facility data, maps and utility information					2											2	\$ 6	\$ 884.00			\$ 884.00				
3.0 Plant Design	3	8	1	7	40	2	30	13	10	15	8	6	84	2	11	240	\$ 36,558.00	\$ -	\$ -	\$ 36,558.00					
3.1 Evaluate existing electrical loads					2											2	\$ 2	\$ 392.00			\$ 392.00				
3.2 Engineering design preliminary sizing and PS&E (70%)	1	1			5	33	1	1	12	6	15	8	5	77		5	\$ 170	\$ 24,565.00			\$ 24,565.00				
3.3 QA/QC Review of drawings, specifications and reports		4	1	1	1	2	1		1	1					2	1	\$ 14	\$ 3,047.00			\$ 3,047.00				
3.4 Design coordination with CCSD (with 1 submittal review mtg)					1	2				2					1	9	\$ 9	\$ 1,760.00			\$ 1,760.00				
3.5 Environmental permitting coordination (2 applications)	1	1					29									30	\$ 30	\$ 4,740.00			\$ 4,740.00				
3.6 Prepare submittals (5 hard copies PS&E)	1	1			1								7			4	\$ 15	\$ 2,054.00			\$ 2,054.00				
4.0 90% Design	2	10	1	6	29	1	9	9	11	15	10	10	30	1	11	155	\$ 25,311.00	\$ -	\$ -	\$ 25,311.00					
4.1 Incorporate comments/conditions on 70% PS&E					2					2	4	2	1	2		2	\$ 15	\$ 2,160.00			\$ 2,160.00				
4.2 Regulatory agency requirement compliance and utility coordination	1	1								1						9	\$ 9	\$ 1,758.00			\$ 1,758.00				
4.3 Engineering design submittal (90% PS&E)		3			3	17				6	4	11	8	5	25	1	87	\$ 87	\$ 13,276.00			\$ 13,276.00			
4.4 QA/QC Review of drawings, specifications and reports		3	1	1	2	1			1	2					1	1	\$ 15	\$ 3,087.00			\$ 3,087.00				
4.5 Environmental permitting coordination (2 applications)							9									9	\$ 9	\$ 1,404.00			\$ 1,404.00				
4.6 Design coordination with CCSD (with 1 submittal review mtg)		2			1	2			1	1			1		1	9	\$ 9	\$ 1,780.00			\$ 1,780.00				
4.7 Prepare submittals (5 hard copies PS&E)	1	1		1	1				1	1			1	2		2	\$ 11	\$ 1,846.00			\$ 1,846.00				
5.0 Final Design (PS&E)	2	5	1	4	23	1	10	5	7	6	2	5	14	1	4	90	\$ 15,411.00	\$ -	\$ -	\$ 15,411.00					
5.1 Incorporate City, utility and agency comments/conditions on 90% PS&E					2											8	\$ 8	\$ 1,216.00			\$ 1,216.00				
5.2 Coordinate with utilities					1						2		1	2		1	\$ 1	\$ 196.00			\$ 196.00				
5.3 Develop functional descriptions and load sequencing for plant startup					1											5	\$ 5	\$ 980.00			\$ 980.00				
5.4 Engineering design submittal (100% Plans)		2			2	12				4	4	2	3	10		2	\$ 45	\$ 7,380.00			\$ 7,380.00				
5.5 Environmental permitting coordination (2 applications)	1	2						10			4					11	\$ 11	\$ 1,776.00			\$ 1,776.00				
5.6 QA/QC Review of drawings, specifications and reports		2	1	1	2	1			1	1				1	2	1	\$ 15	\$ 2,369.00			\$ 2,369.00				
5.7 Prepare Bid packages (one camera-ready PS&E, full size plans)	1	1			2					1						2	\$ 9	\$ 1,494.00			\$ 1,494.00				
6.0 Design Services During Bid (includes 2 bid periods - procurement and construction)	2	2			13		1	4	1		1	7			4	36	\$ 6,114.00	\$ -	\$ -	\$ 6,114.00					
6.1 Conduct construction pre-bid meeting					8											2	\$ 11	\$ 1,980.00			\$ 1,980.00				
6.2 Respond to contractor/supplier questions, prepare addenda (up to 3)	1	1								3			1	3		1	\$ 13	\$ 2,198.00			\$ 2,198.00				
6.3 Provide any drawings, modifications, and clarifications	1	1			2		1	1	1	1	1				3	12	\$ 12	\$ 1,936.00			\$ 1,936.00				
7.0 Services During Construction	1	6		1	35				16	2	2	10	14			94	\$ 94	\$ 15,812.00	\$ 5,203.00	\$ -	\$ 21,015.00				
7.1 Attend pre-construction conference					8											1	\$ 9	\$ 1,676.00			\$ 1,676.00				
7.2 Assist with submittal reviews (10), COs (1) and responses to RFI (6)		4			8					2			2			16	\$ 16	\$ 3,344.00			\$ 3,344.00				
7.3 Prepare design clarifications in response to RFI's (up to 2)		1			2					1	2	2		4		1	\$ 13	\$ 1,938.00			\$ 1,938.00				
7.3 Inspections/materials testing (up to 2 site visits, 10 compression tests)										4						4	\$ 4	\$ 704.00	\$ 5,203.00	\$ -	\$ 5,907.00				
7.4 Engineering Inspections/site visits (up to 4, including final)					1	16				8						1	\$ 34	\$ 6,096.00			\$ 6,096.00				
7.5 Prepare record drawings (one full size mylar copy)	1	1			1					1				10		1	\$ 15	\$ 2,054.00			\$ 2,054.00				
PROJECT SUBTOTALS:																		699	\$ 116,682.00	\$ 5,203.00	\$ 121,885.00				
Total Task 1 Labor Hours By Person:		45	48	5	19	147	4	49	28	53	39	24	32	149	4	53					\$ 2,383.00				
Total Task 1 Labor Costs By Person:		\$ 9,774	\$ 13,344	\$ 1,390	\$ 3,724	\$ 28,812	\$ 996	\$ 7,644	\$ 5,488	\$ 9,328	\$ 5,382	\$ 5,312	\$ 4,992	\$ 16,092	\$ 680	\$ 5,724					\$ 124,268.00				
																		MEAD & HUNT EXPENSES:		\$ 2,383.00					
																		NOT TO EXCEED PROJECT COST:		\$ 124,268.00					

NON-REDACTED COPY OF MBE/WBE FORM

**Prime Contractor/Consultant/Recipient
Minority - and Women-Owned Business Enterprises (MBE/WBEs)
To Be Executed By Bidder and Submitted with Bid**

Contractor/Consultant Name: Mead & Hunt	Contract No. Project No. 14432
Project Description: Muletown Pump Station Generator Project	Project Location Redding, California
Prime Contractor/Consultant Information	
Name & Address: Mead & Hunt 180 Promenade Circle, Ste 240, Sacramento, California 95834 Federal Employer Tax ID #: 39-0793822	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Amount of Contract: \$ 119,538
Subcontractor/Supplier/Subconsultant Information	
Subcontractor/Joint Venture <input checked="" type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant <input checked="" type="checkbox"/> CGi Technical Services, Inc. (CGi), Amount of Contract: \$ 4,730 Work to be Performed: Construction inspection and materials testing	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone CGi 1612 Insight Place Redding, CA 96003 530-244-6277
Subcontractor/Joint Venture <input type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant <input type="checkbox"/> Amount of Contract: \$ Work to be Performed:	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone
Subcontractor/Joint Venture <input type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant <input type="checkbox"/> Amount of Contract: \$ Work to be Performed:	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone
Total MBE Amount: \$	Total WBE Amount \$
Signature of Person Completing Form: 	Date: April 29, 2022
Title: Civil Engineering Supervisor, Water Resources	Phone: 916-993-4605

Failure to complete and submit this form with the bid will cause the bid to be rejected as non-responsive.

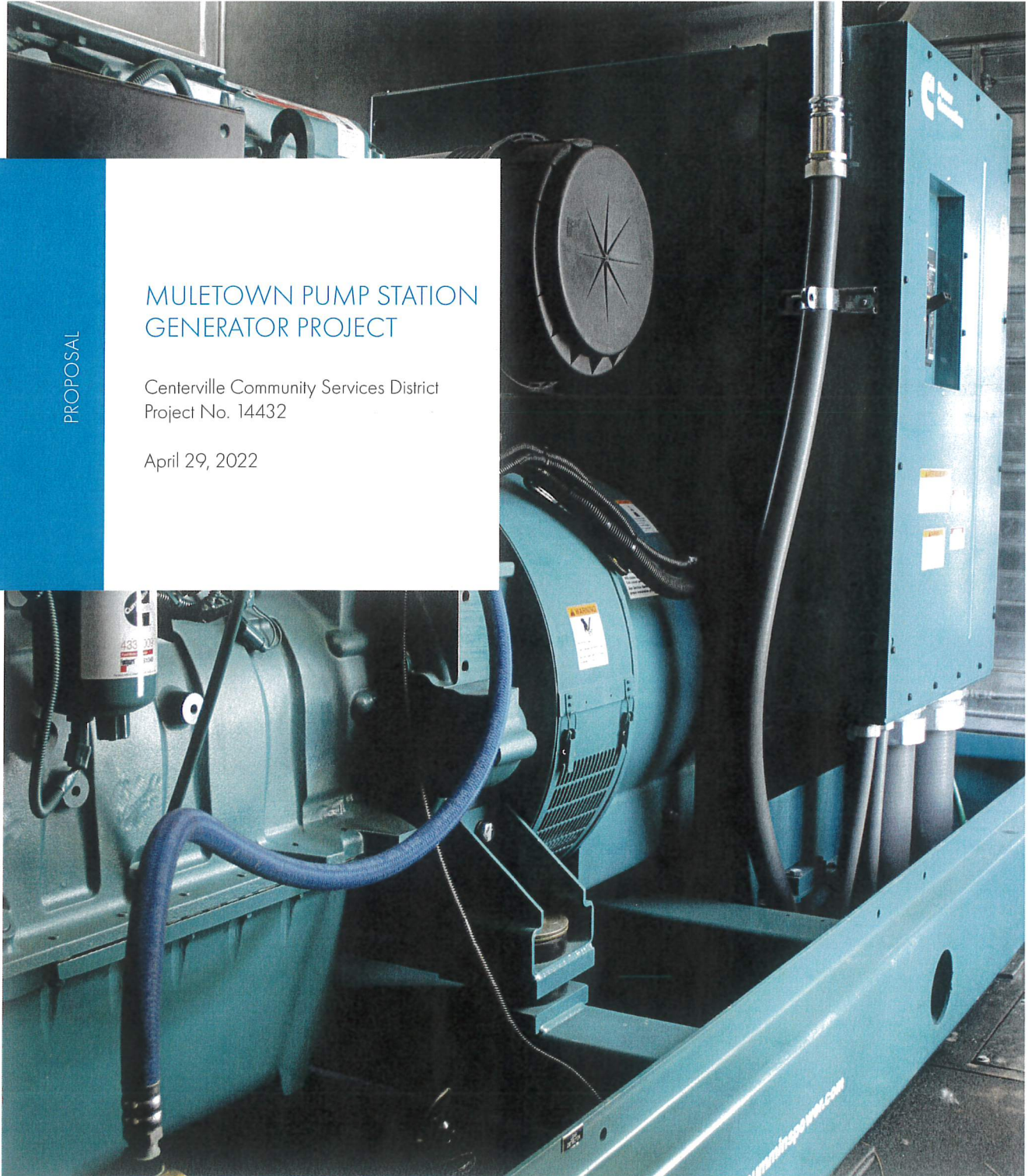
Task	Personnel	Key Mead & Hunt Personnel								Additional Mead & Hunt Staff								Mead & Hunt Labor Hours Subtotals	Mead & Hunt Labor Subtotals	Subconsultant (Lump Sum Fee, including 10% markup)	Totals
		Moritz, Nancy	Sullivan, Steve	Rockwood, Nathan	Darlington, Thomas	Winchell, Brandon	Love, Eric	Armstrong, Marieke	Kashiwada, Jeff	Engineer III	Engineer I - Civil	Engineer 1 - Structural	Engineer II - Structural	Engineering Technician I	Senior Engineering Technician	Administrative Assistant					
Rates previously used for proposal	\$/hr *	\$ 216.00	\$ 278.00	\$ 278.00	\$ 196.00	\$ 196.00	\$ 249.00	\$ 156.00	\$ 196.00	\$ 176.00	\$ 138.00	\$ 138.00	\$ 156.00	\$ 108.00	\$ 170.00	\$ 108.00	Hours	Rate x Units	\$	Cost	
Rates for use in 2023 and 2024 (2023 standard rates reduced by 1% from 6 to 5%)	\$/hr *	\$ 227.00	\$ 292.00	\$ 292.00	\$ 206.00	\$ 206.00	\$ 261.00	\$ 164.00	\$ 206.00	\$ 185.00	\$ 145.00	\$ 145.00	\$ 164.00	\$ 113.00	\$ 179.00	\$ 113.00					
1.0 Project Management (2023)		35	17	2		5				5						17	81	\$ 17,425.75	\$ -	\$ 17,425.75	
1.1 Coordination meetings, agendas and summaries		14	7			5				5						5	36	\$ 7,742.00		\$ 7,742.00	
1.2 Schedule management and updates		7	2														9	\$ 2,116.25		\$ 2,116.25	
1.3 Prepare and submit monthly progress reports		7	2													5	14	\$ 2,681.25		\$ 2,681.25	
1.4 Quality Assurance Quality Control Plan/Program		1	6	2												2	11	\$ 2,789.00		\$ 2,789.00	
1.5 Correspondence and file maintenance		7														5	12	\$ 2,097.25		\$ 2,097.25	
2.0 Data Collection (2023)						2						2				2	6	\$ 928.00	\$ -	\$ 928.00	
2.1 Review/evaluate record drawings, facility data, maps and utility information						2						2				2	6	\$ 928.00		\$ 928.00	
3.0 70% Design (2023)		2	8	1	7	40	2	30	13	9	15	8	6	79	2	8	230	\$ 37,057.00	\$ -	\$ 37,057.00	
3.1 Evaluate existing electrical loads						2											2	\$ 412.00		\$ 412.00	
3.2 Engineering design preliminary sizing and PS&E (70%)		1	1		5	33	1	1	12	6	15	8	5	77		5	170	\$ 25,775.00		\$ 25,775.00	
3.3 QAQC Review of drawings, specifications and reports			4	1	1	2	1		1	1					2	1	14	\$ 3,201.00		\$ 3,201.00	
3.4 Design coordination with CCSD (with 1 submittal review mtg)			2		1	2				2			1			1	9	\$ 1,849.00		\$ 1,849.00	
3.5 Environmental permitting coordination (2 applications)		1						29									30	\$ 4,983.00		\$ 4,983.00	
3.6 Prepare submittals (electronic submittal only)			1			1								2		1	5	\$ 837.00		\$ 837.00	
4.0 90% Design (2023)		1	10	1	5	29	1	9	9	10	15	10	9	30	1	10	150	\$ 25,684.00	\$ -	\$ 25,684.00	
4.1 Incorporate comments/conditions on 70% PS&E						2				2	4	2	1	2		2	15	\$ 2,268.00		\$ 2,268.00	
4.2 Regulatory agency requirement compliance and utility coordination		1	1			5				1				1			9	\$ 1,847.00		\$ 1,847.00	
4.3 Engineering design submittal (90% PS&E)			3		3	17			6	4		8	5	25		5	76	\$ 12,342.00		\$ 12,342.00	
4.4 QAQC Review of drawings, specifications and reports			3	1	1	2	1		1	2	11		2		1	1	26	\$ 4,838.00		\$ 4,838.00	
4.5 Environmental permitting coordination (2 applications)								9									9	\$ 1,476.00		\$ 1,476.00	
4.6 Design coordination with CCSD (with 1 submittal review mtg)			2		1	2			1	1			1			1	9	\$ 1,870.00		\$ 1,870.00	
4.7 Prepare submittals (electronic submittal only)			1			1			1					2		1	6	\$ 1,043.00		\$ 1,043.00	
5.0 Final Design PS&E (2023)		1	5	1	4	22	1	10	6	6	6	2	5	14	1	3	87	\$ 15,662.00	\$ -	\$ 15,662.00	
5.1 Incorporate City, utility and agency comments/conditions on 90% PS&E						2				1	2		1	2			8	\$ 1,277.00		\$ 1,277.00	
5.2 Coordinate with utilities						1											1	\$ 206.00		\$ 206.00	
5.3 Develop functional descriptions and load sequencing for plant startup					1	4											5	\$ 1,030.00		\$ 1,030.00	
5.4 Engineering design submittal (100% Plans)			2		2	12			4	4	4	2	3	10		2	45	\$ 7,750.00		\$ 7,750.00	
5.5 Environmental permitting coordination (2 applications)		1						10									11	\$ 1,867.00		\$ 1,867.00	
5.6 QAQC Review of drawings, specifications and reports			2	1	1	2	1		1	1			1		1		11	\$ 2,489.00		\$ 2,489.00	
5.7 Prepare submittals (electronic submittal only)			1			1			1					2		1	6	\$ 1,043.00		\$ 1,043.00	
6.0 Design Services During Bid (2023)		2	2		1	10			1	2	1		1	4		4	28	\$ 5,093.00	\$ -	\$ 5,093.00	
6.1 Conduct construction pre-bid meeting					1	8										2	11	\$ 2,080.00		\$ 2,080.00	
6.2 Respond to contractor/supplier questions, prepare addenda (one only)		1	1			1				1			1	1		1	7	\$ 1,300.00		\$ 1,300.00	
6.3 Provide any drawings, modifications, and clarifications (for addenda)		1	1			1			1	1	1			3		1	10	\$ 1,713.00		\$ 1,713.00	
7.0 Services During Construction (2023)			6		1	35				16	2	2	10	8		4	84	\$ 15,704.00	\$ 5,203.00	\$ 20,907.00	
7.1 Attend pre-construction conference						8										1	9	\$ 1,761.00		\$ 1,761.00	
7.2 Assist with submittal reviews (10), COs (1) and responses to RFI (6)			4			8				2			2				16	\$ 3,514.00		\$ 3,514.00	
7.3 Prepare design clarifications in response to RFI's (up to 2)			1			2				1	2	2		4		1	13	\$ 2,034.00		\$ 2,034.00	
7.4 Inspections/materials testing (up to 2 site visits, 10 compression tests)										4							4	\$ 740.00	\$ 5,203.00	\$ 5,943.00	
7.5 Engineering inspections/site visits (up to 4, including final)					1	16				8			8			1	34	\$ 6,407.00		\$ 6,407.00	
7.6 Prepare record drawings (electronic submittal only, no mylar copies)			1			1				1				4		1	8	\$ 1,248.00		\$ 1,248.00	
PROJECT SUBTOTALS:																	666	\$ 117,553.75	\$ 5,203.00	\$ 122,756.75	
Total Task 1 Labor Hours By Person:		41	48	5	18	143	4	49	29	48	39	24	31	135	4	48					
Total Task 1 Labor Costs By Person:		\$ 9,364	\$ 14,016	\$ 1,460	\$ 3,708	\$ 29,458	\$ 1,044	\$ 8,036	\$ 5,974	\$ 8,880	\$ 5,655	\$ 3,480	\$ 5,084	\$ 15,255	\$ 716	\$ 5,424					
MEAD & HUNT EXPENSES:																				\$ 1,233.00	
NOT TO EXCEED REVISED PROJECT COST:																				\$ 123,989.75	
PREVIOUS NOT TO EXCEED PROJECT COST:																				\$ 124,268.00	

PROPOSAL

MULETOWN PUMP STATION GENERATOR PROJECT

Centerville Community Services District
Project No. 14432

April 29, 2022





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April 29, 2022

Centerville Community Services District
Chris Muehlbacher, PE
8930 Placer Road
Redding, CA 96001

Subject: Proposal for Engineering Services for the Muletown Pump Station Generator Project, No. 14432

Dear Mr. Muehlbacher:

Wildfires have devastated communities across California. The Centerville Community Services District (CCSD) is taking a proactive approach to mitigate hazards and risks associated with wildfires and public safety outages of transmission facilities by installing a standby generator for the Muletown Pump Station (MTPS). MTPS is a critical facility that supplies safe drinking water to its residents, meets fire suppression demands and supplies the Redding Power Plant water to operate.

Helping meet your needs. Mead & Hunt is actively supporting communities across northern California to recondition critical facilities and protect infrastructure-reliability from threats caused by wildfires. Our founders designed infrastructure; 122 years later we continue to provide clients with innovative solutions using climate-resilient infrastructure to help communities recover and protect themselves from disasters. Our employee-owned company includes more than 900 engineers, planners, scientists and support staff in offices nationwide, including our office in Sacramento, where the majority of this work will be accomplished. Our Sacramento office is a hybrid and a few team members work remotely, including our technical design lead who is local to the area and can provide local expertise and timely response to the site, if needed.

Mead & Hunt has been working with the City of Redding (COR) for more than two decades by providing engineering and environmental services in support of their ongoing capital improvement program and infrastructure improvements. This experience demonstrates Mead & Hunt's quality, responsiveness and technical excellence. We believe that our engineering team members can provide the same quality service to your organization and would love the opportunity to partner with you on this project. Additionally, our team has some creative solutions that may provide CCSD with project schedule time savings and other benefits that could be critical to the successful project execution. These creative solutions are described in our understanding and approach.

Your project manager for this effort, **Nancy Moricz, PE, CFM** is a proven project manager and technical expert with extensive federal and state regulatory requirement experience. As CCSD's primary point of contact for this project, Nancy will manage assigned projects, coordinate the engineering disciplines and manage subconsultants. She has 17 years of engineering experience that includes managing infrastructure projects on behalf of and in coordination with public entities. She currently manages our civil engineering design team in our Sacramento office. Nancy is a creative problem solver who continues to deliver projects on time and within budget by applying her project management philosophy that communication is the driving factor to a successful project.

Your quality assurance and quality control (QA/QC) manager, **Stephen Sullivan, PE** has 40 years of civil engineering and infrastructure design experience. Stephen will be supported by electrical, mechanical and civil/structural engineering experts, as needed, to review specific design elements that require a specialized California engi-

neering license. In addition to project management, Nancy Moricz, PE, CFM will serve as the principal-in-charge for CCSD's contract and will work closely with Thomas Darlington, PE who will serve as the technical design lead. Nancy is authorized to represent Mead & Hunt in contract negotiations and sign contracts for tasks assigned to the Mead & Hunt team. She will work directly with Stephen and Thomas to confirm staff resources required for the project work are available and all aspects of the work, including quality assurance reviews, are completed for each project. To further strengthen our team, we are teaming with CGi Technical Services, Inc. (CGi), a local construction inspection and materials testing firm with 23 years of experience.

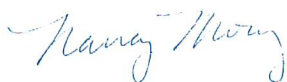
A team that understands your project. Your project manager and senior technical staff have a history of working together. They have also worked for many of the same clients with similar goals. This includes the successful design, funding and construction of the 250kVA standby generator addition for Reclamation District 830 (RD830), that is very similar to CCSD's project. With this experience, our team understands the challenging MTPS critical path items. We have worked with local clients with similar needs, including the COR, and will comply with your high standards for safety, access, reliability, ease of use, site security and sustainability of the infrastructure reliability project. Additionally, our experience dealing with regulatory and permitting agencies and their respective grant requirements will allow us to tailor submittals and information provided to CCSD to meet these regulatory hurdles without delaying the project. Our experience designing similar standby generators for hazard mitigation and expediting regulatory requirements will help you meet the Federal Emergency Management Agency (FEMA) deadline for August 2023, by pre-mitigating potential schedule issues and budget issues with creative solutions that we discuss in our project understanding and approach.

Experience managing FEMA reimbursement. For construction of Reclamation District 1000's (RD1000) Pumping Plant 2, Mead & Hunt provided sound engineering judgment by balancing cost effectiveness and aligning construction contractor's pay items with FEMA's Project Worksheet (PW) items. We supported version requests with assistance from the California Governor's Office of Emergency Services (Cal OES) to document and update costs as construction progressed. By providing solid documentation that justified costs and expenditures, RD1000 was successful in crediting nearly 100% of construction costs (FEMA, state and local cost share) for Plant 2.

Mead & Hunt accepts the terms of CCSD's standard Consulting and Professional Services Contract provided in your Request for Proposal (RFP). We received one Addendum for this RFP and have modified our proposal accordingly. This proposal provides our project understanding and approach, introduces our team and responsible personnel and showcases comprehensive team experience and similar projects in the past five years. This proposal is a firm offer to enter a contract with CCSD according to the terms of its standard contract. Mead & Hunt's consultant fee package been provided separately in a sealed envelope.

Considering our previous physical production and submittal efforts for this opportunity, we decided to forgo a physical submission and are submitting electronically. If you need a physical copy of our proposal during the final decision-making process, we will get one produced and shipped to you. Please contact Project Manager, Nancy Moricz, at 916-993-4605 or nancy.moricz@meadhunt.com for more information.

Sincerely,
Mead & Hunt, Inc.



Nancy Moricz, PE, CFM
Project Manager



PROJECT UNDERSTANDING AND APPROACH

2

PROJECT UNDERSTANDING AND APPROACH

Your project team, which includes Mead & Hunt and CGi, reviewed the available information provided in the RFP, as well as Addendum 1. CCSD operates the MTPS, which is CCSD's largest capacity pump station. Mead & Hunt understands how critical the MTPS and its continuous operation is to CCSD. Additionally, the MTPS is also critical to the COR, as it provides emergency backup fire protection water to COR. This critical facility does not have an emergency standby generator system, leaving the community at risk in the event of a power outage / emergency.

In order to mitigate the risk to lives and structures within the community, CCSD plans to upgrade the MTPS by installing a new standby generator and automatic transfer switch (ATS), which is sized to power the MTPS in the event of an electric utility service interruption.

The proposed work and construction staging areas are located within disturbed areas at the existing MTPS and should not require new environmental studies or significant permitting—with the exception of the two permit applications discussed in Tasks 3, 4 and 5 below. Therefore, our approach, team and consultant fee are structured as an engineering design project with engineering bid and construction support and limited time is allocated for grant or environmental compliance coordination.

PROJECT UNDERSTANDING AND PLAN FOR SUCCESSFUL PROJECT DELIVERY

In addition to Mead & Hunt's detailed project approach, below we have outlined the key components and factors critical to providing high-quality, responsive service and successful project delivery to CCSD. The building blocks we utilize for successful project delivery include familiarity with local projects, project management, technical expertise, continuous budget and schedule focus, key issue identification and mitigation and quality assurance and quality control management as part of our extensive internal QA/QC program. **Our project manager's focus throughout this engagement is to provide CCSD with high-quality deliverables on-time and within budget, be responsive to your requests and communicate project**

status on a regular basis. We recognize you have already completed preliminary design in order to complete your FEMA application, and you need a design team to jump in and complete this work as effectively, efficiently and cost-effectively as possible. We also recognize that this project has an aggressive design and construction schedule, which is why we have developed a detailed schedule for completing this work within CCSD's time frames and have highlighted potential issues that could arise, as well as pre-mitigation solutions.

Our multi-discipline team is assembled and ready to provide excellent engineering support for CCSD, so that CCSD can accomplish its goals for this project. We'll continue to provide strong and constant communication to help streamline CCSD engineer's submission review, minimize potential comments and expedite approvals. We recognize the importance of collaboration when assembling bidding documents. When we prepare the technical specifications and special provisions for this project, we'll work with CCSD to integrate project specific needs for your "front end" documents to create a cohesive package.

Finally, you are investing in infrastructure that makes CCSD services more resilient to outages and emergencies which requires a sustainable design. You want to understand the lifespan of the operating costs and avoid infrastructure investments that create ongoing maintenance issues. For this project, we will examine life cycle costs analyses for generator options, so it is a collaborative decision on final design.

Familiarity with Local Projects

Mead & Hunt and CGi have considerable familiarity with local procedures and requirements gained through our first-hand experience working with COR (the co-recipient of the FEMA grant). CGi also has worked directly with COR. They have been a small local firm in Redding for 23 years. Through the years, Mead & Hunt has provided design and engineering services to COR and the surrounding community to include aviation, water infrastructure, architectural and environmental projects. An example of a successful joint project is the Redding Municipal Airport West Apron and

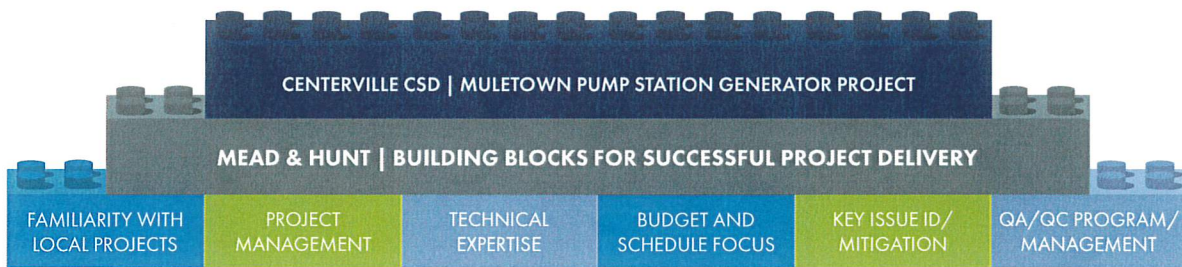


FIGURE 1

T-Hangar Taxilane Reconstruction where our storm drainage improvements successfully prevented flooding at the airport.

Providing engineering support to COR for over 20 years—with whom CCSD works closely—has given Mead & Hunt an in-depth understanding of the challenges, risks and potential delays for local infrastructure. Our teams' adaptability, multi-discipline design collaboration and ability to improve our future approach is what sets Mead & Hunt apart from other firms. Our technical design lead and lead mechanical engineer **Thomas Darlington, PE** is located within an hour of Centerville and will be available, in addition to our team's project manager and appropriate discipline leads, to meet at the site for necessary milestones.

Project Management Approach

Mead & Hunt's project manager, **Nancy Moricz, PE, CFM** will oversee our diverse multidiscipline team's communication, workload planning, schedule, contract management and other project management tasks to successfully accomplish CCSD's project goals within the contracted budget and schedule. Nancy's project management style is collaborative and rooted with a pragmatic engineering approach to cost-effective, value engineering solutions and a commitment to getting the job done on budget and schedule and with a high standard of care.

We will use a collaborative design approach supported by internal team meetings to discuss project management, staffing, schedule, technical issues and quality control. Nancy will work with CCSD to develop a communication plan that establishes regular communication protocols. Mead & Hunt will use virtual communication software (MS Teams or Zoom) throughout the project, including pre-meeting coordination, to encourage input from the entire team. This allows for transparency among the team, eliminates internal surprises that can delay projects, and identifies key coordination items in advance of regular project meetings.

Our integrity, reputation and the trust of our clients are paramount to our firm's long-term success.

Mead & Hunt values being responsive, completing projects in a timely fashion and staying within budget. We accomplish this by defining thoughtful scopes, paying attention to details and establishing clear expectations. We will work with CCSD to develop a critical path schedule and sequencing plan. This schedule will reduce the risk of project delays and overruns by removing schedule dependency from construction contract award, as described in our approach. Many decisions are made throughout the project, and our Mead & Hunt team will give you sound consulting advice, allowing you to make informed decisions and successfully deliver a new backup generator for the MTPS. Additional scope specific project management is discussed in our project approach.

Correspondence and file management. We file project correspondence using Newforma, a project management software package that assists with project e-mail, file management and document transmittal for reviews. Additionally, our project team regularly coordinates important design information via Microsoft Teams and Bluebeam Revu software. These programs allow the team to provide comments, share data in real-time and provide QA/QC documentation for project design reviews for plans and specification packages.

Technical Expertise

Our team is diverse, multi-disciplined, experienced and structured to complete the scope of services as efficiently as possible. The Mead & Hunt project team will complete the engineering services in-house with support from CGI for inspections and materials testing during construction. **This eliminates oversight complexities by having a single set of organizational standards, thus streamlining design and construction oversight.** Our team, especially our electrical engineers, have in-depth experience installing standby generators for critical utilities, military, water infra-

structure and hydro facilities. Additionally, our project manager, **Nancy Moricz**, will be available to respond to CCSD promptly, as needed and will be CCSD's point of contact. **Thomas Darlington**, our technical design lead will also be available in the event a quick response is needed on-site. Our team structure and organization of key team members and subconsultants is outlined in detail in the *Responsible Personnel* section of this proposal and resumes for key team members are included in the *Appendix*.

Continuous Budget and Schedule Focus

Nancy Moricz will be tracking the budget and schedule for the project from day one while providing transparent communication, progress reports and availability to be responsive to CCSD's needs. This is described in detail in our project approach under Task 1 – Project Management.

Many engineering projects fail because of inadequate communication within and outside the team. To reduce this risk, Mead & Hunt places an emphasis on frequent and effective communication. **Nancy Moricz** is an experienced project manager who takes pride in her ability to communicate effectively to prevent project delays and cost overruns.

Key Potential Issue Identification and Innovative Mitigations

Your project team has identified the following potential key project issues and how to address them:

- **Fuel Storage** – Requires “right-sizing” to achieve desired run time, special permitting, instrumentation for management and fuel turnover.
 - » **Innovative Mitigation** – NFPA 110 provides guidance for minimum run times for various classes of emergency power supply systems. Optimal tank capacity is 24 hours at 100% full load. Discussion of refueling access, weather conditions, location of the pump station and actual generator loading will determine the “right size” for the storage tank capacity. Mead & Hunt will also review tank options such as a sub base versus a separate tank (Convault or similar) with respect to height, access and safety features such as steps/platforms. We will advise on instrumentation required for fuel system monitoring (e.g., alarms for leakage detection). Turnover of fuel may be accomplished by utilizing the fuel for CCSD equipment or by providing a polishing system.
- **Spill Risks** – The project is located at the top of a hill and a large fuel tank at this location can create a spill risk.
 - » **Innovative Mitigation** – Mead & Hunt will review the proposed siting for the project with consideration to spill risks and accessibility for tank refueling.
- **Generator/Equipment Procurement** – The project schedule is aggressive and equipment procurement is scheduled for 180 days from contractor submittals due to increased backup power generator demands and supply chain issues that will require additional lead time for equipment procurement.
 - » **Innovative Mitigation** – Our team recommends separately pre-purchasing the generator and any other potential long procurement lead time equipment as Owner Supplied Equipment, including technical support for construction. This has obvious schedule advantages (as shown in our proposed tentative project schedule), but more importantly, design around a specific generator reduces risks, reduces utility coordination and construction contractors can focus on project construction and be well-informed during the bidding process. Since CCSD would be handling this activity, we would assume that a construction contract not be awarded until the date of equipment procurement is more accurately known. This could streamline and provide cost-savings to CCSD.
- **Project Design Schedule** – The schedule for the project design is approximately two months and includes agency comment, comment response/edits, backchecking, QA/QC and finalization. The RFP indicates that bid documents need to be prepared by August 8, 2022.
 - » **Innovative Mitigation** – Our team understands the tight schedule associated with this project and will dedicate the staff needed to complete engineering design documents in accordance with CCSD, FEMA and Cal OES requirements. We will also be explicit about what is needed from commenting agencies to meet project timelines. Our communication and transparency, along with our efficient in-house design team, are our best weapons for delivering a project on-time. Due to the tight schedule, our team assumes that agency comments will be received by Mead & Hunt within one week for each design phase. A modified project schedule is discussed in our proposed tentative project schedule.
- **Overall Project Schedule Inconsistency** – The RFP has a date to advertise for bid of August 8, 2022 and then a number of activities, with durations outlined in the subapplication, that are dependent upon that date and the durations indicated. However, even with the optimistic procurement period, we have found that if the deadlines in the RFP are followed along with the durations within the subapplication, CCSD will only have about a month to close out the project. This was originally planned

for 90 days. Since the project schedule has this inherent issue, we have proposed a few activities/efficiencies that will potentially provide CCSD with much needed buffers and valuable time savings, reducing the risk of delays and cost overruns. The issues mentioned above, along with our proposed schedule modifications, are shown in detail in our Proposed Tentative Project Schedule, below

- **Project Schedule Discussion** – Your Mead & Hunt project team has extensive experience managing each of these key potential issues and plans to mitigate adverse effects to project scope, budget or schedule. The Project Approach, Responsible Personnel, and Related Experience sections of this proposal reinforce the fact that our team is best suited to provide CCSD with the services needed for a successful project.

As referenced above, our detailed tentative project schedule is shown below. Our schedule includes a comparison of the RFP/ subapplication schedule and our Proposed Tentative Project

Schedule. As creative solutions for the schedule issues, we are assuming that CCSD is agreeable to pre-purchasing equipment, will not award a construction contract until an equipment procurement estimate date is known, durations outlined in the subapplication are accurate, the contractor will perform certain construction activities prior to anticipated equipment procurement and project management activities will only take place during months where they are needed to support the project. This will provide CCSD with the following project benefits:

- Allows for a more realistic procurement timeline (nine months as opposed to six) while schedule still provides a plan to complete the project on-time
- Avoids delays and cost overruns with built-in buffers that include a two-week buffer following final design prior to bid
- Avoids potential contractor delay charges if procurement takes longer than CCSD originally expected (six months)
- Provides project management and contractor billing reductions and time savings

PROPOSED TENTATIVE PROJECT SCHEDULE

TASKS	May - 2022	June - 2022	July - 2022	August - 2022	September - 2022	October - 2022	November - 2022	December - 2022	January - 2023	February - 2023	March - 2023	April - 2023	May - 2023	June - 2023	July - 2023	August - 2023	Approx. Task Time Months	Time savings Months
RFP SCHEDULE																		
1 - Project Management (RFP)																	13.25	N/A
2 - Data Collection (RFP)																	0.25	
3 - 70% Design (RFP)		70															0.50	
4 - 90% Design (RFP)			90														0.50	
5 - Final Design (PS&E) (RFP)				F													0.50	
6 & 7 - Design Services During Bid and Construction (RFP)					bid			CS					construction		RD		5.50	
CCSD Activities (RFP)		R	R	R	bid		award	CS					construction		RD	PC *	9.25	
Equipment Procurement (RFP)									equipment procurement by contractor (6 months)								6.00	
Contractor Driven Tasks (RFP)								CS					construction				3.75	
RFP SCHEDULE																	14.25 +	DNMS *
PROPOSED SCHEDULE																		
1 - Project Management (proposed)																	9.50	3.75
2 - Data Collection (proposed)																	0.50	-0.25
3 - 70% Design (proposed)		70															1.00	-0.50
4 - 90% Design (proposed)			90														1.00	-0.50
5 - Final Design (PS&E) (proposed)					F												0.75	-0.25
6 & 7 - Design Services During Bid and Construction (proposed)						bid			CS		construction		RD				5.25	0.25
CCSD Activities (proposed)			R		R		R								PC		3.75	-3.50
Additional CCSD Activity (proposed)																	9.00	
Contractor Driven Tasks (proposed)							bid	award/contract	CS		construction						6.75	0.50
PROPOSED SCHEDULE																	14.25	2.00
LEGEND																		
CS - contractor submittal period																		
DNMS - does not meet schedule deadline requirements, as outlined in the RFP																		
F - final bid document preparation																		
CS - contractor submittal period																		
R - review by CCSD and applicable agencies																		
RD - record drawing development																		
PC - CCSD project closeout (target 90 days)																		
* Based upon deadlines in the RFP, the RFP's current approach, and activity durations in the subapplication, CCSD will not have 90 days to closeout the project																		

FIGURE 2

QA/QC Program and Management

Our quality control process is integrated into our practice, services and delivery methods. We emphasize to all team members that quality is each person's individual responsibility, not just peer or external reviewers. Our QA/QC staff selected for this contract are practitioners with extensive technical expertise with pumps, pump facilities, power houses and backup power. **Stephen Sullivan, PE** will oversee the quality program for your project and will actively direct the quality of design throughout. Stephen has four decades of civil/multi-discipline engineering design experience including associated permitting and construction.

Quality activities will be self-checked by each designer/engineer, then reviewed by the QC team before becoming a deliverable. Reviewers perform and record interim technical reviews of drawings and calculations as they are developed by our engineering design team. Formal quality review comments and comment resolutions are recorded. The QA/QC staff are well-versed in construction management, which provides value engineering during the design phase. We know what to look for and have the expertise and experience to back it up.

In addition to Mead & Hunt's QA/QC program and management process, our QC Plan will be in effect throughout the entire contract. Mead & Hunt's QC Plan establishes the quality management process for this project, implemented

in accordance with good engineering practice and formed to meet CCSD's standards. The QC Plan includes QA/QC tools: checklists and drafting standards for plans, cost estimating standards, surveying standards and specification standards. From prior work with COR, Mead & Hunt is versed in local and Cal OES standards and will use these tools to confirm project constructability.

Our QC Plan establishes procedures and steps to distinguish work elements to avoid conflicts between plan sheets and between the plans and specifications. In addition, the QC Plan will provide guidance on change control. Our QC Plan will include a requirement to deliver our quality documentation (captured digitally using our Revu Bluebeam sessions) when engineering documents are submitted to CCSD. The QC Plan will include procedures for independent review (IR) assignments by registered State of California professionals. See **Figure 3** for a graphical representation of our QC process.

Following a notice-to-proceed and before initiating work, Mead & Hunt will submit two printed copies of our QC Plan to CCSD. We understand CCSD requires approval of our QC Plan procedures for conformity to the requirements of the project that are required before initiating work. To expedite this process, Mead & Hunt will develop the QC Plan outline following a selection notice and deliver to CCSD's project manager for comment as contracting is commencing.

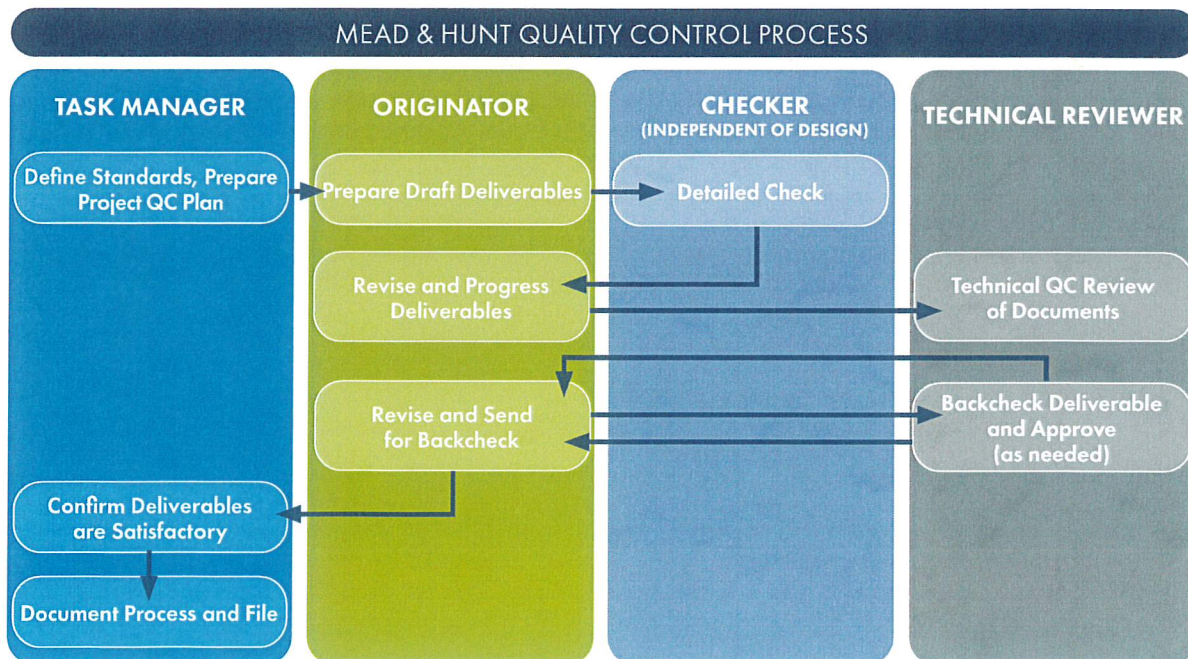


FIGURE 3

PROJECT APPROACH

Your Mead & Hunt project team developed the approach below to provide the services outlined in CCSD's RFP. **Figure 4** shows the relationship of each task to the other.

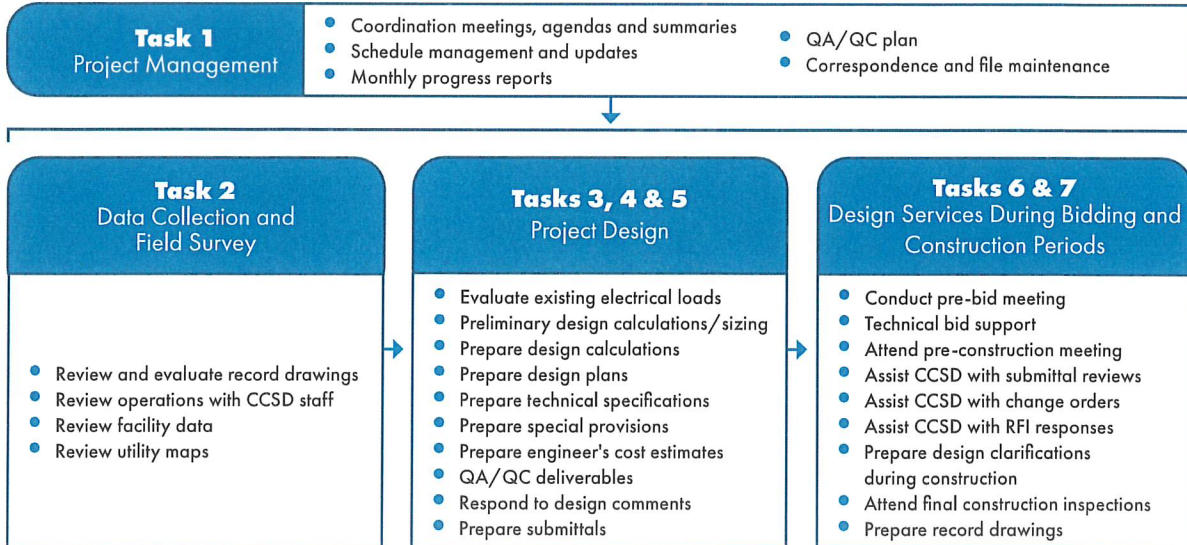
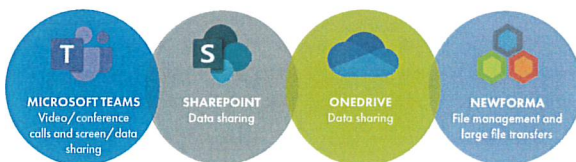


FIGURE 4

Task 1 – Project Management

Mead & Hunt's project management approach is outlined in our Project Understanding and Plan for Successful Project Delivery and additional scope-related project management tasks are outlined below. In order to provide CCSD with cost savings, Mead & Hunt will only provide the project management services described below, during periods that require these services. This will also provide administrative billing time savings for the project.



COORDINATION, MEETINGS, AGENDAS AND SUMMARIES

Your project manager, Nancy, will schedule recurring project meetings with CCSD staff to discuss project status, staffing and address potential challenges and opportunities, project budget and other design or permitting risks to the schedule. She will facilitate Mead & Hunt's coordination with CCSD. Meeting agendas will be prepared and delivered to the meeting participants prior to each project meeting. At the end of each meeting the draft minutes will be routed to participants for review and finalized for re-distribution.

SCHEDULE MANAGEMENT, UPDATES AND MONTHLY PROGRESS REPORTS

Nancy will provide close and transparent schedule management throughout the course of the project and monthly progress reports to CCSD. In order to keep track of budget, the budget and schedule will be discussed during internal team check-in meetings in order to get out in front of any potential issues and avoid delays and cost overruns.

QA/QC PROGRAM

A detailed discussion on our QA/QC Program, management and QC plan is discussed in the Project Understanding and Plan for Successful Project Delivery under the QA/QC Program and Management section.

TASK 1 DELIVERABLES

- Agendas and meeting summaries (for each CCSD coordination meeting)
- Monthly progress reports (as required for the project)
- QC Plan

Task 2 – Data Collection

Field and control surveys are not expected or budgeted for this project. If needed, these services can be provided as an optional additional task. Mead & Hunt will review record drawings, existing facilities, relevant equipment configura-

tions and instrumentation and control (I&C) details provided by CCSD. Existing facilities and utilities will be reviewed for compliance with all applicable codes and standards. Mead & Hunt will provide utility coordination exhibits and will follow-up with any recommendations for additional utility locating.

TASK 2 DELIVERABLES

- Utility coordination exhibits (as needed)

Tasks 3, 4 and 5 – Project Design

Your Mead & Hunt project team will provide the electrical, structural, civil, mechanical and engineering support needed to complete Tasks 3, 4 and 5 of this RFP. Mead & Hunt will provide the discipline-related engineering support, mentioned above, in-house. Deliverables will be in accordance with our internal QA/QC program, CCSD's standards and applicable agency standards and requirements. The suitability of the installation location will need to be verified. The following services will be completed by our experienced and diverse multi-discipline team and final bid documents will be completed as shown in our Tentative Project Schedule, in order to mitigate potential project delays and overruns.

DEMOLITION/MODIFICATION

This includes modifying the existing motor control center (MCC) located inside the building, replacing and/or modifying the MCC main breaker section to incorporate a new automatic transfer switch, and removing the existing Generator J-Box located outside the building plus all exposed conduits and conductors.

CONCRETE PAD FOR NEW GENERATOR AND ATS

This includes a new cast-in-place concrete pad custom designed and constructed for the new generator. Design will be dependent upon generator model and seismic anchorage requirements.

TRENCHING AND INSTALLATION OF CONDUITS AND CONDUCTORS

This includes new conduit from the existing Generator J-Box to the new generator, new conductors installed inside existing and new conduits between the ATS and new generator, and trenching for all conduits via open-trench method with 24 inches of cover and 95% relative compaction.

NEW STANDBY GENERATOR WITH SUBBASE TANK AND SOUND-ATTENUATED WEATHERPROOF ENCLOSURE

Includes sound-attenuated weatherproof enclosure; subbase fuel tank sized based on desired runtime before refueling is needed (24-hour minimum); and generator installation, including design for seismic anchorage.

NEW ATS

This includes installing a new ATS between the new generator and MCC to automatically power the MTPS.

SUPERVISORY CONTROL AND DATA ACQUISITION (SCADA) MODIFICATIONS

Mead & Hunt will supervise CCSD's contractor via a systems integrator.

PROGRAMMING, STARTUP AND TESTING

Our team assumes CCSD will provide SCADA programming. That work, described in the RFP, is not included in our scope of work or consultant fee. Additionally, developing detailed startup and testing procedures for existing equipment will be indicated in specifications. Startup and testing of the standby generator and ATS switch will be explained in the specifications along with manufacturer standard testing procedures. Startup and testing will be performed by the manufacturer or an approved manufacture testing agent.

Our design team is experienced making FEMA/Cal OES submittals and will comply with all standards required for this project. Our CAD manager will lead the project design set and will brief the entire team on compliance. Additionally, our QC manager, Stephen, will review submittals for compliance with CCSD requirements, as outlined in this RFP, as part of our internal QA/QC program. The Mead & Hunt project team will meet the deadlines of the tentative schedule outlined by CCSD in the RFP and Nancy will work with the design team and CCSD to develop an overall project once a contract is awarded. The schedule will be reviewed, and progress discussed during monthly check-in meetings with CCSD, as outlined in the RFP.

Utility Coordination. Based on desired reliability, as established with CCSD, we will coordinate interconnection requirements to establish utility service protection measures. An initial kickoff call with the utility will be followed by outreach at the start of each design phase. We will complete analysis and prepare required submittals.

Permitting Support. We understand that constructing a diesel engine will require an air permit from the Shasta County Air Quality Management District. Installing an on-site diesel fuel storage tank will also require compliance with the Aboveground Petroleum Storage Act, administered by the Shasta County Department of Resource Management Environmental Health Division.

Mead & Hunt will coordinate with the Shasta County Air Quality Management District to complete and submit an application for authority to construct/permit to operate the emergency generator. We will also coordinate with CCSD and the Shasta County Department of Resource Management Environmental Health Division to prepare a permit application for the above-ground fuel storage tank required to support the emergency generator.

70% Design. Your Mead & Hunt project team understands 70% design is critical in establishing the project scope for CCSD, Cal OES and FEMA approval of next steps, as well as for forming the basis for environmental planning. A critical first step is assessing the generator load and fuel demand requirements with CCSD staff. This includes establishing power rating needs based on desired running hours.

Mead & Hunt will prepare a preliminary basis of design report (BODR) and supporting technical memorandums (TM) to establish the project specific basis of design for the project. The design criteria will emphasize NFPA requirements for generator startup and run time, fuel storage requirements, access, utility protection measures, I&C/SCADA requirements and other key design considerations.

90% Design. We will address any 70% comments received from CCSD or applicable agencies in the development of our 90% plans, specifications and estimates (PS&E) and supporting technical data. We will progress project level design from a standard 70% to 90% deliverable.

Final Design. We will address any 90% comments received from CCSD or applicable agencies in the development of our final PS&E and supporting technical data. We will progress project level design from a standard 90% to final deliverables.

TASKS 3, 4 AND 5 DELIVERABLES

- PS&E packages (with supporting technical data) to CCSD in format and quantity outlined in the RFP

Tasks 6 and 7 – Services During Bidding and Construction Periods

Mead & Hunt understands the value of retaining the engineering consultant from design through bidding and project construction; being available to facilitate interpretation from design to the bidders/contractor. We will be an extension of CCSD staff to support bidding and construction and we understand the need to be responsive during these rapidly moving activities. We greatly value the need for a sufficient level of detail during the submittal process to minimize surprises. By teaming up with CGi, our project team will provide the added benefit of Quality Assurance during construction. CGi has certified personnel that provide on-site inspections and materials testing with a fully-accredited geotechnical soils and construction materials laboratory.

TASKS 6 AND 7 DELIVERABLES

- Technical bid support responses
- Technical bid support for addenda (up to three)
- Environmental permit applications (up to two)
- Design clarifications during bid period
- Contractor submittal reviews (up to 10)
- Change order technical assistance (one)
- RFI responses (up to six)
- Design clarifications in response to RFIs (up to two)
- Engineering inspections (up to 4)
- Inspections and testing, performed by CGi (up to 2 site visits and 10 compression tests)
- Prepare record drawings (one full-size mylar set)

ASSUMPTIONS AND EXCEPTIONS

The Mead & Hunt Team has made the following assumptions and exceptions to support our approach for completing the work covered under this RFP. Our project approach and costs align with the *Introduction and Scope of Services – Project Overview* sections of the RFP, and was used as a basis for any conflicting information within the RFP. Please note that assumptions pertaining directly to our consultant fee estimate are provided in our [Consultant Fee](#), which is provided separately as directed in the RFP.

- The standby generator foundation will include the design and installation of a containment system.
- There is adequate space and size for the new ATS in the location indicated.

- SCADA programming will be completed by CCSD or their consultant and Mead & Hunt will provide functional descriptions for an integrator to implement.
- CCSD and all other applicable agencies will provide design comments to Mead & Hunt within one week of transmittal of each phase of design, as shown in our *Tentative Proposed Project Schedule*.
- CCSD will accept Mead & Hunt's recommendation to pre-purchase and begin procurement of equipment prior to advertising for a construction contract.
- CCSD will accept Mead & Hunt's recommendation to not award a construction contract until an anticipated date for equipment procurement is known to avoid schedule delays and construction cost overruns in the event of potential equipment procurement delays.
- Based on Mead & Hunt's recent experience with equipment procurement, a nine-month period—as opposed to the RFP's assumed six-month period—is a more feasible time frame. We pre-mitigated our tentative project schedule by planning for this longer procurement period.
- Mead & Hunt built in time savings recommendations into our tentative project schedule for successful project completion by the deadlines indicated in the RFP, to allow for a longer and more accurate procurement period.
- Mead & Hunt project management activities/tasks will only take place during months that Mead & Hunt project activity is required, which will reduce costs associated with effective project management.
- Construction support is limited to critical-stage inspections, final electrical start-up and functional acceptance testing, final punch-list walk-through and designer support for change management.
- The contractor will begin construction activities, such as foundation and conduit work, prior to anticipated equipment procurement to maintain the tentative proposed project schedule.
- Virtual meetings using Microsoft Teams or other software will be acceptable for project coordination meetings throughout the project duration.
- Preparation of additional permits not specifically stated will be performed as-needed at an additional cost.
- CCSD will provide all required permitting fees.
- CCSD will provide a designated representative with complete authority to transmit instructions and information, receive information, interpret policy, define decisions and authorize permit submission.

DIVERSITY, EQUITY, INCLUSION AND BELONGING

Putting people first and doing what's right have always been at the core of Mead & Hunt's values. In 2018, we decided to invest in a dedicated diversity, equity, inclusion and belonging (DEIB) initiative. One of our first tasks was to create an employee-led employee resource group (ERG). Our ERG has worked with the human resources team to evolve policies to be more inclusive, to create action plans from the results of our first diversity and inclusion survey and to develop a plan to recruit more diversity to our workforce. In 2021, two ERG program manager positions were created and filled to increase and accelerate our goals. We currently have groups for those with interests in the following: Individuals with Disabilities, Multicultural, LGBTQ+, Women, and Military/Veterans. Our company's ERG Structure is shown in **Figure 5** below.

Company leadership encourages the group, creates opportunity and arrives to the conversation with a willingness to learn. Notable opportunities include adding an option for employees to include pronouns to their email signature, creating support groups for working parents, including goals related to diversity and inclusion in each business group's FY2022 business plan and improving our website's accessibility for people of different abilities.



DIVERSITY AND INCLUSION

There's no Mead & Hunt without Me&U.

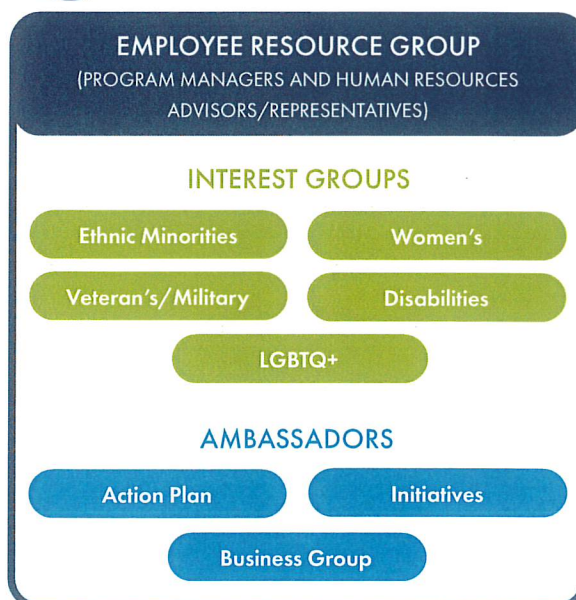


FIGURE 5

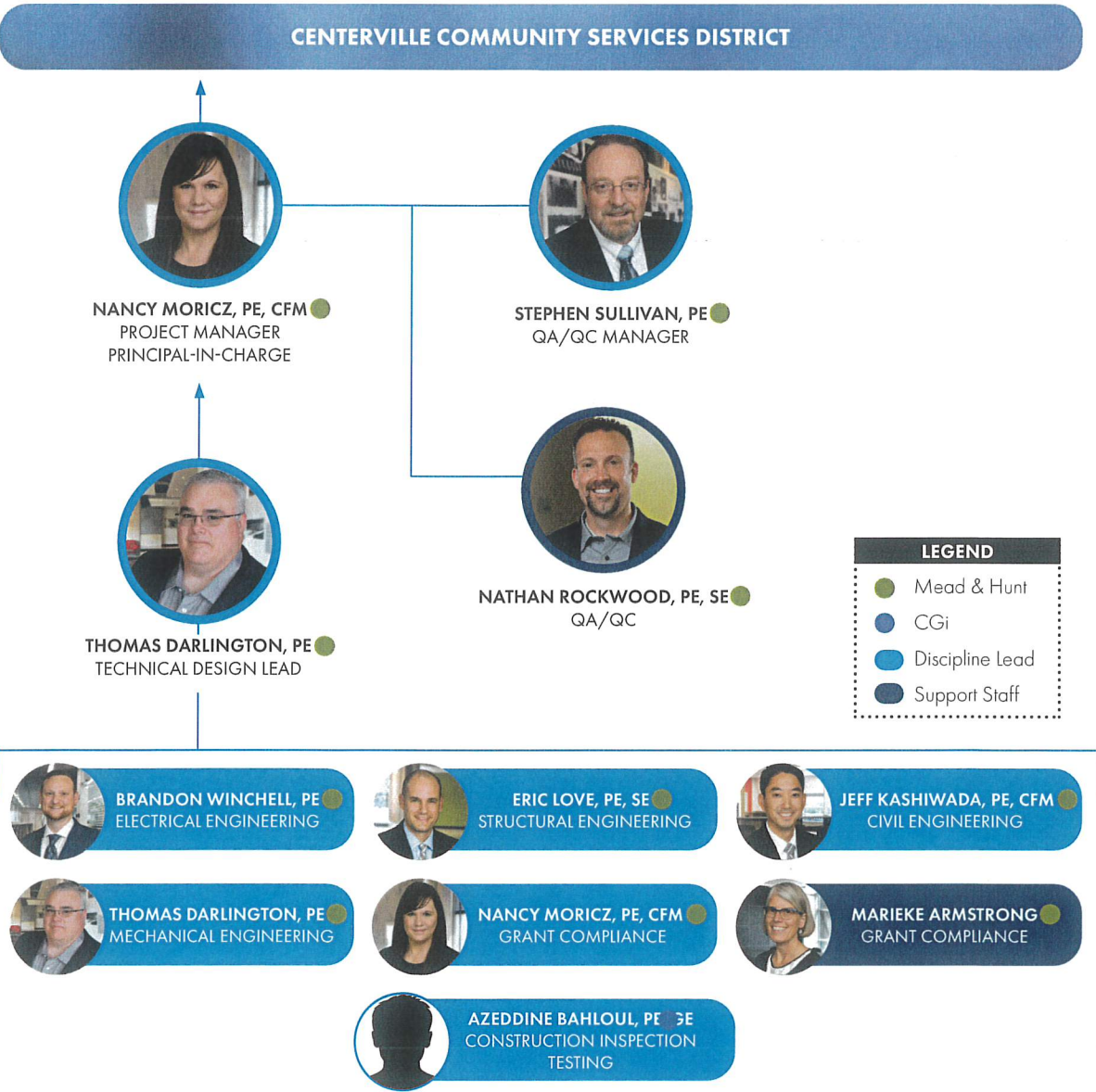


RESPONSIBLE PERSONNEL

3

RESPONSIBLE PERSONNEL

The Mead & Hunt Team structure and organization of key team members and subconsultants is shown below. Our team is diverse, experienced and structured to complete the scope of services outlined by CCSD as efficiently as possible. Your project manager will be available to respond promptly to CCSD, as needed and will be CCSD's primary point of contact. All technical staff will coordinate directly with our technical design lead and the QA/QC team and technical design lead will report directly to the project manager.



KEY PERSONNEL EXPERIENCE, EXPERTISE AND PROJECT ROLE

The table below outlines our key team members' experience and expertise as it pertains to the tasks and the scope of services for this project. Resumes for our key staff are included in the *Appendix*.

SERVICES	MEAD & HUNT								SDS
	NANCY MORICZ	NATHAN ROCKWOOD	STEPHEN SULLIVAN	THOMAS DARLINGTON	BRANDON WINCHELL	ERIC LOVE	JEFF KASHIWADA	MARIEKE ARMSTRONG	AZEDDINE BAHLOUL
Project Management	✓	✓	✓	✓	✓	✓	✓		
QA/QC	✓	✓	✓	✓	✓		✓		
Health and Safety Planning	✓	✓	✓		✓	✓	✓	✓	
Electrical Engineering				✓	✓				
Structural Engineering		✓	✓			✓	✓		
Civil Engineering	✓	✓	✓			✓	✓		
Mechanical Engineering		✓	✓	✓	✓		✓		
Instrumentation and Controls				✓	✓				
Bid Document Preparation	✓	✓	✓	✓	✓	✓	✓	✓	
Bid and Construction Period Services	✓	✓	✓	✓	✓	✓	✓	✓	
Environmental Consultant Coordination	✓							✓	
Construction Inspection and Materials Testing	✓	✓	✓	✓	✓	✓	✓		✓

✓ Indicates key role experience for this project


✓ Indicates experience

STAFF EXPERIENCE AND ROLES	
KEY PERSONNEL	SELECTED RELEVANT EXPERIENCE
 <p>NANCY MORICZ, PE, CFM ROLE: PROJECT MANAGER, PRINCIPAL-IN-CHARGE, GRANT COMPLIANCE</p> <p>BS, Civil Engineering Years of Experience: 17 Mead & Hunt</p>	<ul style="list-style-type: none"> • Manages a wide variety of complex multi-disciplinary and inter-agency joint federal-state projects • Managed projects as engineering consultant and regulatory project/program manager • Extensive experience with regulatory permitting, emergency planning and environmental compliance • Certified Floodplain Manager with experience in emergency response, mitigation and FEMA/Cal OES emergency grants and documentation
 <p>STEPHEN SULLIVAN, PE ROLE: QA/QC MANAGER</p> <p>BS, Civil Engineering Years of Experience: 40 Mead & Hunt</p>	<ul style="list-style-type: none"> • Supervises design and construction for a range of complex water delivery systems • District engineer for a number of irrigation districts, water agencies and hydro providers • Led client efforts in evaluating and implementing standby generation for critical pumping facilities • Obtained and managed FEMA funding for numerous resiliency projects including nearly 100% crediting for a recent \$10 million pump station replacement • Currently managing pumping plant service upgrades with various utilities
 <p>NATHAN ROCKWOOD, PE, SE ROLE: QA/QC</p> <p>BS, Civil Engineering Years of Experience: 20 Mead & Hunt</p>	<ul style="list-style-type: none"> • 10 years experience managing large, multi-discipline engineering teams on water resource projects, including diverse group of subconsultants • Experience managing hydroelectric power design projects and coordinating with regulatory agencies • Work on FEMA/Cal OES funded pumping plant projects • Develops quality and health & safety plans
 <p>THOMAS DARLINGTON, PE ROLE: TECHNICAL DESIGN LEAD, MECHANICAL ENGINEERING</p> <p>MS and BS, Mechanical Engineering Years of Experience: 20 Mead & Hunt</p>	<ul style="list-style-type: none"> • 20 years experience designing mechanical systems for power generation and pumping facilities • Experience in vibration analysis • Repair and overhaul of hydro intake valves and gates • Auxiliary mechanical equipment update and modernization • Equipment alignment

"It is great to have competent professionals like Stephen and Nancy to work with on my engineering challenges. I am confident to tackle any new projects that come my way knowing I have experts such as these on my team."

Tim Kerr, American River, Flood Control District

KEY PERSONNEL	SELECTED RELEVANT EXPERIENCE
 <p>BRANDON WINCHELL, PE ROLE: ELECTRICAL ENGINEERING</p> <p>BS, Electrical Engineering Years of Experience: 10 Mead & Hunt</p>	<ul style="list-style-type: none"> • Extensive design experience with power and I&C systems • Performed design for emergency generators, hydro, excitation, arc flash, water, wastewater, instrumentation, pump controls, program logic controller (PLC)/SCADA, pumping plants/trash rack controls, power distribution and lighting • Coordinated with and has a thorough understanding of the requirements for various utilities on electric service upgrades, including numerous significant upgrades with Pacific Gas and Electric Company (PG&E). • Prepared electrical design for five standby generator projects in the past five years, including pumping plants and hydroelectric facilities
 <p>ERIC LOVE, PE, SE ROLE: STRUCTURAL ENGINEERING</p> <p>BS, Civil Engineering Years of Experience: 24 Mead & Hunt</p>	<ul style="list-style-type: none"> • Design experience includes work with steel, concrete, masonry, wood and load-bearing light gauge steel building structures, including complex water conveyance structures • Fluent in application of structural codes and loading for hydraulic structures and mechanical equipment • Recently designed a number of foundations and containment systems for engine generators/fuel systems
 <p>JEFF KASHIWADA, PE, CFM ROLE: CIVIL ENGINEERING LEAD</p> <p>BS, Civil Engineering Years of Experience: 17 Mead & Hunt</p>	<ul style="list-style-type: none"> • Experience includes water supply and flood control projects, irrigation and power canals, pump stations, buildings and security fencing • Design support for pumping plant service upgrades and new pumping plant utility coordination • Leading coordination of several significant ongoing PG&E electric services for clients
 <p>MARIEKE ARMSTRONG ROLE: GRANT COMPLIANCE</p> <p>MS, Environmental Science BS, Ecology, Behavior and Evolution Years of Experience: 18 Mead & Hunt</p>	<ul style="list-style-type: none"> • 18 years of federal regulatory consulting and California Environmental Quality Act (CEQA)/National Environmental Policy Act (NEPA) compliance for water resource, power and aviation projects • Generator and fuel storage system permitting experience • Leads multidisciplinary teams in resource assessments and compliance evaluations • Federal/state permitting for water and power projects

KEY PERSONNEL	SELECTED RELEVANT EXPERIENCE
 <p>AZEDDINE BAHLOUL, PE, GE ROLE: CONSTRUCTION TESTING PhD, Civil Engineering – Geotechnical MS, Solids and Structures Mechanics BS, Civil Engineering Years of Experience: 18 CGi</p>	<ul style="list-style-type: none"> • Consulting and forensic engineering in California, Oregon and Arizona • Performs engineering, design and project management serves along with quality control/quality assurance • Experienced geotechnical engineering and very familiar with the current technologies available in the field

PROJECT PRIME

Mead & Hunt Local Office (performing work)

180 Promenade Circle, Suite 240
 Sacramento, CA 95834
 Phone: 916-971-3961 | meadhunt.com



Founded in 1900, Mead & Hunt is an employee-owned engineering consulting firm with a long history in planning, design and construction of water infrastructure projects for public and private partners. We apply our depth of experience to anticipate your current and future needs. The primary workload will be run from our Sacramento office that maintains a multi-discipline staff of engineering experts who focus on water infrastructure projects and are equipped to plan, design and provide the engineering design support and bid and construction period services needed to meet CCSD's MTPS Generator Project. With offices nationwide, we collaborate, encourage and support working across offices to leverage additional resources and capability, as needed.

Mead & Hunt has a long working partnership with our selected subconsultant, CGi, and our firms have completed many projects together across multiple business groups. Our teaming approach offers added value to CCSD with local small business firms that have experience working on similar projects.

SUBCONSULTANTS

CGi

1612 Insight Place
 Redding, CA 96003
 Phone: 530-244-6277 | cgitechnical.com



SDS has been in the continuous practice of land development consulting in Northern California since 1965 and is headquartered in Redding, California. Their familiarity with the area and connections within the public works and infrastructure development community enhance their ability to provide cost-effective services that are responsive to your needs. Their diverse team is available to respond quickly to various challenges as they arise. SDS surveyors utilize high precision instruments for field data collections.

CGi is a Small Business Enterprise established in 1999 and is locally owned and operated in Redding, California. CGi Technical Services, Inc., formerly known as CurryGroup, Inc. specializes in Geotechnical Engineering, Construction Material Testing & Special Inspection Services. CGi laboratory is certified by AASHTO under ASTM C-1077 and E-329 to perform inspection and testing for structural concrete. Their staff includes talented professionals who are cross-trained and hold multiple certifications to test and inspect various elements of a construction project simultaneously. Their staff being local and experienced in similar projects have the capabilities and the desire to work with you as a committed partner in providing professional and reliable materials testing and special inspection services.



RELATED EXPERIENCE

4

RELATED EXPERIENCE

The Mead & Hunt project team has been successfully completing similar work for many years. The table below identifies projects that key personnel have worked on and applicable components completed for each project. On the following pages we identify current and completed projects within the last five years. Our project team is dedicated to the success of this project and takes pride in being responsive and completing projects on-time and within-budget. We pay close attention to potential key issues, establish clear expectations and provide excellent and transparent project management.

PROJECT	SIMILAR PROJECT COMPONENTS											
	PROJECT MANAGEMENT	PUMP STATION	STANDBY GENERATOR	ELECTRICAL ENGINEERING	STRUCTURAL ENGINEERING	CIVIL ENGINEERING	MECHANICAL ENGINEERING	QA/QC	ENVIRONMENTAL COMPLIANCE	FEMA/CAL OES FUNDING	SURVEYING	CONSTRUCTION INSPECTION AND TESTING
Jersey Island Pump Station		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Middle Fork Powerhouse Excitation Replacement				✓	✓			✓				✓
Wise 1 Powerhouse Replacement Back-Up Generators	✓		✓	✓		✓	✓	✓	✓		✓	✓
Drum 1 Powerhouse Replacement Back-Up Generators	✓		✓	✓		✓	✓	✓	✓		✓	✓
Riverside Main Canal, Pump Stations and Pipeline	✓	✓		✓	✓	✓	✓	✓	✓		✓	✓
Pumping Plant 1 Standby Generator	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
Pumping Plant 2 Replacement	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Pasco Terminal Expansion (2 - 100 KVA Transformers)	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Aurora Air Traffic Control Tower	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Fresno ANG Squadron Operations Building	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Minter Field Runway and Backup Generator	✓		✓	✓	✓	✓	✓	✓	✓		✓	✓
Trinity Center Mutual Water Co. Upgrade, Trinity County*	✓				✓	✓	✓	✓	✓		✓	✓
City of Redding's Butte Street Water Pipeline*	✓				✓	✓	✓	✓	✓		✓	✓

* CGI projects. Blue checks refer to work completed by others.



JERSEY ISLAND PUMP STATION RELOCATION

RD830 – CONTRA COSTA COUNTY, CALIFORNIA

Project relevance: *pumping plant standby generator, multi-discipline design, new transformer, utility service and protection requirements*

As the only outlet from the Jersey Island, the RD830 main pumping plant provides critical infrastructure for the island and Ironhouse Sanitary District facilities. The 65-cfs pump station required setback for the San Joaquin River levee stabilization. Mead & Hunt was engaged to prepare the replacement pumping plant design.

Our design allowed for construction of a new pile-supported vertical pump station in a sheetpile sump without the need for dewatering. A raised platform provided protection of electrical equipment from flooding and a pre-engineered metal building for security, with a lower deck for trash handling and removable grating for sump access. For reliability, a salvaged existing pump provides redundancy and the new electrical service incorporates a standby generator with automatic transfer switch. Due to evolving utility standby power provisions, incorporating utility protection requirements was complex.

Mead & Hunt prepared plans, specifications, and estimates, employing a multidisciplinary team of civil/structural/hydraulic/mechanical/electrical/geotechnical engineers and architects. We assisted with the permitting effort, incorporating key avoidance measures into design and provided bidding and construction support.

As the only outlet from the island, the design approach was driven by the need to maintain an economical, uninterrupted water bypass. Our design addressed the reliability and security needs for this remote facility.

Reference: Nate Hersey | MBK Engineers | District Engineer | 455 University Ave., Suite 100 | Sacramento, CA 95825 | 916-456-4400



RIVERSIDE MAIN CANAL, PUMP STATIONS AND PIPELINE

NATOMAS MUTUAL WATER COMPANY (NMWC) – SACRAMENTO, CALIFORNIA

Project relevance: *water supply pump station automation and SCADA, demand capacity assessments, new padmount transformer and utility protection*

To accommodate United States Army Corps of Engineers (USACE) levee improvements, 3 miles of the irrigation main canal requires relocation. The 60-cubic feet per second (cfs) canal services approximately 3,000 acres from a river pump station and a recycling pump station. Due to physical site constraints and changing irrigation needs, portions of the canal will be replaced with a pressure pipeline, including two automated water supply pump stations totaling 300 horsepower (HP) and including SCADA and controls.

Mead & Hunt performed all civil, structural, hydraulic, mechanical and electrical design. We prepared plans, specifications, estimates and supporting documentation for USACE construction. The design included a new sediment basin, concrete lined canal, large diameter high-density polyethylene (HDPE) pipeline, dual pump-variable flow-automated lift pump stations and water control facilities. We assisted with permitting, property acquisition and bidding with ongoing engineering support for USACE construction.

One of the challenges was system sizing and control to meet highly variable demands. Mead & Hunt performed detailed assessment of existing and future needs. We performed complex modeling to design and equip the facility for automated response as demands varied, and a SCADA system for the operator to remotely monitor and control while making at field level flow changes. We also developed and specified a series of economical approaches for maintaining critical deliveries during construction.

Reference: Brett Gray, General Manager | 2601 West Elkhorn Blvd. | Rio Linda, CA 95673 | 916-419-5936



SOLANO COUNTY ON-CALL SERVICES, JUSTICE CENTER ASSET PROTECTION AND RESILIENCY PROJECT

SOLANO COUNTY – FAIRFIELD, CALIFORNIA

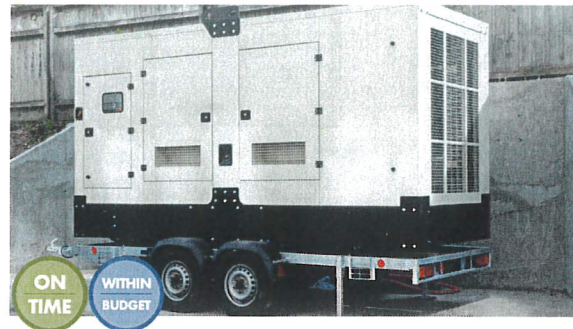
Project Relevance: *stormwater/wastewater sump electrical and controls, lighting, security gate controls, underground high voltage utility modifications*

The Solano County Justice Campus Asset Protection and Resiliency Project is an infrastructure reliability and improvement project to protect critical public service facilities from flooding, minimize service interruptions and improve resiliency by reducing damage caused by severe weather impacts. The 14-acre campus is heavily built-up with building facilities, controlled access and complex utilities.

Mead & Hunt led a comprehensive data collection effort requiring field reconnaissance, stakeholder coordination and desktop data forensics to develop an understanding of site elements and existing structures. Final design elements include earthen berms, structural barriers, storm drain system improvements and relocation of utilities including storm drain, water and wastewater utilities. The structural design also included mechanical flood gates, storm and wastewater vaults with lift stations and new stormwater pumps.

The productive civil/structural design process is a result of a cadre of engineering disciplines that make up the Mead & Hunt civil design team; a team that has worked together on similar complex design projects over the past decade. In addition to the civil/structural design, the Mead & Hunt team is supporting the client with bid and construction support, including Best Value Bid process and operational sequencing for construction.

Reference: Kevin King | Architect | 675 Texas St., Suite 2500 | Fairfield, CA 94533 | 707-784-6421



WISE 1 AND DRUM 1 POWERHOUSE, REPLACEMENT BACK-UP GENERATORS

PG&E – AUBURN, CALIFORNIA

Project Relevance: *engine generator sizing and equipment specification, multi-discipline design team, federal approvals*

For improved reliability and capacity, under two separate concurrent projects, PG&E replaced the existing backup generators with new propane generators for the Wise 14-megawatt (MW) powerhouse and the Drum 1 54-MW powerhouse with automatic transfer switches.

Mead & Hunt performed all civil, structural, mechanical and electrical design. We prepared plans, specifications, estimates and supporting documentation for Federal Energy Regulatory Commission (FERC) approval and assisted with permitting efforts. Mead & Hunt confirmed PG&E's load requirements for the new backup generators, developed equipment purchase specifications, supported PG&E during the bidding process and offered support during construction.

It was determined that the new location would require snow shed canopies over the generators that were designed by the Mead & Hunt structural team. The cable routing was complicated, as the Drum Powerhouse is designated "historic" by the State Historic Preservation Office. Mead & Hunt worked with PG&E to minimize the impact of the new cable on the building facade. The cable inside the powerhouses was routed via a cable tray to the main transfer switch and main distribution service. Both backup generators were installed and are operating successfully.

Reference: Corban Longacre | Power Generation Project Engineer | 1649 Canal St. | Auburn, CA 95603 | 530-889-6438



CONSULTANT FEE

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CONSULTANT FEE



We have included one set of documentation for the estimated fee for engineering services as described in the Scope of Services in a separate, sealed envelope alongside our printed proposal submittal. The consultant fee also includes a non-redacted copy of the required MBE/WBE form, a redacted copy of which is included on **page 48** of this proposal



APPENDIX

A

APPENDIX

RESUMES



Nancy Moricz, PE, CFM

PROJECT MANAGER, PRINCIPAL-IN-CHARGE, GRANT COMPLIANCE

Areas of Expertise

- Project management
- Task management
- Outfall levee crossings
- Levee regulatory compliance
- Federal/state permitting
- Levee encroachment remediation
- Design and construction
- Bid support
- Engineering construction support
- Operation and maintenance activities
- Inter-agency collaboration
- Leadership
- Writing technical reports
- Floodplain management
- Analyzing complicated situations
- Multi-benefit solutions
- Public presentations
- Stakeholder outreach / coordination

Education

- BS, Civil Engineering, California State University – Chico

Registration/Certifications

- Licensed Professional Engineer – California
- Certified Floodplain Manager

Nancy Moricz is a water resources engineer experienced in project engineering and task management. She enjoys working within multidisciplinary teams and coordinating with other engineers, attorneys, scientists, economists and planners. She regularly oversees and coordinates schedules, budgets and scopes of work for her projects. Nancy has managed staff and projects for flood system alteration projects, bridges and environmental stewardship projects. In addition to the review, coordination, permitting and processing of large complicated projects and encroachment permit applications, Nancy has also been the staff lead for technical and policy inter-agency workgroups between federal, state, local and public partners and stakeholder groups.

PROJECT EXPERIENCE

Floodgate Inspections, City of Sacramento, Department of Public Works (DPW) – Sacramento, California

Project Manager. Large portions of Sacramento are surrounded by levees that protect the community from flooding. The levees and associated floodgates are crucial because they allow vital road and railroad facilities that cross the flood protection levees to operate continuously. Mead & Hunt performed inspections on 18 Sacramento floodgates. Work included an operations field inspection, condition assessment and structural analysis of each floodgate. Staff inspected floodgate components and storage with the goal of helping the City DPW and Department of Utilities (DOU) meet the standard of care in floodgate maintenance, repair and operations. Mead & Hunt prepared a technical memorandum detailing our findings and providing recommendations for maintenance, repair and improvement of the floodgates.

Pipe Removal Maintenance Project, American River Flood Control District (ARFCD) – Sacramento, California

Project Manager. ARFCD maintains 40 miles of levees in the Sacramento area. As the project manager, Nancy is working with ARFCD staff and local agencies to correct high-risk levee pipe penetrations within the district. This work is being completed as part of the Department of Water Resource's (DWR) Deferred Maintenance Program (DMP) on an accelerated schedule to secure grant funding from the state. Nancy is responsible for grant coordination with DWR, the Central Valley Flood Protection Board (CVFPB) authorization, USACE coordination, and

the preparation of design bid documents, bid support and engineering support during construction.

DWR DMP, ARFCD – Sacramento, California

Project Manager. ARFCD maintains 40 miles of levees in the Sacramento Area. As the project manager, Nancy is working with ARFCD staff and local agencies to correct levee pipe penetration data cataloged by the DWR's DMP. Mead & Hunt is providing ARFCD with a combined and corrected database to manage these penetrations and guide ARFCD through DMP and manage DWR grant funds to correct data, inspect and remediate levee penetration deficiencies. Nancy is responsible for client and project management throughout this process. This includes regular coordination with ARFCD's general manager and DWR, review of data, presentation of updates to the ARFCD board at public meetings, grant management and collaboration with multiple agencies.

PROJECT EXPERIENCE WITH OTHER FIRMS

Natomas Levee Improvement Program (NLIP) Sacramento River East Levee (SREL), CVFPB – Sacramento, California

Project Manager. As part of an Early Implementation Project (EIP), the Sacramento Area Flood Control District (SAFCA) completed major levee repairs and improvements in the Natomas Basin. All repairs and improvements required USACE authorization and CVFPB permits. As the CVFPB's project manager, Nancy was responsible for project management; permit coordination; technical, policy and compliance plan review throughout the design process; multi-discipline and interagency collaboration; permit scheduling; inspection; preparation of staff recommendation based on compliance with standards and professional judgment; preparation of staff reports and presentation materials; public presentation of findings; and writing and issuing permits for this work. The total SREL construction costs are over \$330 million.

Central Valley Flood Protection Plan, 2012 Adoption, CVFPB – Sacramento, California

Adoption Manager. The DWR was responsible for release of the Central Valley Flood Protection Plan by the end of 2011 to the CVFPB. Nancy was part of the 2012 adoption team and the adoption manager for the 2017 update. In 2012 Nancy was responsible for public comment intake and stakeholder outreach. She led the technical review team,

made numerous presentations to the CVFPB during public meetings, coordinated with DWR and their consultants and assisted in drafting the adoption resolution.

Emergency Pump Station Pipe Replacements, 2017 Flood Emergency Response, Reclamation District 70 (RD70) – Meridian, California

Project Engineer. In response to the 2017 flood event, RD70 had to complete emergency repairs and replacement of their pump station discharge pipes that had been damaged during the event. In addition to the emergency repairs and replacements, several erosion repair sites required detailed coordination with the USACE, DWR, and the CVFPB. In response to the flood event, all repairs and improvements required USACE authorization and California CVFPB permits that Nancy expedited through emergency requests acting as RD70's engineer. Nancy was responsible for the design, specifications, bid process, emergency and final permitting and construction management of the repairs and replacements. The construction costs for the emergency pipe repairs and replacements was over \$500,000.

Laguna West Levees Problem Identification Report (PIR), City of Elk Grove – Elk Grove, California

Project Engineer. The City of Elk Grove constructed levees in the late 1990s under the condition that the adjacent levee along the SREL was accredited with the USACE. Due to subsequent USACE levee de-accreditation, the Laguna West levees now require further study and problem identification to account for the required breach of the de-accredited levee. Nancy was responsible for taking existing hydraulic modeling information, topographic information and existing geotechnical information and creating a PIR for the Laguna West levees, with next steps and presenting the findings of that report to the City of Elk Grove at a public City Council meeting.

Feather River West Levee Project (FRWLP) Phases B, C, D, Laurel Avenue, Sutter Butte Flood Control Agency (SBFCA) – Yuba City, California

Project Manager. As part of an EIP project, SBFCA completed major levee repairs and improvements along the Feather River west levee. All repairs and improvements required USACE authorization and CVFPB permits. Nancy was responsible for permit coordination; technical, policy and compliance plan review throughout the design process; multi-discipline and interagency collaboration; permit scheduling; inspection; and writing and issuing permits for this work.



Stephen Sullivan, PE

QA/QC MANAGER

Areas of Expertise

- Pumping plant design and inspection
- Intake and outfall design
- Flood control facility design and inspection
- Dam design and inspection
- Water supply systems
- Fish screen and fish passage facilities
- Hydroelectric facilities
- Substation and transmission facilities
- FEMA Letter of Map Revisions (LOMR)/Conditional Letter of Map Revisions (CLOMR)
- Structural design
- Mechanical design
- Cost estimating

Education

- BS, Civil Engineering, University of Massachusetts
- Graduate Studies, Structural/Geotechnical, California State University – Sacramento

Registration/Certifications

- Licensed Professional Engineer – California

Stephen Sullivan is a California-registered civil engineer with 40 years of experience in the planning, design and construction of water resources and power projects. As a project engineer, he supervises the design and construction of water supply facilities, flood control facilities, pumping plants and booster pump stations, earth fill and concrete dams, fish passage and screening facilities, water wells and tanks, canals, penstocks, pipelines, transmission facilities and hydropower facilities. As a project manager, he has managed the completion of numerous water resource projects up to \$50 million in value.

Stephen routinely performs pump station, levee and dam assessments and inspections. He serves as owner's engineer for several flood control and levee maintenance agencies advising on operations and maintenance of drainage, levees and flood control facilities. He provides independent peer reviews for a range of public works projects and serves on independent expert review panels for large water resources projects. He has led implementation of numerous projects funded through FEMA hazard mitigation grants.

PROJECT EXPERIENCE

Pumping Plant No. 1B Standby Generator Building Addition, RD1000 – Sacramento, California

Project Engineer. Mead & Hunt performed planning, design, permitting and construction management for installation of a 2,300-volt (v), 2,500-kilowatt (kW) standby diesel generator at Plant 1B. The work included a concrete masonry block building addition connected to the existing Plant 1B electrical building, with sound control panels, coiling door, louvers, building electrical services, switchgear and connections to the existing equipment, a 2000-gallon above-ground diesel fuel tank and foundation, associated fuel piping and site work. The project was adjacent to residential area and the historic Plant 1A pump house. Mead & Hunt designed the facility to aesthetically blend with surroundings and provide sound mitigation, including a 14-foot tall concrete masonry sound barrier with added sound absorbing panels, all on a very limited site footprint. Stephen, as District's engineer, led project development, sizing of equipment, utility outreach, regulatory/public outreach, funding, final design and permitting. He was QC lead and senior design reviewer for Mead & Hunt's design team.

Jersey Island Pump Station Relocation, RD830 – Jersey Island, California

Engineer-of-Record (EOR). To resolve levee underseepage issues, Mead & Hunt prepared the design for relocation of the island's 70-cfs, three-unit drainage pump station. The work included the evaluation of existing mechanical equipment for salvage and reuse and the addition of a standby diesel generator. Stephen, as

responsible engineer, led the planning and design effort, including utility outreach, construction document preparation, permitting coordination, bidding and construction design support.

RD1000 Pumping Plant No. 2 Replacement, SAFCA – Sacramento, California

Responsible Engineer. Mead & Hunt designed the \$10 million, replacement 195-cfs pumping station. The project electrical service was upgraded to medium voltage and fitted for emergency portable generators. The pump station carries combined irrigation and drainage water to and from the Sacramento River. It was replaced with a FEMA/Cal OES disaster relief funding grant after removal during a levee flood fight. As the design lead and project manager, Mead & Hunt was responsible for civil, structural and mechanical design, and led the geotechnical investigations and the electrical and control system design. We also assisted with NEPA/CEQA, permitting, bidding and provided construction supervision and contract/funding administration. Project challenges included coordinating design with several federal, state and local agencies, managing work to address multiple owner's needs, operations, permitting and funding. Mead & Hunt also successfully obtained FEMA grant funding for 90% of the facility replacement costs. The funding challenge was to apply eligible replacement costs to a project that was fundamentally different than the existing facility. Stephen led the agency/FEMA outreach obtaining approval of CEQA/NEPA and permitting with grantors, developing cost agreements and aligning all costs with FEMA/Cal OES approved funding.

RD1000 Pumping Plant No. 1, SAFCA – Sacramento, California

Technical Lead. Mead & Hunt designed the new 3,000-HP Plant 1 replacement on the Sacramento River including feasibility studies and alternatives evaluation, preliminary and final design engineering, plans and specifications, bidding assistance, construction management and preparation of the operations and management plan. Demolition of the existing Plant 1 and the existing substation and a caretaker residence were included in the project. Stephen led feasibility and preliminary design, designed structural and mechanical features and coordinated all electrical design including a new 2,300-v substation.

Napa River Comprehensive Flood Protection Project, City of St. Helena – St. Helena, California

Project Manager/EOR. Mead & Hunt was the lead consultant on this project that included a new levee, flood-wall, foundation improvements, new pumping plant (with emergency generator hookup) and levee discharge piping and gravity drainage levee culverts with outfalls to the Napa River, storm drain improvements and streambed restoration. Mead & Hunt was successful in securing and maintaining state cost share funding by implementing innovative features. We were also successful in obtaining a FEMA LOMR to remove a portion of the City from the regulatory floodplain through innovative designs to mitigate encroachment impacts on regulatory floodways. Stephen was closely involved from conceptualizing to final documents, achieving regulatory approval, stakeholder coordination and obtaining state funding.

Natomas Basin Levee Project Pump Stations, SAFCA – Sacramento, California

Lead Engineer. As the local sponsor's engineer for the federal project to improve 26 miles of Natomas Basin levees, Stephen is leading the Mead & Hunt team responsible for establishing design criteria and final technical approval for all work products affecting existing local facilities. Work included preparing facility assessments and hydraulic impact evaluations, alternative evaluations and preliminary designs for 12 irrigation and drainage pumping stations up to 1,2000-cfs. Three major pump station upgrades required modification or improvements to medium voltage (2,300-v/4160-v) electrical and facilities for portable emergency generation for reliability. Mead & Hunt prepared bridging documents for the USACE design team that included historical design documentation, minimum performance standards and the owner's design criteria. Stephen is working closely with the USACE multi-discipline design team to meet local needs of multiple stakeholders. Mead & Hunt performed additional condition assessments, physical examinations and testing of structural, mechanical and electrical components. A key role of Mead & Hunt was to advocate for locals to justify public safety improvements for eligibility under this federally funded program.



Nathan Rockwood, PE, SE

QA/QC

Areas of Expertise

- Water resource concrete structures including tanks, water control structures, inlet and outlet structures, flood control structures and pump stations
- Hydroelectric facility condition assessment, design and construction, including powerhouses, dams, spillways, water conveyance and appurtenant structures
- Seismic design of structures
- Corrosion protection of structural elements
- Construction support services
- Project management

Education

- MS, Civil Engineering (structural engineering emphasis), California State University – Sacramento
- BS, Civil Engineering (structural engineering emphasis), California State University – Sacramento

Registration/Certifications

- Licensed Civil Engineer – California, Oregon, Washington and Alaska
- Licensed Structural Engineer – California, Oregon, Washington and Alaska

Nathan Rockwood has more than 20 years of experience as a civil/structural engineer experienced with design and construction of concrete and steel structures, with an emphasis in hydraulic structures. He has provided structural design for water resources projects including dams, pump stations, powerhouses, water control structures, intakes, outlet structures and control buildings. Nathan has prepared document plans, details and calculations. Nathan has also provided construction support by reviewing shop drawings and resolving construction issues with contractors and clients. Nathan is a trusted advisor to regulated utilities, public agencies and water and irrigation districts. He values communication and responsiveness, which starts with listening and understanding the issues at hand. As a project/program manager, he has been responsible for motivating and managing multidiscipline engineering teams. As a manager, Nathan has been responsible for multiple engineers' workload, leading teams to success and strengthening relationships by emphasizing effective communication and responsiveness.

RELATED PROJECTS

Pumping Plant No. 2 Replacement, Reclamation District 1000 – Sacramento, California

Structural Engineer. Mead & Hunt designed the replacement plant for a 195-cfs drainage and irrigation pumping station. The project electrical service was upgraded to medium voltage and fitted for emergency portable generators. The pump station carries combined irrigation and drainage water to and from the Sacramento River. It was replaced with a FEMA/Cal OES disaster relief funding grant after removal during a levee flood fight. It is a 25-foot-deep reinforced concrete sump with a new canal intake fitted with an automatic trash rake system with 1,600 linear feet of discharge pipe through the levee to a new outfall constructed in the Sacramento River. Nathan was responsible for structural design on this project including design criteria, calculations, specifications and design plan and detail documents. During the construction phase, Nathan was also responsible for supporting the review of submittals and being responsive to the contractor's questions during construction.

Engineering and Technical Services for Power Generation, PG&E – California

Program Manager. PG&E is the largest private owner of hydroelectric facilities in the United States with 169 dams and over 100 generating units at 66 powerhouses. PG&E relies on their engineering consultant for dependable solutions to facility operations and maintenance. Mead & Hunt, with several specialty subconsultants, is helping PG&E with their facility operation and maintenance needs to meet FERC requirements for power production and safety. Mead & Hunt is providing civil structural mechanical, electrical, geotechnical, tunnel/underground

and hydrology and hydraulic engineering, along with other specialty engineering and support services. Nathan is the program manager and main point of contact for all PG&E projects under this contract. He is a responsive partner with PG&E, managing contracts and working directly with PG&E as issues arise. This includes managing the Mead & Hunt team of consultants and communicating with them regularly regarding status of ongoing projects. Nathan also serves as a project manager for select projects within the master services contract.

NLIP, SAFCA – Sacramento, California

Project Manager/Lead Structural Engineer. Mead & Hunt has a significant role in the project as the designer for the landside facilities and overall project quality control. Mead & Hunt is a key design engineer for this \$600 million project that protects 80,000 people and \$70 billion in infrastructure. \$16 million (fee). Our design responsibilities include relocating the impacted conveyance canals and pipelines, modifying several pump stations, replacing two large pump stations, designing and coordinating the borrow sites, controlling the overall design team's quality for the client and coordinating with major stakeholders. Nathan coordinated all structural design components, such as canal headwalls, water control structures, inlet and outlet structures, new pump station construction and existing pump station design upgrades. He did this by managing a team of structural engineers and overseeing and reviewing their design work while making certain deadlines were met and client comments were incorporated.

Combat Support Training Building Repair, California Air National Guard (CA ANG) – Hayward, California

Project Manager. Nathan led the team during construction administration for the renovation of an existing building used by the CA ANG in case of a chemical warfare threat. Building required general improvements due to age. Building has a communication center, conference rooms, vehicle bays for trucks and there was an addition of a restroom section. Responded to RFIs, reviewed submittals and attended construction meetings on site.

Detailed Spillway Inspections and Assessment Reports, PG&E – Northern California

Program Manager/Main Point-of-Contact. On the heels of the Oroville spillway failure, the FERC notified PG&E in spring 2017 that a Potential Failure Mode Analysis (PFMA) would be required on all 36 of their spillways before the end of 2017. Mead & Hunt led the project starting in August, completing thorough and detailed spillway safety assessments. During that time, our team performed a detailed review of all design, construction, foundation, inspection, operation and maintenance and monitoring documentation available for the 19 spillways assigned to Mead & Hunt, participated in spillway-focused PFMA sessions with FERC and Division of Safety Dams (DSOD) and performed a close visual inspection of four spillways. After completing the review, we identified potential deficiencies, located gaps in the data from insufficient information and other items of concern.

Bucks Creek Energy Dissipaters, PG&E – Plumas County, California

Project Manager/Main Point-of-Contact. Bucks Creek Powerhouse has two generating units, each with two Pelton wheels. Downstream of each wheel, water reaches a wheel pit and tailrace bay before exiting the powerhouse and entering the Feather River, with steel framed hydraulic energy dissipater structures. Mead & Hunt evaluated the hydraulic pressure applied to the steel frame energy dissipaters and designed new structural frames. Nathan was responsible for the design and construction phases of this work. Regular check-ins on design progress were made with the design team and updates were provided to the client. Nathan oversaw that designs were reviewed during the process and before milestone deliverables. Comments and feedback from the client, including the operators, were incorporated before finalizing the design. Coordination with the steel fabricator and review of submittals and responding to contractor questions was coordinated by Nathan.



Thomas Darlington, PE

TECHNICAL DESIGN LEAD, MECHANICAL ENGINEERING

Areas of Expertise

- Hydroelectric unit overhauls
- Repair and overhaul of hydro intake valves and gates
- Auxiliary mechanical equipment troubleshooting and modernization
- Equipment alignment
- Project engineering

Education

- MS, Mechanical Engineer, University of California-Davis
- BS, Mechanical Engineering, University of Nevada-Reno

Registration/Certifications

- Licensed Professional Engineer – California

Thomas Darlington is a licensed professional engineer and vibration analyst who has been working in the hydroelectric and alternative energy generation industry since 2001. Thomas has served as equipment owner's in-house design engineer, powerplant owner's technical representative as a field engineer, quality assurance manager, on-site project manager, technical advisor and operation and maintenance engineer. Thomas has spent many years of his career in the project management role: developing, maintaining and modifying scope and schedule for heavy construction and overhaul projects in hydroelectric, wind and solar.

As a hydromechanical engineer, Thomas produces specifications for major unit overhauls and turbine runner replacements for large hydroelectric generator units. He designs lifting and handling devices to facilitate extraordinary maintenance and repair work on hydroelectric units, valves and gates. He has designed and specified replacement valve actuators, instrumentation, and ancillary systems and components within powerhouses, pumping plants, valve vaults and gatehouses.

Thomas has participated in multiple startup and commissioning efforts including returns to service of hydroelectric units, valves, governors and air systems after major overhauls and replacements. He has designed hydraulic power units for gate operators and jacking systems, designed and specified specialty handling and lifting devices and designed access work platforms. Thomas has specified pumps, air compressors, receivers and instrumentation and valve lineups. He has extensive experience troubleshooting and correcting hydraulic governor systems, hydraulic power units and compressed air systems as well as cooling water, hydraulic and compressed air piping and valving systems. He has conducted root-cause analyses for turbine bearing failures, pumping unit overloads and pressure system failures.

PROJECT EXPERIENCE WITH OTHER FIRMS

Central Valley Project Spring Creek U2 Hydroelectric Turbine Unit Emergency Repair, United States Bureau of Reclamation – California Great Basin Region, California

Technical Lead. Thomas led the technical effort to design, fabricate and install a replacement wearing plate for emergency repair of the Spring Creek U2 hydroelectric turbine unit. This included developing procedures for disassembly, measurement, repairs, installation, machining and reassembly of the unit. In addition to designing the replacement ring, Thomas found suppliers, obtained quotations, developed work orders, coordinated with suppliers and Bureau of Reclamation staff and provided on-site quality assurance at both supplier and Bureau facilities. All of this was achieved while contending with ever changing restrictions and personnel resource issues spurred by the COVID-19 pandemic response.

**Belden Turbine Shutoff Valve, PG&E –
Caribou, California**

Hydromechanical Engineer. This project involved the replacement and modification of disc seal assembly for the 138-inch-diameter butterfly Turbine Shutoff Valve at the Belden Powerhouse. Thomas was responsible for developing and maintaining the schedule; performing the project engineering to design and procure temporary, portable handling and stabilization devices for the valve components; procuring and inspecting the replacement parts for the disc seal assembly; communicating with PG&E's engineer and site inspector; creating and compiling final documentation for the work; and implementing site safety procedures.

**Lake Nacimiento Hydroelectric Turbine Generator,
Monterey County Water Resources Agency – Monterey
County, California**

Hydromechanical Engineer. This was an emergency contract to disassemble, assess, repair and reinstall a 4.5-mega-watt horizontal Francis hydroelectric turbine generator at Lake Nacimiento. Thomas was responsible for schedule development and maintenance, contract development and management, site supervision, replacement component procurement and subcontractor management. He provided QA/QC inspection for components at the subcontractors' facilities for repair/fabrication, and oversaw site safety program implementation.

**Indian Valley Powerhouse Turbine Improvements, Yolo
County Flood Control and Water Conservation District –
Lake County, California**

Project Manager/ Inspector / Project Engineer / Site Manager. This project involved disassembly, inspection, evaluation, reassembly and startup of two 1,400-kW Horizontal Francis turbines and one 100-kW Turgo turbine at Indian Valley Powerhouse. Thomas generated daily inspection reports, coordinated activities with the labor foreman, and issued the evaluation report with recommended repair/replacement plans.

**Rock Creek Valve Trunnion Improvements, PG&E –
Belden, California**

Project Manager / Lead Engineer. This was an emergency contract to remove, refurbish and reinstall the valve trunnions on one of the 1940s vintage Westinghouse 13-foot-diameter butterfly valves that act as a penstock shutoff valve for the Rock Creek Powerhouse. Thomas developed and maintained the project schedule; performed project engineering to design and procure temporary, portable handling and stabilization devices for the valve components; procured and inspected rehabilitation work on the trunnion assemblies; communicated with PG&E's engineer and inspector; created and compiled final documentation for the work; and implemented site safety procedures.

**Butte Valley Powerhouse Valve Retrofits, PG&E –
Prattville, California**

Project Engineer. This project involved retrofitting the seal of a 132-inch-diameter butterfly valve at the Butte Valley Hydroelectric Powerhouse. Thomas' responsibilities included pre-project site evaluation, project management, site management, mobilization planning, design coordination, fabrication inspection, safety program implementation, quality assurance, construction oversight, scope development and cost/schedule estimation regarding incidental work for the customer. Thomas provided project documentation, contract closeout and contractor coordination.

**Shear Pin Failure Detection System, United States
Bureau of Reclamation – California Great Basin
Region, California**

Senior Mechanical Engineer. Thomas designed and developed a working prototype of a shear pin failure detection system for the wicket gate operating mechanism of hydroelectric turbines. He worked with the Bureau's Technology Transfer section to establish an engineering design that disseminates the system throughout Bureau facilities and can be shared with federal and public partners.



Brandon, Winchell, PE

ELECTRICAL ENGINEERING

Areas of Expertise

- Electrical power design
- Electrical systems
- Control systems, water control and regulation equipment
- Pump station and outfall electrical design
- Communication systems
- Lighting systems
- Construction cost estimating
- CADD

Education

- BS, Electrical Engineering, California State University – Sacramento

Registration/Certifications

- Licensed Professional Engineer – California

Brandon Winchell is a registered electrical engineer with 11 years of design experience as an electrical designer of power, instrumentation and control systems. He has performed designs for hydro, excitation, arc flash, water, wastewater, airport vaults, airport closed circuit rebreather (CCR), runway/taxiway circuits and generators.

PROJECT EXPERIENCE

Wise 1 Powerhouse Replacement Back Up Generator, PG&E – Yuba County, California

Electrical Engineer. The Powerhouse turned 100 years old in 2017, and PG&E engaged Mead & Hunt to design, provide drawings and specifications and construction support for the replacement backup generator and automatic transfer switch for the facility. Brandon was the EOR for this project and provided a set of drawings including arrangement, single line, 3-line, control diagrams, diagram of connection, and elementary diagrams. The project included coordination with generator manufacture, startup and testing and procurement specifications including reviewing shop drawings. Brandon provided specifications and design information for procurement of the generator during design. After the generator was procured, shop drawings, control wiring, size, anchorage, and generator pad were used to provide the final construction documents.

Drum 1 Backup Generator, PG&E – Dutch Flat, California

Electrical Engineer. Preliminary and detailed design of a project that added a standby propane generator and automatic transfer switch at a five-unit powerhouse. Work included design of the propane piping. The team revised facility drawings and description of operation procedures for use by operations and maintenance personnel, and produced startup and testing procedures for commissioning of design. Brandon provided a design set of drawings including arrangement, single line, 3-line, control diagrams, diagram of connection and elementary diagrams. The project included coordination with generator manufacture, startup and testing and procurement specifications including reviewing shop drawings. After the generator was procured, shop drawings, control wiring, size, anchorage, and generator pad were used to provide the final construction documents.

Jersey Island Pump Station Relocation, Reclamation District 830 (RD830) – Jersey Island, California

Electrical Engineer. Mead & Hunt is a subcontractor performing the design and construction support for a pump station relocation including a new pump station with two new 75-Hp pumps and salvaging one existing pump along with a new diesel emergency generator to run the facility during an outage. Brandon is the

EOR and lead design engineer and developed drawings, cost estimates, calculations, specifications, and reports. Currently the project is in construction and Brandon is providing construction support for the electrical portion.

Riverside Canal and Pipeline, Natomas Mutual Water Company – Sacramento, California

Electrical Engineer. To relocated three miles of irrigation water supply main canal for levee reconstruction, the system was replaced with a large diameter pressure pipeline. Two automated water supply pump stations, 300-HP total were designed, including SCADA and controls. As electrical EOR, Brandon participated in planning for control and regulation of the system; prepared plans, specifications, and cost estimates to USACE standards; and is providing design support for construction. The challenge was design of a remotely operated, automated response to highly variable flow conditions.

Minter Field Airport Runway and Backup Generator, Shafter Airport – Shafter, California

Electrical Engineer. Brandon was the EOR to provide a new CCR, controls and backup power to the existing electrical vault. The backup generator will provide power for the airport in an event of an outage to allow continuous operations. Brandon provided design drawings, control, diagram of connections and calculations to ensure the backup generator is sized to provide power for the facility. New runway LED light fixtures were installed along the runway along with new conduit ductbanks, and homeruns including directional drilling.

Box Canyon Dam Improvement Project, Siskiyou Power Authority (SPA) – Yreka, California

Electrical Engineer. This project is to provide services for the preparation of plans, specifications, estimated and construction support as required for the refurbishment and installation of a vertical tram system, installation of a new replacement emergency generator system and installation of a new replacement excitation system. Our preliminary investigation has indicated that a 100- to 150-KW generator would sufficiently provide power to the tram system. The generator was located at the top of the dam. Conduit raceway and ductbanks were used to route underground, along the dam and down the dam. The total conduit routing distance was

approximately 500 feet to the emergency power panel. A step-down transformer was not used due to space restrictions at the powerhouse.

Arc Flash Studies, Merced Irrigation District (MID) – La Grange, California

Electrical Engineer. This project provided MID with short circuit, PDC and Arcflash risk assessment reports with appropriate arc flash labels for equipment at Exchequer Powerhouse and McSwain Powerhouse. Tasks included a field visit and equipment surveyed, reports and recommendations and applying labels.

Middle Fork Excitation System Replacement Project Units 1 and 2, PCWA – Forest Hill, California

Electrical Engineer. Mead & Hunt converted more than 100 TIF images to CADD drawings, and with layer management, revise single line, three line, bill of materials, nameplates, instrument list, circuit schedules, raceway schedules, diagram of connections and elementary diagrams. This project removed existing rotating exciters and excitation controls and replaced exciters with static excitation. Each generator is 13.8-kV, 68-megavolt ampere (MVA), 400 rated operating speed (RPM) synchronous.

Installation Master Plan, CA ANG – Camp Roberts, California

Electrical Engineer. Performed electrical portion for future growth of base. Performed on site visit and charrette with base. Electrical portion included analyzing existing base utility. Project requires overhead expansions of existing base utility with redundant power. Each building had a specific mission with specific electrical demands. Estimated demand loads. Held an on-site planning charrette. Determined basis of planning and drivers for master plan, including guiding principles, goals and objectives, development suitability, and gross level requirements program. Provided concept development, including formulation and evaluation of options, providing a preferred development option. Performed partial installation facility survey and analysis of existing solar farm system for efficiency to recommend replace, repair or upgrade. Conducted work sessions, site visits and meetings with key stakeholders. Followed guidance of UFC 2-100-01 and supplemented by NGR 210-20.



Eric Love, PE, SE

STRUCTURAL ENGINEERING

Areas of Expertise

- Structural design
- Structural evaluations
- Project management
- Construction support services

Education

- BS, Civil Engineering, California State University – Sacramento

Registration/Certifications

- Licensed Civil Engineer – California
- Licensed Structural Engineer – California
- National Council of Examiners for Engineering and Surveying (NCEES)

Eric Love has 23 years of experience in design and management of structural design projects. His design experience includes work with steel, concrete, masonry, wood and load-bearing light gauge steel building structures. His diverse portfolio includes structural design and project management for infrastructure, hydroelectric, water delivery systems, flood control, solar, educational, industrial, residential and forensic structural projects. As part of his project management experience, Eric has overseen small and large projects from conception to completion for both structurally-focused projects and multi-discipline projects. Eric has prepared fee estimates, design-build qualifications, technical investigation reports, assessment reports and project specifications, in addition to structural design, calculations and drawings. Eric has also acquired extensive field experience performing structural observations and solving problems during construction in addition to performing various construction administration tasks.

PROJECT EXPERIENCE

Pumping Plant No. 1B Standby Generator Building Addition, RD1000 – Sacramento, California

Project Engineer. Mead & Hunt performed planning, design, permitting, and construction management for installation of a 2,500-kW standby diesel generator at Plant 1B. The work included a concrete masonry block building addition connected to the existing Plant 1B electrical building, with sound control panels, coiling door, louvers, building electrical services, switchgear, and connections to the existing equipment. The project also included a 2000-gallon above-ground diesel fuel tank and foundation, associated fuel piping, modifications to the existing building, and site work. The project was adjacent to residential area and the historic Plant 1A pump house and required modifications to existing building for maintenance crew staging. Mead & Hunt designed the facility to aesthetically blend with surroundings and provide sound mitigation, including a 14-foot tall concrete masonry sound barrier with added sound absorbing panels, all on a very limited site footprint. Eric led the design team for multi-discipline building project execution. He also managed the project execution for the district and was the structural EOR and the construction manager.

Wise 1 and Drum 1 Powerhouse Replacement Back-Up Generators, PG&E – Auburn, California

Structural Engineer. For improved reliability and capacity, PG&E replaced backup generators with new propane generators, with automatic transfer switches for the Wise 14-MW powerhouse and the Drum 1 54-MW powerhouse. Mead & Hunt confirmed PG&E's load requirements for the new backup generators, developed plans and specifications, supported PG&E during the bidding process and

provided support during construction. Eric was the structural engineer responsible for design of generator and propane tank foundations and snow sheds. Early planning considered and rejected generator mounts within the building, and Eric evaluated and analyzed improvements required to support on an aging thin decking.

Dry Creek Recapture Project, Brown's Valley Irrigation District (BVID) – Browns Valley, California

Structural Engineer. Mead & Hunt designed an 11-cfs recirculation system for recapture of agricultural runoff water in Dry Creek, a tributary to the Yuba River, including intake structure, fish screens, lift pump station and controls and two miles of pressurized water main. Mead & Hunt reviewed feasibility of screening options including Coanda intake screens and selected removable brushed cone screen technology based on site conditions. As the structural engineer, Eric designed screen foundation in the creek bed, the pump house, valve vaults and other structural features.

Leaburg Dam Gate Hoist 2 Replacement, Eugene Water and Electric Board (EWEB) – Eugene, Oregon

Structural Engineer. This project entails replacement of a faulty drum roll gate hoist mechanism that was affecting the water control capability at one of the EWEB's functioning hydropower facilities. The hoist failure occurred on one of three rare drum gates at Leaburg Dam. Mead & Hunt was evaluated hoist replacement alternatives, designed a new hoist scheme and oversaw construction and commissioning of the new system. Design work began in 2013 and completed in February 2014. Construction was completed in mid-2014. Eric was responsible for the replacement of the hoist system, gate house improvements, access improvements and emergency dogging device design at Gates 2 and 3.

Valencia Solar I Skid Design, Construction Innovations – Westmoreland, California

Project Manager. Mead & Hunt provided structural engineering services for a skid structure supporting nine pieces of interconnection electrical equipment, including cabinets and panels. Mead & Hunt designed required pile locations to support the skid by reviewing weights, center of gravity, physical dimensions and mounting bolt patterns of equipment. Mead & Hunt also analyzed wind and seismic loads

and anchorage of each piece of equipment to the superstructure. Mead & Hunt also provided review of structural steel shop drawings prior to fabrication for compliance with structural design. Eric was responsible for the structural design effort.

Applegate Dam Hydroelectric Project, AG Hydro, LLC (Symbiotics) – Applegate River, Jackson County, Oregon

Senior Structural Engineer. Mead & Hunt was retained to complete the design, plans and specifications for construction of a 10-MW hydroelectric generation facility. Eric oversaw the structural design effort for the Applegate Hydroelectric project which was performed using three-dimensional (3D) modeling and inclusion of seismic loads in accordance with USACE criteria. In addition, Eric's responsibilities include assistance with the overall site layout, powerhouse architectural design, design budget management, cost estimates and internal coordination between disciplines.

MRCFAC 69-kV H-Frame Dead End Structure, Sacramento Municipal Utility District (SMUD) – Sacramento, California

Project Manager. Mead & Hunt performed structural engineering services for a 69-kV H-frame dead-end structure. The H-frame dead end structure resists wire tension for three conductors at the top of the frame and also supports three current transformers on a single horizontal cross beam. The transformer equipment was supplied by SMUD. The H-frame structure was previously designed by a separate engineer. Mead & Hunt's scope was to provide structural analysis to successfully address review comments by SMUD. These included seismic design, taking into account the geotechnical characteristics of the site, wind design, wire tension, use of IEEE 693 for connection loads and anchorage analysis, determination of maximum base reaction per ASCE 113 and analysis of H-frame column to base plate connection. Mead & Hunt communicated directly with SMUD to resolve all comments successfully. Eric was responsible for the structural design effort.



Jeff Kashiwada, PE, CFM

CIVIL ENGINEERING

Areas of Expertise

- Civil design
- Floodplain management
- Stormwater management
- Project management
- Hydraulic modeling and design
- Structural analysis and design
- Hydraulic modeling and design

Education

- BS, Civil Engineering, California State University, Sacramento

Registration/Certifications

- Licensed Professional Engineer – California
- Certified Floodplain Manager

Jeff Kashiwada is a civil engineer specializing in civil and structural analysis, design, and hydraulic modeling and design. His project experience includes pump lift stations facilities, fish screens, flood control projects, master drainage plans, storm drain systems, detention basins, building design, site security fencing and irrigation facilities and culverts. He has designed steel, concrete and concrete masonry structures including rack houses, office buildings, pump stations and retaining walls. He has also designed water conveyance projects. Jeff is familiar with HEC-RAS, XPSWMM, AutoCAD and Civil 3D.

PROJECT EXPERIENCE

Riverside Canal and Pipeline, Natomas Mutual Water Company – Sacramento, California

Project Manager. To accommodate levee improvements for the USACE American River Common Features Project, three miles of an irrigation main canal must be relocated. The relocated Riverside Canal and Pipeline work will consist of design and construction of piping through levees, lined canals, pressure pipelines, a sediment basin and two automated pump stations. Jeff is the project manager leading the team through the planning and preparation of the drawings, technical specifications, cost estimate, and design reports for project construction. In addition, Jeff is responsible for project coordination with the Owner, project stakeholders, and other engineering consultants preparing construction plans for levee improvements adjacent to the Riverside Canal/Pipeline.

South River Pump Station Flood Protection Project, Sacramento Regional County Sanitation District (Regional San) – Sacramento, California

Civil Design Engineer. Jeff was the lead design engineer for the construction of a FEMA accredited flood protection system around the South River Pumping Station in Yolo County to provide protection in a 200-year flood event. Work includes rehabilitation of existing levees, construction of new levee, relief wells, borrow sourcing, utility relocations, drainage system design, roadway design and right-of-way engineering.

Dry Creek Recapture Project, Browns Valley Irrigation District – Browns Valley, California

Civil Design Engineer. Mead & Hunt designed a water system including a river intake structure, pumping plant with level controls, and 10,000 feet of 24-inch-diameter water main to provide up to 10-cfs of irrigation water to the upstream irrigation canal. The project involved pumping irrigation return water from Dry Creek to recycle up to 10-cfs of irrigation return water. Mead & Hunt created a model of the pipeline to evaluate methods to reduce friction losses in the pipe, designed the

intake structure, pump station and main, and prepared a bid-able set of documents. Work included permitting coordination, pipeline alignment verification and utility coordination. Jeff was the design engineer responsible for the river intake structure, valve vault, control building, and pump station. He also prepared plans, specifications, and cost estimates, and coordinated the design with agencies and utilities.

NLIP, SAFCA – Sacramento, California

Civil Design Engineer. Mead & Hunt was a key design engineer for this \$800 million project. It protects 80,000 people and \$70 billion in infrastructure. Mead & Hunt had a significant role in the project as the designer for the landside facilities and overall project quality control. Our design responsibilities included relocating the impacted conveyance canals and pipelines, modifying several pump stations, replacing two large pump stations, designing and coordinating the borrow sites, controlling quality for the client, and coordinating with major stakeholders. Mead & Hunt also acted as the owner's representative during construction. Jeff was the design engineer for new and relocated irrigation and drainage systems. Jeff planned and designed structures including irrigations canals, drainage ditches, sediment basins, overflow weirs, irrigation turnouts, culverts and gated diversions.

Pipe Removal Maintenance Project, ARFCD – Sacramento, California

Civil Design Lead. ARFCD maintains 40 miles of levees in the Sacramento area. As the project manager, Nancy is working with ARFCD staff and local agencies to correct high-risk levee pipe penetrations within the district. This work is being completed as part of the DWR DMP on an accelerated schedule to secure grant funding from the state. Jeff is the civil design lead and helped with the preparation of design bid documents, bid support and engineering support during construction.

Napa River Comprehensive Flood Protection Project, City of St. Helena – St. Helena, California

Civil Design Engineer. This project provides FEMA certified flood protection for portions of the City of St. Helena along the Napa River. Work included construction of approximately 2,000 feet of new levee, approximately 2,000 feet of floodwall, compaction grouting for foundation improvements, a new pumping plant, storm drainage improvements, detention basin, relocation of potable water pipeline, construction of river system conveyance improvements and streambed restoration. Jeff was design engineer for the hydrologic and hydraulic modeling of the existing and proposed storm drainage system. He also served as assistant engineer for designing drainage improvements and preparing FEMA mapping revision requests for the levee improvements.

Natomas Basin Project, SAFCA – Sacramento, California

Project Manager. Jeff was responsible for the planning, design and design support for this project. Project components include designing the relocation of NMWC's Riverside Irrigation Canal and associated soil borrow sites, and providing design support for the USACE's preparation of construction documents for four levee repair contracts. The USACE design support tasks will include coordinating stakeholder facility requirements, reviewing designs for compliance with FEMA certification standards and state provisions, and providing technical support for levee related design.



Marieke Armstrong

GRANT COMPLIANCE

Areas of Expertise

- Environmental analyses
- Environmental permitting
- CEQA/NEPA documents
- FERC licensing
- Geographic Information Systems

Education

- MS, Environmental Science, Indiana University
- BS, Ecology, Behavior, and Evolution, University of California – San Diego

Marieke Armstrong has over 23 years of experience providing regulatory analysis, agency coordination and environmental document preparation within engineering consulting firms to support water resources and aviation projects. She is an experienced environmental coordinator for multi-phase construction projects working with an outside environmental team and managing CEQA/NEPA documents for water development and flood control projects. She is experienced coordinating with field personnel, design engineers and regulatory agencies to obtain required approvals. Marieke is experienced in Geographic Information Systems (GIS) and using ArcGIS to perform analyses and create maps to support feasibility and planning phases of design projects.

PROJECT EXPERIENCE

Pumping Plant No. 1B Emergency Generator, RD1000 – Sacramento, California

Environmental Specialist. Mead & Hunt provided building design to support an emergency generator for Pumping Plant No. 1B. To support the CEQA compliance, Marieke conducted a public meeting with the residential neighbors and prepared the CEQA document for RD1000. Marieke also worked with regulatory agencies to secure permits for the construction of the building and generator.

South River Pump Station Flood Protection Project, Sacramento Regional San – Yolo County, California

Environmental Specialist. Marieke is assisting with permitting and regulatory compliance for the planning, design, permitting for the construction of a FEMA accredited flood protection system around the South River Pumping Station in Yolo County to provide protection in a 200-year flood event.

River Mile 75.1 Emergency Levee Repair, SAFCA – Sacramento, California

Environmental Specialist. After extended high water levels in the Sacramento River caused severe seepage under the levee and into the sump of RD1000's Pumping Plant 2, SAFCA recommended removing the pump station and implementing several emergency stabilization measures, including filling approximately 800 feet of the intake channel. In response, Mead & Hunt prepared a phased approach that included installing a sheet pile cutoff wall, stabilizing the landside, degrading the levee section and removing penetrations and anomalies to below grade. Mead & Hunt was the design engineer and project manager, supervising investigations, filing permitting applications, preparing plans and specs, administering bidding and providing design support during construction. Marieke acted as the liaison between the design engineers and field biologists to coordinate information flow and obtain required approvals and permits. She coordinated with the design

engineers and environmental subconsultant to obtain field surveys and incorporate regulatory conditions into the design and construction specifications.

Supplemental Water Rights Project, California Water Consulting, Inc. – El Dorado County, California

Project Manager. In anticipation of the growing need for additional water to meet population growth, the El Dorado Water and Power Authority sought supplemental water rights via water transfers, new appropriation or delivery and storage from the Upper American River Project (UARP). Mead & Hunt was part of a larger consulting team putting the environmental document together under the CEQA and the NEPA. Mead & Hunt was responsible for the hydrologic modeling of the UARP to quantify the effects of the water transfers on the downstream supply. Marieke kept the modeling efforts on schedule, coordinated with other consultants and provided the team with technical support appendices for the environmental document.

San Geronio Water Supply, Banning Heights Mutual Water Company – Riverside and San Bernardino, California

Permitting Manager. Marieke was the permitting manager for this project to repair damages from a severe winter storm. Repair and rehabilitation included Burnt Canyon Diversion Dam, access roads and the gabion protecting the client's million-gallon water tank. Marieke coordinated with interested regulatory agencies, including the FEMA, California Department of Fish and Game, the Regional Water Quality Control Board, and the USACE, prepared permit applications and expedited approvals to meet the project's emergency time constraints and water supply demands.

Napa River Comprehensive Flood Protection Project, City of St. Helena – St. Helena, California

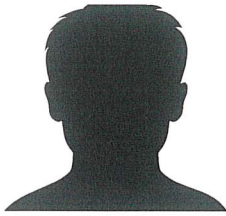
Environmental Specialist. Mead & Hunt was the overall project manager leading the team in funding, permitting, design, bidding and construction development. Mead & Hunt obtained a CLOMR from the FEMA on behalf of the City and Napa County. Marieke provided GIS support for organizing floodplain-related spatial data and for organizing and utilizing base data from various public domain sources. She also provided QA/QC review for the environmental and permitting documents for consistency between the design and environmental and regulatory constraints.

American Basin Fish Screen and Habitat Improvement, NMWC – Sacramento, California

Environmental Specialist. The project will consolidate five unscreened diversions into two screened diversions along with canal improvements. Marieke compiled data of diverse types such as engineering features, environmental features and water supply system from various sources to produced maps using ArcGIS to support the environmental document. Marieke also acted as liaison between the design engineers and field biologists to coordinate information flow and provide assistance as needed to support the preparation of the CEQA and NEPA documents.

Camp Far West Dam Spillway Modification Design Project, South Sutter Water District – Sutter County, California

Environmental Specialist. The Camp Far West Dam, owned and operated by the South Sutter Water District (SSWD), required modification of the spillway to safely pass the Probable Maximum Flood (PMF) without dam overtopping. The spillway modifications involved lowering the existing 300 foot long spillway to increase capacity and installation of Obermeyer Spillway Gates along the crest of the reconstructed spillway. Marieke prepared permit applications including project descriptions, project plans and exhibits to support the regulatory coordination efforts as required by the various agencies. Coordination with the regulatory agencies to obtain the necessary approvals for construction of the project is ongoing.



Azeddine Bahloul, PE, GE

CONSTRUCTION TESTING

Areas of Expertise

- Shallow and deep foundation analysis and design
- Roadway and bridge studies (materials and foundations reports)
- Engineering analyses of slope, seismicity, liquefaction, etc.
- Deterministic and probabilistic seismicity evaluations
- Regional liquefaction evaluations
- Ground improvement
- Field engineering and forensic investigations
- Quality control/ quality assurance

Education

- PhD Program, Civil Engineering – Geotechnical, École Polytechnique de Montréal, Canada
- MS, Solids and Structures Mechanics -Geotechnical, Diplôme des Études Approfondies, École Nationale des Ponts et Chaussées, Paris, France
- BS, Civil Engineering (Public Works) École Nationale des Travaux Publics, Algiers, Algeria

Registration/Certifications

- Licensed Professional Engineer – California, Oregon
- Licensed Geotechnical Engineer – California

Azeddine Bahloul is a senior engineer with over 18 years of experience in the geotechnical engineering field. His experience includes consulting and forensic engineering in California, Oregon and Arizona. His responsibilities have included engineering and design, project management, along with quality control/quality assurance. Azeddine is an experienced engineer in the field of geotechnical engineering and is familiar with the current technologies available in this field. His education includes research and development in liquefaction and limit state design as he worked towards his graduate degree.

PROJECT EXPERIENCE

Levees, Treatment Plants and Critical Facilities

- Redwood Creek Levee Assessment, Humboldt County, CA
- Clear Creek WWTP Levee Certification Study, Redding, CA
- Blue Lake Levee Assessment, Humboldt County, CA
- Burney Creek Floodwall Study, Shasta County
- Central Valley High School Additions, Shasta Lake
- Buckeye School General Purpose Addition, Shasta County
- Shasta County Juvenile Rehabilitation Facility
- Law Enforcement Center, City of Shasta Lake
- Sierra Army Depot, Herlong, CA
- Battle Mountain WTP – Battle Mountain, NV
- Stillwater WWTP Expansion, Redding, CA
- City of Fort Bragg Newman Gulch Reservoir Studies
- Fall River Mills Wastewater Facility Modification
- Ambrosini School Expansion, Fortuna, CA
- Arcata School Child Care Facility, Arcata, CA
- Eureka School District Education Resource Center

- Weed Public Safety Facility, Weed, CA
- California Army National Guard Expansions, Eureka
- Redding, Mt. Shasta, and Chico, CA
- Fairchild Medical Center Critical Care Nursing Facility, Yreka, CA
- RABA Facility Expansion, Redding, CA

Retaining Wall & Settlement Projects

- Buckeye Pines Retaining Walls, Redding, CA
- Martin Residence MSE Wall Design, Redding, CA
- Mizeur Retaining Walls, Shastina Lake, Siskiyou, CA

Pipelines, Tanks, and Pump Stations

- Vickery Avenue Reservoir, Saratoga, CA
- McKean Tank & Pipeline, San Jose Water Company
- Overlook Tanks, San Jose Water Company
- Marin Municipal Water Agency's Fairfax Transmission Main Tanks
- Trinity Center Mutual Water Co. Upgrade, Trinity County
- Dominguez Hills Tank & Well No. 203, Carson, CA
- City of Redding's Jenny Creek Sewer Pipeline & Lift Station, Redding, CA
- City of Redding's Butte Street Water Pipeline, Redding, CA



CGI Technical Services, Inc.

REQUIRED SUBMITTALS**CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION**

1. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to whom this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or had become erroneous by reason of changed circumstances.
4. The terms covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded, as used in this clause, have the meaning set out in the Definition and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this agreement that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is proposed for debarment under 48 CFR Part 9, subpart 9.4, debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not proposed for debarment under 48 CFR part 9, subpart 9.4, debarred, suspended, ineligible, or voluntarily excluded from covered transactions, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the List of Parties Excluded from Federal Procurement and Nonprocurement Programs.

8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is proposed for debarment under 48 CFR part 9, subpart 9.4, suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction originated may pursue available remedies, including suspension and/or debarment.

NOW, THEREFORE, Contractor certifies as follows:

That, by submission of its proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.

CONTRACTOR

Dated: April 25, 2022

By: 

CERTIFICATION REGARDING LOBBYING**Certification for Contracts, Grants, Loans, and Cooperative Agreements**

The undersigned certifies, to the best of his or her knowledge and belief, that:

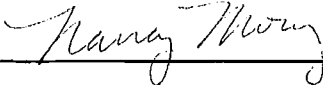
1. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
2. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
3. The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loan, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly.
4. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

CONTRACTOR

Dated: April 25, 2022

By: Nancy Mow

**Prime Contractor/Consultant/Recipient
Minority - and Women-Owned Business Enterprises (MBE/WBEs)
To Be Executed By Bidder and Submitted with Bid**

Contractor/Consultant Name: Mead & Hunt	Contract No. Project No. 14432
Project Description: Muletown Pump Station Generator Project	Project Location Redding, California
Prime Contractor/Consultant Information	
Name & Address: Mead & Hunt 180 Promenade Circle, Ste 240, Sacramento, California 95834 Federal Employer Tax ID #: 39-0793822	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Amount of Contract: \$ [REDACTED]
Subcontractor/Supplier/Subconsultant Information	
Subcontractor/Joint Venture <input checked="" type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant CGi Technical Services, Inc. (CGi), Amount of Contract: \$ [REDACTED] Work to be Performed: Construction inspection and materials testing	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone CGi 1612 Insight Place Redding, CA 96003 530-244-6277
Subcontractor/Joint Venture <input type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant <input type="checkbox"/> Amount of Contract: \$ Work to be Performed:	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone
Subcontractor/Joint Venture <input type="checkbox"/> Supplier/Service Broker <input type="checkbox"/> Subconsultant <input type="checkbox"/> Amount of Contract: \$ Work to be Performed:	MBE <input type="checkbox"/> WBE <input type="checkbox"/> Name, Address & Phone
Total MBE Amount: \$	Total WBE Amount \$
Signature of Person Completing Form: 	Date: April 29, 2022
Title: Civil Engineering Supervisor, Water Resources	Phone: 916-993-4605

Note: Costs have been redacted from this proposal file. A duplicate of this form, with costs shown, has been included in the cost proposal, submitted separately.

Failure to complete and submit this form with the bid will cause the bid to be rejected as non-responsive.

MINORITY BUSINESS ENTERPRISES & WOMEN BUSINESS ENTERPRISES (MBE/WBEs)
"GOOD FAITH" EFFORT LIST OF SUBCONTRACTORS/SUBCONSULTANTS SOLICITED
FORM A & B

[illegible]

**MBE/WBEs
Work Task Made Available
Form C**

Bid Item No.	Description of Work or Portion of Work Made Available
Task 7	Construction Inspection and Materials Testing

**Delivery Schedules Established
Form D**

**Agencies Contacted to Provide Assistance in Contracting with MBE/WBEs
Form E**

Name of Agency	Date Contacted
Small Business Administration http://dsbs.sba.gov/dsbs/search/dsp_dsbs.cfm	Research performed on 3/3/22, no applicable firms found.
Minority Business Development Agency-Department of Commerce https://www.mbda.gov/	

<i>Additional Data to Support Good Faith Efforts with Attachments</i>

Please attach any additional data to support demonstration of "Good Faith Efforts."

DATA TO SUPPORT DEMONSTRATION OF "GOOD FAITH EFFORTS"

Sources used to research minority- and women-owned businesses

- Did on-line search using google search engine for Women or Minority Owned businesses in the Redding, California area.
- Google Maps Search based on location: [Maps.google.com](https://www.google.com/maps)
- Shasta Builder's Exchange trade, Training, Resource Guide and Membership directory:
<https://www.shastabe.com/tool-box/member-directory/#/action/Category/cid/990/id/1401/listingType/O>
- Small Business Association (SBA) Dynamic Small Business Search (DSBS) Engine:
https://web.sba.gov/pro-net/search/dsp_dsbs.cfm

The break-down of search results is provided on the following pages.

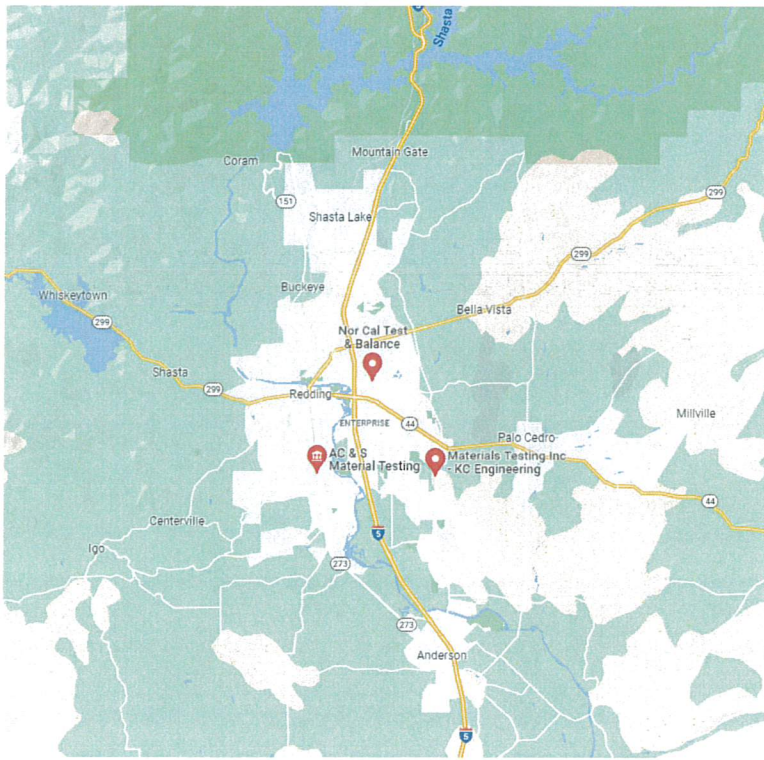
Google Maps Search based on location[Maps.google.com](https://maps.google.com)

- Searched for Material Testing company near Redding, California
- Results included three companies
- None were identified as Women or Minority Owned

material testing near redding ca - Google Maps

4/18/22, 9:35 AM

Google Maps material testing near redding ca



Rating All filters

Materials Testing Inc - KC Engineering
 5.0 (5)
 Geotechnical engineer · 8798 Airport Rd
 Open · Closes 5PM · (530) 222-0832
[Website](#) [Directions](#)

A C & S Material Testing
 No reviews
 Home Inspector · 4792 Westside Rd
 Open now · (530) 241-5934
[Directions](#)

Nor Cal Test & Balance
 No reviews
 Sheet metal contractor · 915 Partridge Dr
 · (530) 351-5745
[Directions](#)

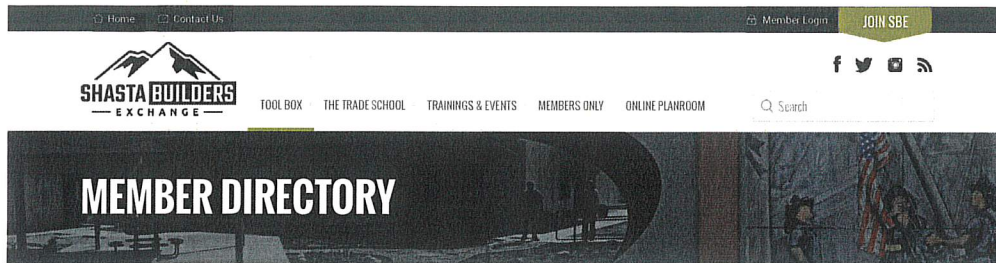
Showing results 1 - 3

Map data ©2022 Google 2 mi

Shasta Builder's Exchange trade, Training, Resource Guide and Membership directory

<https://www.shastabe.com/tool-box/member-directory/#/action/Category/cid/990/id/1401/listingType/O>

- Results included four small businesses that provided the relevant material testing services required.
- None were identified as Women- or Minority-Owned.



Home » Tool Box » Member Directory

Find a Contractor

Tool Box

Join SBE

- Membership Makes a Difference
- Monthly
- Membership Levels
- Golden State Plan Service
- Savings
- Preferred Vendor Program
- Preferred Vendors
- Fuel Discount
- Insurance
- Employee
- Employer
- Resources
- Advertise With Us
- Forms
- Links

Member Directory

SBE Weekly – Our Publication

Parameter Filters: (MBE or WBE)

Relevance **A-Z Z-A**

Axner Excavating Inc.
Work Phone: (530) 222-0539
[View Full Listing](#) [Add To Contact List](#)
Similar Listings: [Concrete & Rock Businesses](#)

Crazy J's Concrete, Inc.
Work Phone: (530) 227-9981
[View Full Listing](#) [Add To Contact List](#)
Similar Listings: [Concrete Contractors \(C-C\)](#)

Relevance **A-Z Z-A**

Relevance **A-Z Z-A**

Directory Sitemap Special Offers
Members | Join The Hive

[Shasta Builders' Exchange Member Directory 2017-18](#) [Download](#)

UPCOMING EVENTS

Jan 19 Craft Training Payments 2022

Mar 11 FREE Scissor Lift Safety - Friday, March 11, 2022

Mar 18 FREE Forklift Safety and Operation - Warehouse - Friday, March 18, 2022

Jun 04 The Trade School Gala - 2022

Jul 20 Orientation for Fall 2022

Small Business Association (SBA) Dynamic Small Business Search (DSBS) Engine

https://web.sba.gov/pro-net/search/dsp_dsbs.cfm

- Search criteria:
 - » Shasta county, California
 - » Any minority or woman owned
- Results did not include companies that performed material testing

Document generated by: [Document Generator](#)

Document ID: 123456789

Title: Learning, writing, thinking, and doing
Author: John Doe
Version: 1.0
Date: 2023-10-27

URL: [https://www.example.com/document/123456789](#)

Keywords: Learning, writing, thinking, and doing

Abstract: This document explores the relationship between learning, writing, thinking, and doing, and how they can be used to improve one's skills and knowledge.

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3. Writing

4. Thinking

5. Doing

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Companies Called***CGI Technical Services Inc.***

Geotechnical and geology, but also material testing and special inspection

BEP: SBE

1612 Insight Place

Redding, California 96003

530-244-6277

<https://www.cgitechnical.com/services>

- Found on Shasta Builder's Exchange
- Worked with Before under aviation group (Doug A). Reaching out to POC previously used
- Contacted Cliff Curry – 530-244-6277, Cell: 530-510-6743
- No response

Materials Testing, Inc. dba KC Engineering Co.

Geotechnical engineering, but has material and lab testing for concrete – also found on Google Maps

BEP: SBE

530-222-1116

8798 Airport Road

Redding, CA 96002

<https://www.mti-kcgeotech.com/home#who-we-are>

- Found on Shasta Builder's Exchange
- Called and left voicemail, no response.

Professional Assurance and Testing, Inc.

Concrete and other materials testing

BEP: SBE

530-351-4177

345 Ash Street

Red Bluff, CA 96080

<https://www.professionalassuranceandtesting.com/ourservices>

- Found on Shasta Builder's Exchange
- Called and left voicemail, no response.

ACE – Previously ACS Materials Testing, aka AC&S

Redding Offices

7069 Danyeur Road

Redding, CA 96001

530-241-5934

<http://aceqc.com/acs-materials-testing/>

- (Found using Google search)
- Called and left voicemail, no response.

CENTERVILLE

COMMUNITY SERVICES DISTRICT

MEMORANDUM

DATE: September 12, 2023
TO: Board of Directors
FROM: Chris Muehlbacher
SUBJECT: New Business 2 – Authorization to Solicit Bids for the Telemetry Replacement Project

Recommendation

ACTION – It is desired that the Board authorize the bid solicitation for the Telemetry Replacement Project.

Discussion

The Telemetry Replacement Project will remove and replace the radios, antennas, surge protective devices and cabling at seven sites located throughout the District's service area. The plans and specifications were completed by PACE Engineering and the remaining Bid Solicitation document by District staff. This system provides the communication network necessary to provide vital field information to the SCADA system so that the operators can monitor and remotely operate the distribution system. At present, a large portion of the Telemetry System is over 20 years old. Having an estimated useful life of 15 – 20 years it is necessary to replace this equipment to ensure a seamless and resilient operation. Below is a summary of the project costs:

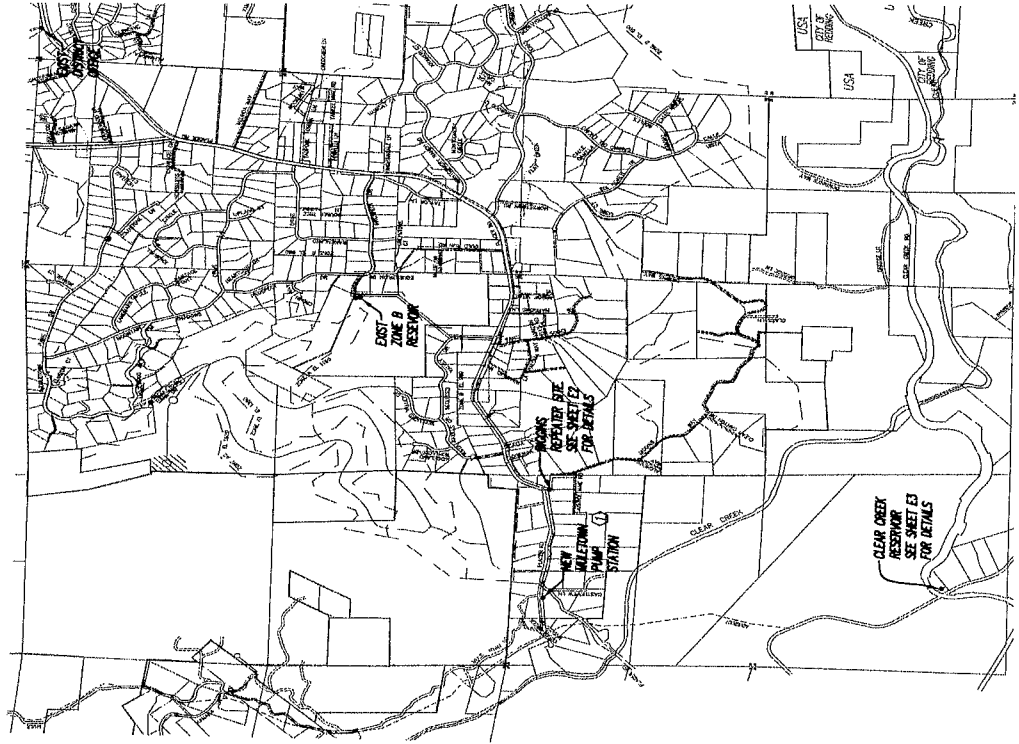
<u>Description</u>	<u>Estimated Cost</u>
Telemetry System Construction	\$49,500
Engineering Services (design, bid, construction)	\$20,500
Contingency	<u>\$15,000</u>
TOTAL	\$85,000

The bid opening will be scheduled for October 27th. While the actual construction is projected to be 90 calendar days, procurement is estimated to be approximately 20-weeks. Assuming an award is considered at the November meeting it is then projected that project completion would be sometime in the summer 2024.

Financial Impacts

The Server Replacement Project has been included in the current Capital Budget and is funded by the Capital Improvement Reserve. The reserve has adequate funds to support the Capital Budget. Based upon this, the project does not have a fiscal impact beyond what has already been planned.

TELEMETRY REPLACEMENT PROJECT No. 14460



PROJECT LOCATION: Various sites throughout the District.

PROJECT DESCRIPTION: The Telemetry System is composed of numerous radios which communicate essential operational information to the SCADA System for operational oversight and control. This project replaces existing equipment to ensure system resiliency.

YEARS ACQUIRED: 2001 & 2009

PROJECT NEED: At present, a large portion of the Telemetry System is over 20 years old. Having an estimated useful life of 15 – 20 years it is necessary to replace this equipment to ensure a seamless and resilient operation. These components are critical for District operations.

See PACE Engineering report dated October 7, 2016 and updated email dated December 12, 2021 for more information.

FINANCING: Capital Improvement Reserve

<u>Description</u>	<u>Estimated Cost</u>
Telemetry System	\$49,500
Engineering Services	\$20,500
Contingency	\$15,000
TOTAL	\$85,000

BID SOLICITATION DOCUMENT

CENTERVILLE COMMUNITY SERVICES DISTRICT

TELEMETRY REPLACEMENT PROJECT

September 8, 2023

SCOPE OF WORK

The Centerville Community Services District (the "District") is soliciting informal bids for the construction of the Telemetry Replacement Project (the "Project"). The Contractor will be responsible for: constructing the improvements per the final plans and specifications as approved by the District to the satisfaction of the District.

Telemetry Replacement Project

This project will include the removal and replacement of the radio, antenna and all related appurtenances located at seven (7) sites throughout the District's service area. Construction to include all materials and labor necessary to execute the plans designed by PACE Engineering.

Bid Opening

Bids shall be publicly opened at **1:00 pm on Friday, October 27, 2023**. Sealed bids shall be mailed or hand-delivered to the District Office located at **8930 Placer Road, Redding, CA 96001**. No late bids or non-responsive bids will be considered.

Bids will be reviewed with the lowest responsive, responsible bidder being presented to the Board of Directors for consideration of award. The District reserves the right to reject all bids and rebid the project.

Additional Notes

Engineer's estimate: \$49,000.

The Contractor shall have ninety (90) calendar days to complete the Submittal and Construction Phases of the project once started. It is acknowledged that there will be an estimated 20-week lead time in order to receive the materials once the material submittals are approved. This period shall not be counted as part of the ninety (90) calendar day requirement.

A mandatory pre-bid job walk is scheduled for **1:30 pm on Thursday, October 12, 2023** commencing first at the District Office.

The Contractor shall hold a **Class C10 license** in accordance with the provisions of Section 3300 of the California Public Contract Code or other approved acceptable license.

BID PROPOSAL

Proposal of _____ (hereinafter called "Bidder"), organized
(Name of Contractor)

and existing under the laws of the State of California, doing business as

("a corporation", "a partnership", "a limited liability company" or "an individual")

to the Centerville Community Services District (hereinafter called "District").

Bidder hereby proposes to perform all work for the Construction of the TELEMETRY REPLACEMENT PROJECT in strict accordance with this "Bid Solicitation Document" and "Special Provisions", within the time set forth herein, and at the price stated below.

BID ITEM	ITEM DESCRIPTION	LUMP SUM PRICE
1.	Mobilization, Construction of District-approved RADIO AND ANTENNA REPLACEMENT PROJECT as designed by PACE Engineering including all Off-Site Disposal. Construction shall include all necessary modifications necessary for the removal and replacement of the radios, surge protective devices, antennas, antenna cables and all other related appurtenances which includes all inspections and demobilization.	\$
TOTAL BID AMOUNT:		\$

TOTAL BID AMOUNT _____ (IN WORDS)

Respectfully Submitted,

Signature

Name

Date

Title

Street Address

CA Contractor's License Number

Class

City, State Zip Code

SPECIAL PROVISIONS

1. Sealed Bids will be accepted as identified in the Bid Solicitation Document by: Mail or hand delivery to Chris Muehlbacher, Centerville Community Services District, 8930 Placer Road, Redding, CA, 96001. The bid shall include:
 - Bid Proposal
 - Contractor's License Card
 - Contractor's Statement
 - Contractor's Proof of Public Works Contractor Registration with DIR.
2. All prices shall include all applicable sales tax.
3. **All labor costs included in the work shall reflect the applicable Prevailing Wage Determinations. Contractor shall submit Certified Payroll to the District.**
4. The District shall register public works projects with the Department of Industrial Relations ("DIR") within 30 days of awarding the contract, but no later than the first day in which the Contractor has workers employed upon the public works. The District shall obtain prevailing wage rates from DIR.
5. The Bidder must register with DIR and acknowledges that the project is subject to enforcement by DIR.
6. Bidder shall provide proof of public works contractor registration before submitting a bid.
7. The basis of award will be based upon the lowest responsive and responsible total bid amount for constructing the "Project". The lowest responsive, responsible bid will be presented to the Board of Directors for consideration of award. The District reserves the right to reject all bids and rebid the project.
8. Bidder agrees to the terms and conditions of the District's Standard Agreement.
9. It is the Contractor's responsibility to verify all site conditions, including clearances, dimensions, site access constraints, and utility locations and alignments. Contact the District Lead Operator (530-246-0680) for any questions.
10. The Contractor shall coordinate all on-site work efforts with District staff.
11. Contractor shall retain and submit a Performance Bond for the bid value prior to contract execution.

12. Attached herein are the following documents which are to be used as the basis for the Project:

- Radio and Antenna Replacement Project Job No. 0214.85 (PACE Engineering, dated 08/17/2023).
- Specifications 214.85

13. Construction will be completed in accordance with the attached plans (and specifications). The order of precedence is:

- Radio and Antenna Replacement Project Job No. 0214.85 (PACE Engineering, dated 08/17/2023) & Specification 214.85
- Centerville CSD Construction Standards
- Greenbook

14. The General Provisions of the separately bound **2018** edition of the Standard Specifications for Public Works Construction, commonly referred to as the "Green Book", are made part of this Bid Solicitation Document.

15. Prior to performing the work, the Contractor shall provide evidence of General Liability, Workers Compensation, and Vehicle Insurance to the District Manager. Minimum insurance coverages shall be as follows:

General Liability:	\$1M/occurrence, \$2M aggregate
Vehicle:	\$500k/occurrence

All insurance shall name Centerville Community Services District and PACE Engineering as additional insured.

16. With the exception where caused by active negligence, sole negligence, or willful misconduct of the District, its elective Board, agents, consultants, authorized volunteers and employees, Contractor hereby agrees to, and shall hold the District, its elective Board, agents, consultants, authorized volunteers and employees harmless from and indemnify them against liability for damage or claims for damage for personal injury, including death, as well as from claims for property damage which may arise from the Contractor or subcontractors, agents, or employees under this agreement consistent with the District's Standard Public Works Agreement.

17. Regarding salvage of materials and equipment, the District reserves the right to salvage any material and/or equipment to be removed as part of the work. However, the Contractor shall remove and/or dispose of any unwanted material and/or equipment from the site. Salvaged materials or equipment shall be delivered to the District's Corporation Yard located at 8930 Placer Road, Redding CA, 96001.

18. Centerville CSD's working hours are as follows: Monday through Friday – excluding District-recognized holidays, from 8:00 am to 5:00 pm (including 1-hour for lunch). If work continues beyond the regular eight (8) hour workday, the cost will be deducted from the Contractor's payment at a rate of two (2) times the hourly rate of the District's

representative. Any scheduled work beyond the District's normal working hours shall require approval by the District Manager.

19. Payment for 100% of the contract amount, less 5% retention, shall be made to the Contractor after all work is completed and after receipt of an approved payment request is received by the District. Retention monies shall be paid 35 days after recordation of a Notice of Completion and receipt of a Release of Claims from the Contractor in accordance with the Public Contract Code.

SECTION 253100 - CONTROL PANELS AND ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Related Requirements:

1. Section 259000 - ORT and FAT Requirements.

1.2 REFERENCE STANDARDS

A. National Electrical Manufacturers Association:

1. NEMA 250 - Enclosures for Electrical Equipment (1000 Volts Maximum).
2. NEMA ICS 1 - Industrial Control and Systems: General Requirements.
3. NEMA ICS 4 - Application Guideline for Terminal Blocks.
4. NEMA ICS 5 - Control Circuit and Pilot Devices.
5. NEMA ICS 6 - Enclosures.

B. Underwriters' Laboratories:

1. UL 508 - Industrial Control Equipment.

1.3 SUBMITTALS

A. Product Data: Submit catalog data for each component, showing electrical characteristics and connection requirements.

B. Shop Drawings:

1. Comply with NEMA ICS 1.
2. Indicate control panel layouts, wiring connections and diagrams, dimensions, and support points.
3. Submit complete bill of materials, wiring diagrams and panel layout drawings showing dimensions to devices.

C. Manufacturer's Instructions: Submit detailed instructions on installation requirements, including storage and handling procedures and field wiring connections.

1.4 CLOSEOUT SUBMITTALS

- A. Project Record Documents: Record actual locations of control panel and final wiring diagrams and connections.
- B. Operation and Maintenance Data: Submit operation and maintenance instructions for components and devices.

1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with UL 508.
- B. Provide components compatible with functions required to form complete working system.
- C. Provide UL 508 label on complete assembly.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's packaging including installation instructions.
- B. Inspection: Accept materials on-site and inspect for damage.
- C. Store materials according to manufacturer's instructions.

1.7 EXISTING CONDITIONS

- A. Field Measurements:
 - 1. Verify field measurements prior to installation.
 - 2. Indicate field measurements on Shop Drawings.

PART 2 - PRODUCTS

2.1 CONTROL PANEL ENCLOSURE

- A. General:
 - 1. Panel construction and interior wiring: In accordance with the CEC, state, and local codes and applicable sections of NEMA, ANSI, and UL.
- B. Wires Within Enclosures:
 - 1. AC Circuits:
 - a. Type: 300-volt, Type MTW stranded copper.
 - b. Size: For current to be carried, but not less than No. 14-AWG.

2. Analog Signal Circuits:
 - a. Type: 300-volt stranded copper, twisted shielded pairs.
 - b. Size: No. 18 AWG, minimum.
 3. Other DC Circuits:
 - a. Type: 300-volt, Type MTW stranded copper.
 - b. Size: No. 18 AWG, minimum.
 4. Wire Identification: Numbered and tagged at each termination. In addition, provide unique insulation color scheme for AC, DC, and signal conductors.
- C. Wires entering or leaving enclosures terminate as follows:
1. Terminate at numbered terminal blocks.
- D. Terminal Blocks for Enclosures:
1. Provide quantity to accommodate present and future and spare indicated needs.
 2. One wire per terminal, maximum.
 3. Wire spare and unused panel mounted elements to their panel's terminal blocks.
 4. Spare Terminals: 20 percent of all connected terminals but not less than 10 per terminal block.
 5. Terminal Block, General Purpose:
 - a. Rated Voltage: 600 VAC.
 - b. Rated Current: 30 Amps.
 - c. Wire Size: 22 to 10 AWG.
 - d. Spacing: 0.25 inch, minimum.

PART 3 - EXECUTION

3.1 PREPARATION

- A. When manufacturer's installation instructions conflict with Contract Documents, request clarification from Engineer before proceeding.
- B. Disconnect and remove abandoned controls and relays.
- C. Access:
 1. Maintain access to existing controls, relays, and other installations remaining active and requiring access.
 2. Modify installation or provide access panel.
- D. Extend existing control and relay installations using materials and methods compatible with existing electrical installations or as specified.
- E. Clean and repair existing controls and relays to remain or to be reinstalled.

3.2 INSTALLATION

- A. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.
- B. Make electrical wiring interconnections as indicated on Drawings.

3.3 FIELD QUALITY CONTROL

- A. All equipment listed in this specification must be tested as described in Section 259000 - ORT and FAT Requirements.

3.4 DEMONSTRATION

- A. Demonstrate equipment startup, shutdown, routine maintenance, alarm condition responses, and emergency repair procedures to Owner's personnel.

END OF SECTION 253100

SECTION 259000 - ORT AND FAT REQUIREMENTS

PART 1 - GENERAL – Not Used

PART 2 - PRODUCTS – Not Used

PART 3 - EXECUTION

3.1 TESTING

A. Operational Readiness Test (ORT):

1. The entire installed I&C system shall be certified (inspected, tested, and documented) that it is ready for operation. The objective of this test is to demonstrate that the I&C system is ready for functional acceptance testing. The ORT shall be completed, documented, and submitted to the engineer prior to commencing with the functional acceptance test. See Supplement No. 1 - Example ORT Form for an example of an acceptable set of ORT forms.
2. Point-to-Point Wire Check: After installation, termination, and identification of conductors, perform a point-to-point wire check to verify that all wiring has been properly installed and identified and that there are no shorts between wires, shields, and ground. Lift conductors from terminals as required to perform this test.
 - a. Sequence Test: The sequence test is a step-by-step check of a control circuit to verify that the circuit does function as shown on the elementary diagrams and schematic diagrams.
 - 1) The sequence test is performed by going through the elementary diagrams on a line-by-line basis. As each circuit is checked, the drawing is marked with a colored pen. The objective is to confirm that the control circuitry agrees with the elementary diagrams. Corrections shall be made as required to the circuitry and to the Drawings. The end item is the set of marked-up elementary diagrams.
 - 2) Simulate operation of remote devices by opening or jumpering control circuits.

B. Functional Acceptance Testing (FAT):

1. Testing:

- a. After the Contractor has completed all required ORT documentation, manufacturer startups, and equipment calibrations, the engineer shall be notified for approval of ORT and startup documentation.
- b. Contractor shall then provide written permission to PACE to perform pre-FAT by powering and starting/operating their equipment along with notification that all supplied equipment, system documentation, and O&M manuals are on-site and available. PACE shall begin this pre-FAT only after receiving these notifications. The Contractor and PACE shall establish a written schedule as to when PACE will

be on-site to conduct pre-FAT. Contractor shall have a representative on-site that has operational knowledge of the equipment and is authorized to operate the equipment. If Contractor chooses not to have someone on-site and PACE is there when scheduled, then permission to operate needs to be granted with this acknowledgement. Granting permission to PACE to start operation of the equipment in no way relieves the Contractor from providing a fully functional system. The Contractor shall remain responsible for all supplied equipment and materials during pre-FAT.

- c. If it is determined that the Contractor's equipment is malfunctioning, PACE will notify the Contractor of the malfunction and may need to cease all pre-FAT efforts until the Contractor can correct the malfunction.
- d. When pre-FAT is complete, PACE shall perform the FAT along with the Contractor and Owner's representatives. PACE is responsible for developing FAT documentation that will be used during on-site testing. The Contractor shall build two days into his schedule of work that includes PACE's FAT efforts. This additional time shall fall within the contract time schedule.
- e. The FAT shall test all modes of operation as described in the Functional Descriptions. During this testing, it is required that all project equipment, including but not limited to pumps, motors, valves, instrumentation, and panels be operated to verify conformance to the Contract Documents.
- f. The Contractor shall remain responsible for all supplied equipment during the FAT. PACE shall not be liable for any actual or perceived damage that occurs during integration or functional testing.

- C. Any changes to wiring or product changes shall be documented in the respective documents such as O&M manuals, ORT forms, etc.

3.2 SUPPLEMENTS

- A. Supplements listed below are part of this Specification.

- 1. SUPPLEMENT NO. 1 – Example ORT Form.

END OF SECTION 259000

SUPPLEMENT NO. 1
EXAMPLE
ORT FORM

PACE ENGINEERING OPERATIONAL READINESS TEST (ORT) - INSTRUMENT CALIBRATION

COMPONENT			MANUFACTURER				PROJECT			
Name:			Name:				Name:			
			Model:				Number:			
			Serial No.:							
FUNCTIONS										
		Range	Units		Control? Y/N					
Indicate? Y/N					Action? Direct/Reverse					
Record? Y/N					Switch? Y/N					
Transmit? Y/N					Unit Range:					
					Differential:					
					Reset? Automatic/Manual					
ANALOG CALIBRATIONS							DISCRETE CALIBRATIONS			
REQUIRED			AS CALIBRATED				REQUIRED		As Calibrated	
			Increasing Input		Decreasing Input		Trip Point	Reset Point	Trip Point	Reset Point
Input	Indicated	Output	Indicated	Output	Indicated	Output	(Note rising or falling)		(Note rising or falling)	
NOTES:							Component Calibrated and Ready for Start-up			
							By:			
							Date:			

SECTION 279000 - RADIO SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Ethernet radios.
2. Antenna cable.
3. Antennas.

B. Related Requirements:

1. Section 253100 - Control Panels and Control Panel Accessories.

1.2 COORDINATION

- A. Coordinate Work of this Section with Division 25 and Division 26 specifications.

1.3 SUBMITTALS

- A. Product Data: Submit manufacturer information for system materials and component equipment, including connection requirements.

B. Shop Drawings:

1. Indicate system materials and component equipment.
2. Submit installation requirements and other details.

1.4 QUALIFICATIONS

- A. Manufacturer: Company specializing in manufacturing products specified in this Section with minimum three years' documented experience.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Inspection: Accept materials on Site in manufacturer's original packaging and inspect for damage.
- B. Store equipment according to manufacturer instructions.

C. Protection:

1. Protect materials from moisture and dust by storing in clean, dry location remote from construction operations areas.
2. Provide additional protection according to manufacturer instructions.

1.6 WARRANTY

- A. Furnish one-year manufacturer's warranty for all radios and appurtenant devices.

PART 2 - PRODUCTS

2.1 ETHERNET RADIOS

- A. Signals shall be transmitted/received via a radio system between control panels for control and monitoring as specified. The radio system shall include radios compatible with the supplied RTUs and suitable for transmitting data as specified. Radios shall be FCC approved for the intended application.
- B. The system supplier shall be responsible for providing a complete configured operating radio system. The radio shall have adequate power to establish communications as specified. See SUPPLEMENT NO. 1 - RADIO PATH SURVEY.
- C. The radio shall meet the following specifications:
1. Manufacturers:
 - a. Schneider Electric Trio QR 150.
 - b. Or equal.
 2. Data Interface Connections:
 - a. Two RS-232, 300-38.4 K bps asynchronous.
 - b. Two Ethernet RJ45 10/100 M bps compliant with IEEE 802.3.
 - c. One TNC female bulkhead antenna connection.
 - d. LED Display: Pwr, Tx, Rx, Sync, Tx D, Rx D.
 3. Frequency Range: 135-175 MHz M-Bond.
 4. RF Output Power: 39w.
 5. Ethernet Protocols: Ethernet/IP (including UDP, TCP, and ICMP).
 6. Supply Voltage: 10-30 VDC.
 7. Operating Temperature: -40° to 158°F.

2.2 ANTENNAS

A. Manufacturers:

1. Tesco.
2. Or equal.

B. Features:

1. Connection: N type.
2. Coating: Gold plated (Yagi only).
3. Connection Location: End of antenna.
4. Elements: As required to meet gain as listed in Antenna schedule.
5. Frequency: Frequency shall match radios.
6. Mounting: As indicated on Drawings.

C. Include all required mounting hardware.

D. Mount and store per manufacturer's recommendations. Make modifications to Drawings to accommodate changes if needed.

PART 3 - EXECUTION

3.1 EXAMINATION

- #### A. Verify that items provided by other Sections of Work are ready to receive Work of this Section.

3.2 INSTALLATION

- #### A. Provide the Engineer of Record (EOR) with all radios in this Section no later than four weeks before radio and antenna replacement for setup and configuration. The EOR shall then return the radio listed in this Section to the Contractor for installation.
- #### B. Ensure that instruments are located to be easily accessible for maintenance.
- #### C. The transmission line shall be terminated only in connectors rated for the required service. An antenna cable surge protective device shall be used between the transceiver and coaxial cable.
- #### D. Comply with manufacturer's installation instructions, performing each step in sequence. Maintain one set of manufacturer's installation instructions at Project Site during installation and until completion of construction.

3.3 FIELD QUALITY CONTROL

- #### A. Section 259000 - ORT and FAT Requirements.

B. Equipment Acceptance:

1. Adjust, repair, modify, or replace components failing to perform as specified and rerun tests.
 2. Make final adjustments to equipment under direction of manufacturer's representative.
- C. Furnish installation certificate from equipment manufacturer's representative attesting that equipment has been properly installed and is ready for startup and testing.

3.4 DEMONSTRATION

- A. Demonstrate equipment startup, shutdown, routine maintenance, and emergency repair procedures to Owner's personnel.

3.5 ATTACHMENTS

A. Antenna Schedule:

1. District Office:

- a. Type: Omni.
- b. Gain: 3dBd.
- c. Mounting Height: 30 feet.
- d. Azimuth: N/A.
- e. Mounting: Pole.

2. Zone A1 Reservoir:

- a. Type: Yagi.
- b. Gain: 7dBd.
- c. Mounting Height: 30 feet.
- d. Azimuth: 76°.
- e. Mounting: On tank.

3. A1 Pump Station:

- a. Type: Yagi.
- b. Gain: 7dBd.
- c. Mounting Height: 30 feet.
- d. Azimuth: 76°.
- e. Mounting: On tank.

4. Zone B Reservoir:

- a. Type: Omni.
- b. Gain: 3dBd.
- c. Mounting Height: 35 feet.
- d. Azimuth: 44°.
- e. Mounting: On tank.

5. Muletown Pump Station:
 - a. Type: Yagi.
 - b. Gain: 7dBd.
 - c. Mounting Height: 30 feet.
 - d. Azimuth: 92°.
 - e. Mounting: Pole.
6. Diggins Repeater:
 - a. Type: Omni.
 - b. Gain: 3dBd.
 - c. Mounting Height: 30 feet.
 - d. Azimuth: 51°.
 - e. Mounting: Pole.
7. Zone C Pump Station:
 - a. Type: Yagi.
 - b. Gain: 7dBd.
 - c. Mounting Height: 15 feet.
 - d. Azimuth: 235°.
 - e. Mounting: On roof.

END OF SECTION 27900

SUPPLEMENT NO. 1

RADIO PATH SURVEY

Radio Path Study

Centerville, California Area

Serial Number: 1289

July 25, 2023

It is required to create a licensed Ethernet wireless network in the area of Centerville, California. The analysis presumed the use of Trio Q Series Ethernet/serial data radios. These are capable of over-the-air data rates between 8 kbps and 73.8 kbps, depending on distance and obstructions. The area includes many trees, which appear to be between 30 and 50 feet tall, on average about 40 feet. There is a major terrain issue blocking access to one site. This will be discussed below.

The customer has stated that existing antenna heights are 30 feet at all sites except Zone B Reservoir, which has a 35 foot antenna height. It was found that these heights should suffice for the new project. Four of the remote sites were presumed to be equipped with 7 dBd (9 dBi) yagi antennas. The District Office entry point and the two repeaters were instead presumed to be equipped with 3 dBd omni-directional antennas. (higher gain omni's are very tall and expensive)

One remote site, Muletown Pump Station, is beyond a high ridge and thus cannot communicate directly with the District Office entry point radio. The customer has suggested that two sites may be used as repeaters. District Office can communicate directly with Zone B Reservoir, which is near the top of a ridge. Muletown can however still not reach Zone B Reservoir, so it is recommended that the Diggins Repeater site act as a second in-series repeater.

It was found that most paths should work well at the maximum data rate of 73.8 kbps. However, the path from Zone B Reservoir to Diggins Repeater is obstructed by terrain. According to the USGS terrain database the Reservoir is about 55 feet below the top of the ridge, which is less than 500 feet away. With only a 30 foot antenna height at Zone B Reservoir, this causes significant obstruction losses. However, the software analysis shows that this path should have a good signal level at the radio's minimum data rate of 8 kbps.

If the radios are configured for the default Dynamic radio data rate mode, each radio will monitor its link reliability and adjust its data rate accordingly. If the path is reliable each radio can speed up to as much as 73.8 kbps. If packet losses occur the radio will reduce speed to gain path margin. (more Rx sensitivity and higher Tx power) Thus the traditional minimum 20 dB fade margin is no longer the design target. Even the link between Zone B Reservoir and Diggins Repeater may operate at greater speed much of the time, if there is no interference or RF noise.

As this system requires two in-series repeaters it will be necessary to configure the system for IP Routing mode. In this mode, each radio and its locally-connected network devices are configured to exist in a unique local area network (LAN). Meanwhile, each radio is also equipped with a Wide Area Network (WAN) IP address. IP Routing rules will be created in each radio to direct traffic from that

radio's LAN through the WAN to the destination LAN. The two repeaters will have routing rules for their own traffic as well as that of remotes downstream.

See the Trio Q data radio user manual for more information on IP Routing. Also, this YouTube video provides a quick summary: <https://youtu.be/sot8NgDrusw>

These other Trio videos may also be of some assistance:

Trio Ethernet Radios – Internal Diagnostic Features

<https://youtu.be/xDkGOsPxIU>

Trio Ethernet Radios – Modbus Gateway and Serial Server

<https://youtu.be/Ys-HNGLQv0k>

Trio Q Series Licensed Radio – Dynamic Speed Mode

<https://youtu.be/qohNvrOgrHg>

Site Summary

Site Name	Antenna Height	Antenna Type	Antenna Aiming	General Site Notes	Data Rate Tested	Signal Level Predicted	Fade Margin Predicted
District Office	30 feet	3 dBd omni	N/A	Entry Point radio	Dynamic	N/A	N/A
Zone A1 Reservoir	30 feet	7 dBd yagi	76 °	Remote radio	73.8 kbps	-54 dBm	38 dB
A1 Pump Station	30 feet	7 dBd yagi	76 °	Remote radio	73.8 kbps	-61 dBm	31 dB
Zone B Reservoir	35 feet	3 dBd omni	44 °	IP Routing repeater	73.8 kbps	-50 dBm	42 dB
Muletown Pump Station	30 feet	7 dBd yagi	92 °	Remote radio, up to Diggins Repeater	73.8 kbps	-59 dBm	33 dB
Diggins Repeater	30 feet	3 dBd omni	51 °	IP Routing repeater, up to Zone B Res	8 kbps	-86 dBm	27 dB
Zone C Pump Station	15 feet	7 dBd yagi	235 °	Remote radio	55.4kbps	-86 dBm	13 dB

Sample Bill of Materials

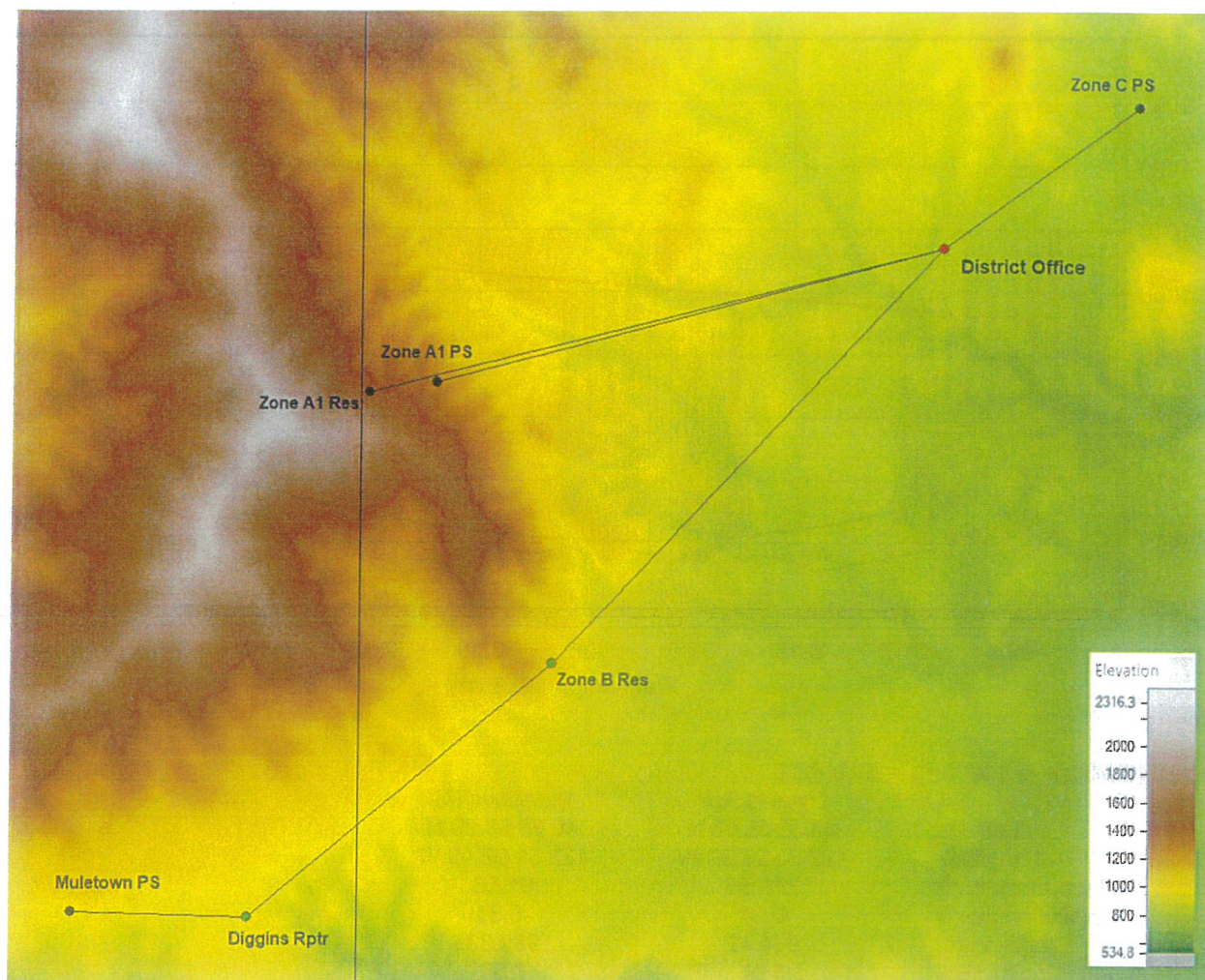
Qty.	Part Number	Description
7	TBURQR1MH-F00E2L00	Trio QR150 licensed Ethernet/serial data radio, 135-175 MHz, max 73.8 kbps, FCC/ISED, AES, CSA.
7	TBUMRFJP-TNC-N-1M	Trio RF feeder tail cable, 3ft/1m, TNC-male to N-male
7	TBUMLT-ARRES-TYPEA	Surge arrestor, 125-1000 MHz, N-female to N-female, bulkhead mount
1	TBUMRFANT-75F22M-A	RF Cable Antenna Feedline, 75Ft/22m, 0.4in/10mm type, N male To N male. E.g. for District Office SCADA host.
6	TBUMRFANT-50F15M-A	RF Cable Antenna Feedline, 50Ft/15m, 0.4in/10mm type, N male To N male.
3	3 rd party 3 dBd omni antenna	E.g. Comtelco BS150XL3-B. See attached datasheet.
4	3 rd party 7 dBd yagi antenna	E.g. Kathrein YA7-155. See attached datasheet.
Option (qty 7)	TBUMDIN-KIT-TYPEA	Trio DIN rail mounting kit (optional)
Option	TBUMRFANT-99F30M-B	RF Cable Antenna Feedline, 99Ft/30m, 0.5in/12mm type, low-loss type, N male To N male.
Option	TBUMRFANT-10F3M-A	RF Cable Antenna Feedline, 10Ft/3m, 0.4in/10mm, N male To N male.

Option Note: Customer must evaluate actual required coaxial cable lengths and order appropriately. Cables of 10, 25, 50, 75 and 100 feet are available from Schneider Electric.

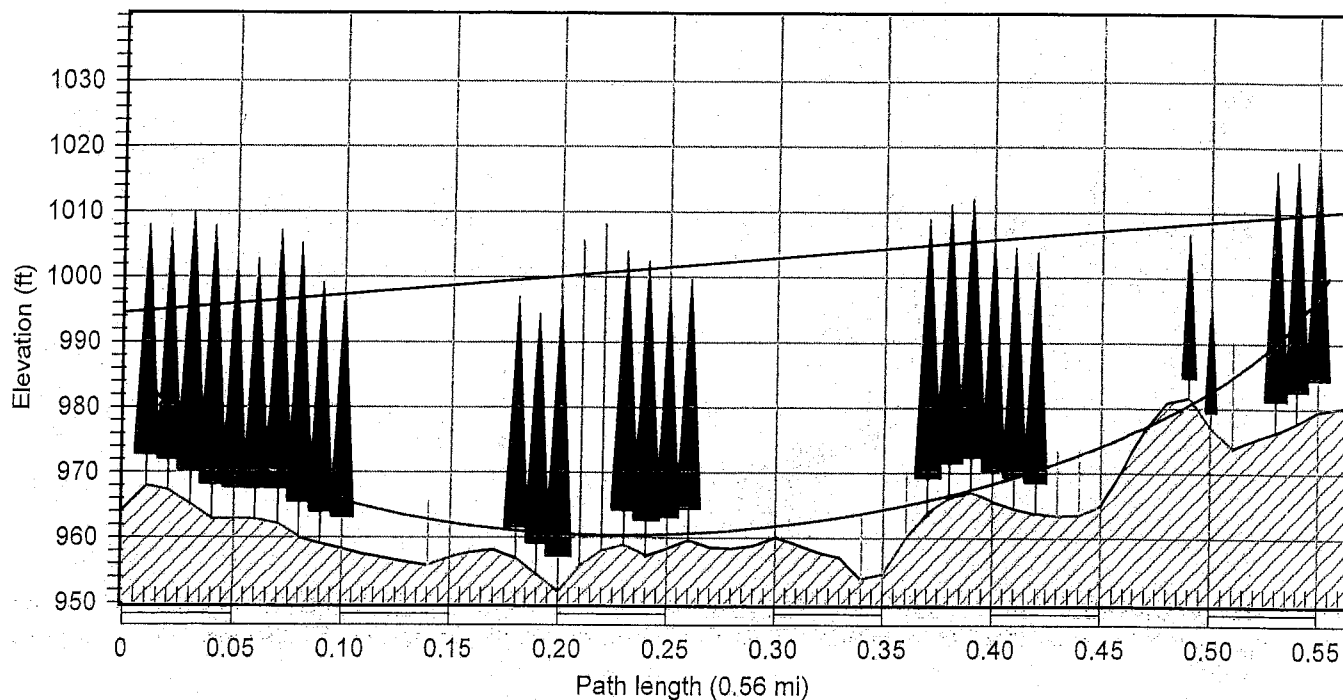
General Notes:

- 1) If any unforeseen taller structures such as buildings or trees are in the immediate vicinity of a site in a radio path, the antenna must be raised above these structures. Unreported structures or trees may otherwise cause a path to be unreliable.
- 2) Antenna azimuth, the direction to aim a site's directional (Yagi) antenna, is reported as "True Azimuth" in each link worksheet. Aiming should be verified with a good quality compass which has been adjusted for declination.
- 3) A license-free spread spectrum radio system must share the available channels with other users. These other users may cause interference, and will increase the average noise floor. For a reliable link, it is necessary to keep the receive signal at least 20 dB above the noise floor. This noise floor may change over time, and cannot be guaranteed by Schneider Electric.
- 4) The coaxial cable type has been specified for each site. At 150 MHz it is critical that low-loss cable be used to minimize losses. LMR-400 (0.4" – Schneider type "A") cable or equivalent is sufficient for cable lengths of 75 feet (23 metres) or less. LDF4-50A (0.5" – Schneider type "B") is required for cable lengths between 75 and 125 feet. (15 to 30 metres) If the cable must be longer, a third-party cable may be specified. The cable type used in the analysis is stated on each worksheet.
- 5) If LDF4-50A or similar cables are specified, please be aware this cable type must be handled with care. Do not repeatedly bend the cable, and do not create a bend with a radius of less than 3" (76 mm). Do not apply enough pressure to the outer jacket to cause distortion - either by stepping on it or other applications of force. Installation of connectors must only be performed by trained technicians.
- 6) It is strongly recommended that all sites be equipped with a good quality surge (lightning) arrestor to protect the radio and the site equipment. This arrestor must be connected to a good earth ground with a short heavy gage cable.
- 7) Schneider Electric does not guarantee the results of this path study. This study is a free sales tool which is meant to demonstrate the feasibility of the desired radio system. If guaranteed results are required the customer (or sales rep) must contact a radio systems contractor who will perform an on-site survey and may also perform their own path study.

Centerville Area Terrain Map



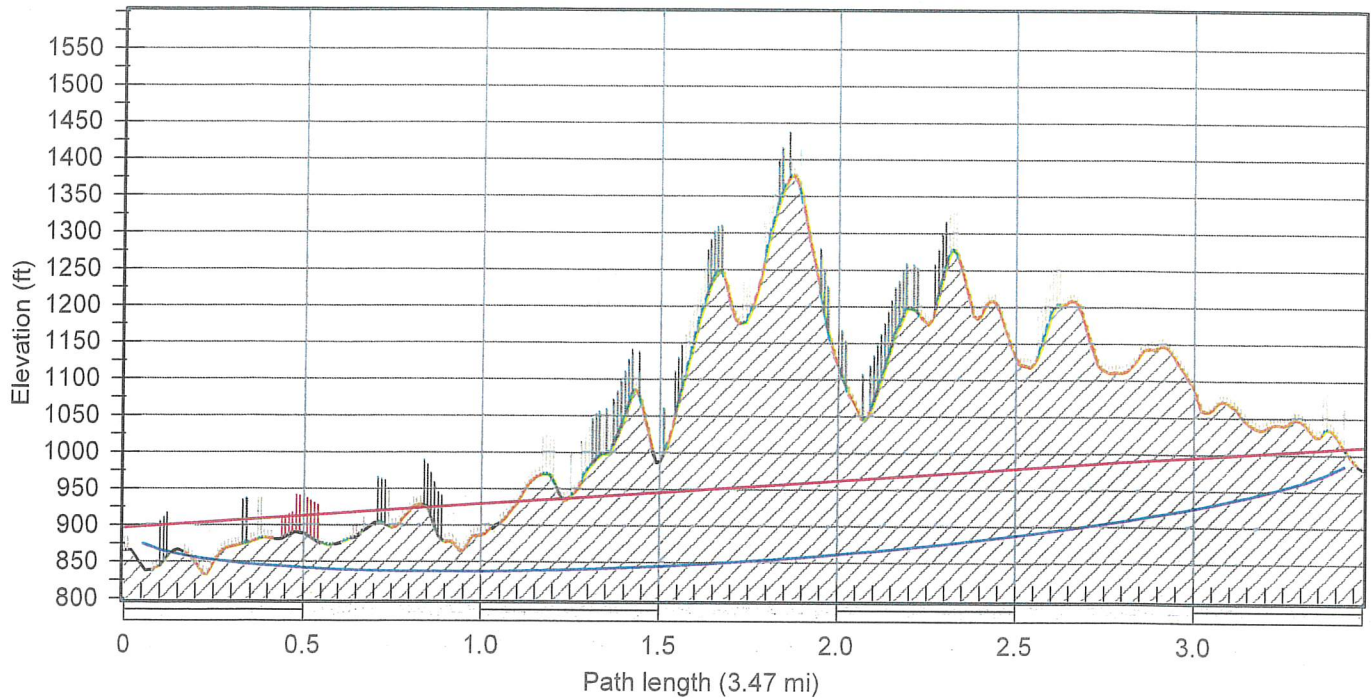
Transmission summary (Diggins Rptr-Muletown PS.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

	Diggins Rptr	Muletown PS
Latitude	40 30 55.50 N	40 30 56.30 N
Longitude	122 30 23.90 W	122 31 02.40 W
True azimuth (°)	271.56	91.56
Vertical angle (°)	0.30	-0.31
Elevation (ft)	964.42	980.33
Antenna gain (dBd)	3.00	7.00
Antenna height (ft)	30.00	30.00
TX line model	LMR-400	LMR-400
TX line length (ft)	50.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	0.56	
Free space loss (dB)	75.39	
Diffraction loss	28.35	
Net path loss (dB)	92.89	92.89
Radio model	Trio FCC Qx150 12.5k 73.8kbps	
TX power (dBm)	33.50	33.50
ERP (dbm)	35.24	39.24
ERP (watts)	3.34	8.40
Receive signal (dBm)	-59.39	-59.39
Receive signal (μv)	239.92	239.92
Thermal fade margin (dB)	32.61	32.61

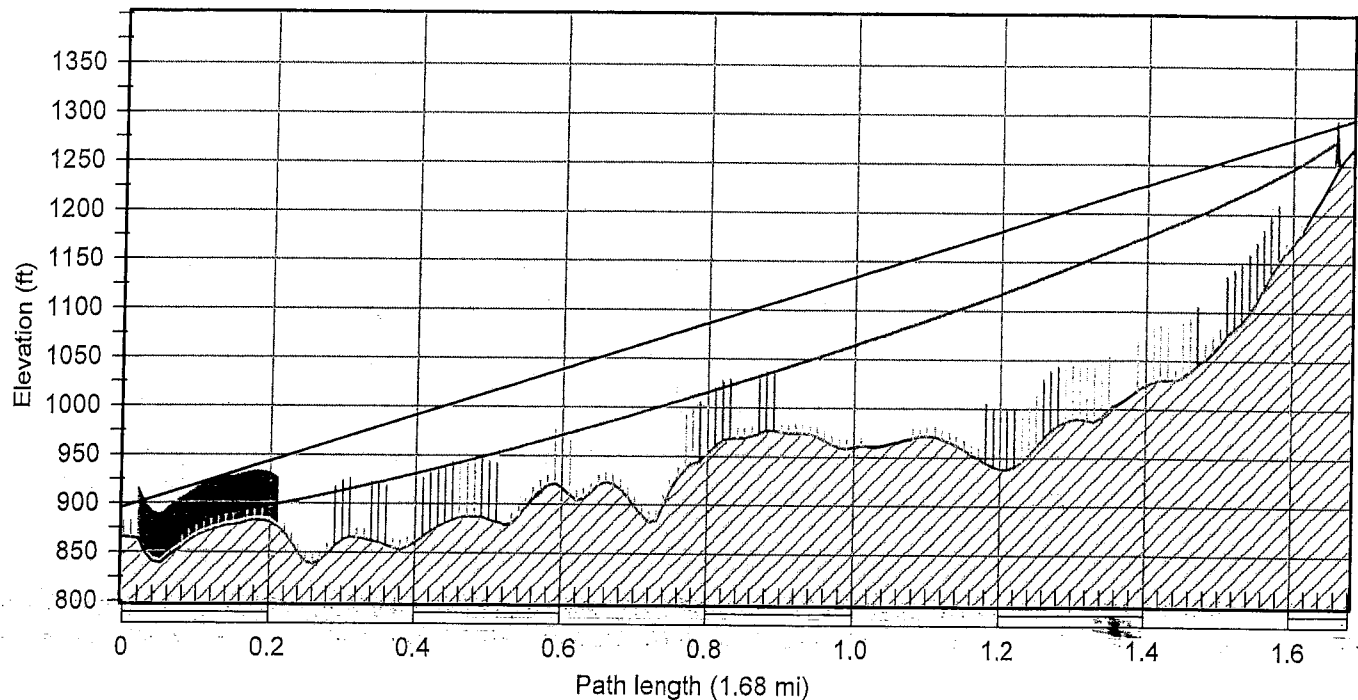
Transmission summary (District Office-Muletown PS.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

	District Office	Muletown PS
Latitude	40 32 44.89 N	40 30 56.30 N
Longitude	122 27 52.18 W	122 31 02.40 W
True azimuth (°)	233.21	53.18
Vertical angle (°)	2.79	2.67
Elevation (ft)	865.84	980.33
Antenna gain (dBd)	3.00	7.00
Antenna height (ft)	30.00	30.00
TX line model	LMR-400	LMR-400
TX line length (ft)	75.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	3.47	
Free space loss (dB)	91.19	
Diffraction loss	66.75	
Net path loss (dB)	147.83	147.83
Radio model	Trio FCC Qx150 12.5k 55.4kbps	
TX power (dBm)	34.00	34.00
ERP (dbm)	35.36	39.74
ERP (watts)	3.44	9.42
Receive signal (dBm)	-113.83	-113.83
Receive signal (µv)	0.45	0.45
Thermal fade margin (dB)	-13.83	-13.83

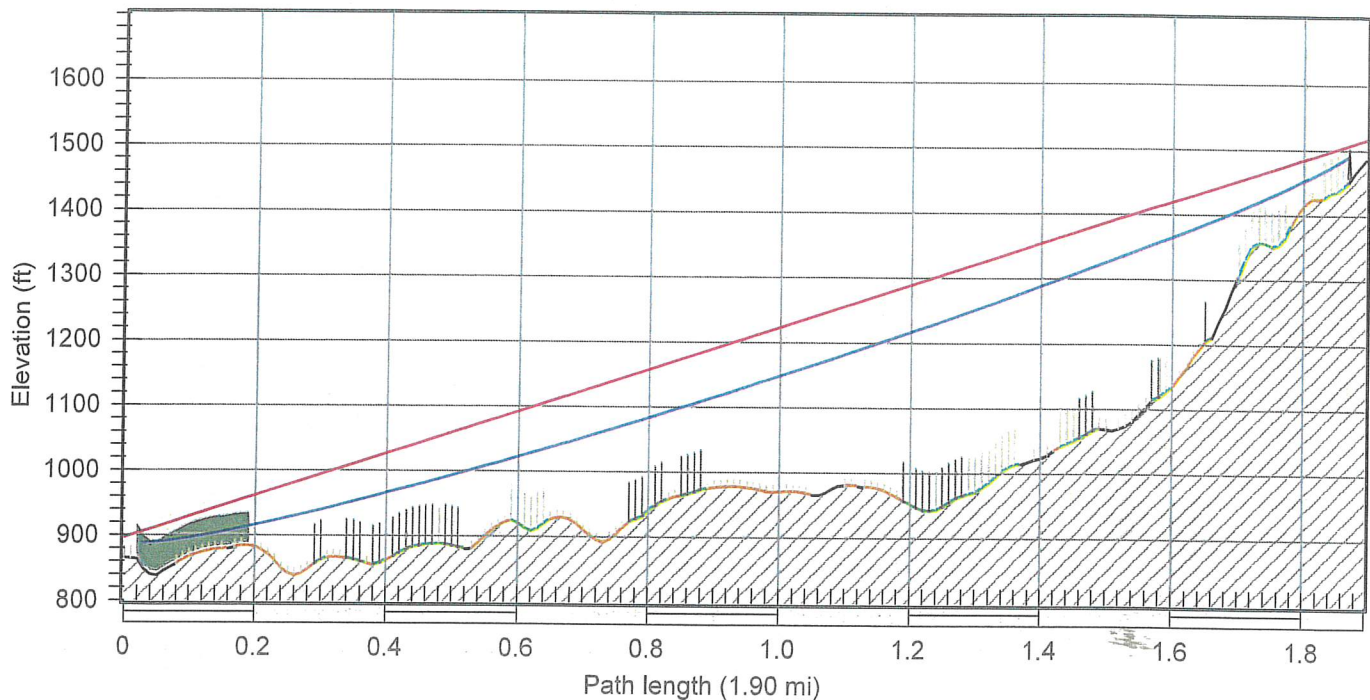
Transmission summary (District Office-Zone A1 PS.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

	District Office	Zone A1 PS
Latitude	40 32 44.89 N	40 32 23.10 N
Longitude	122 27 52.18 W	122 29 43.50 W
True azimuth (°)	255.62	75.60
Vertical angle (°)	2.57	-2.59
Elevation (ft)	865.84	1265.75
Antenna gain (dBd)	3.00	7.00
Antenna height (ft)	30.00	30.00
TX line model	LMR-400	LMR-400
TX line length (ft)	75.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	1.68	
Free space loss (dB)	84.89	
Diffraction loss	20.17	
Net path loss (dB)	94.89	94.89
Radio model	Trio FCC Qx150 12.5k 73.8kbps	
TX power (dBm)	33.50	33.50
ERP (dbm)	34.86	39.24
ERP (watts)	3.06	8.40
Receive signal (dBm)	-61.39	-61.39
Receive signal (μv)	190.43	190.43
Thermal fade margin (dB)	30.61	30.61

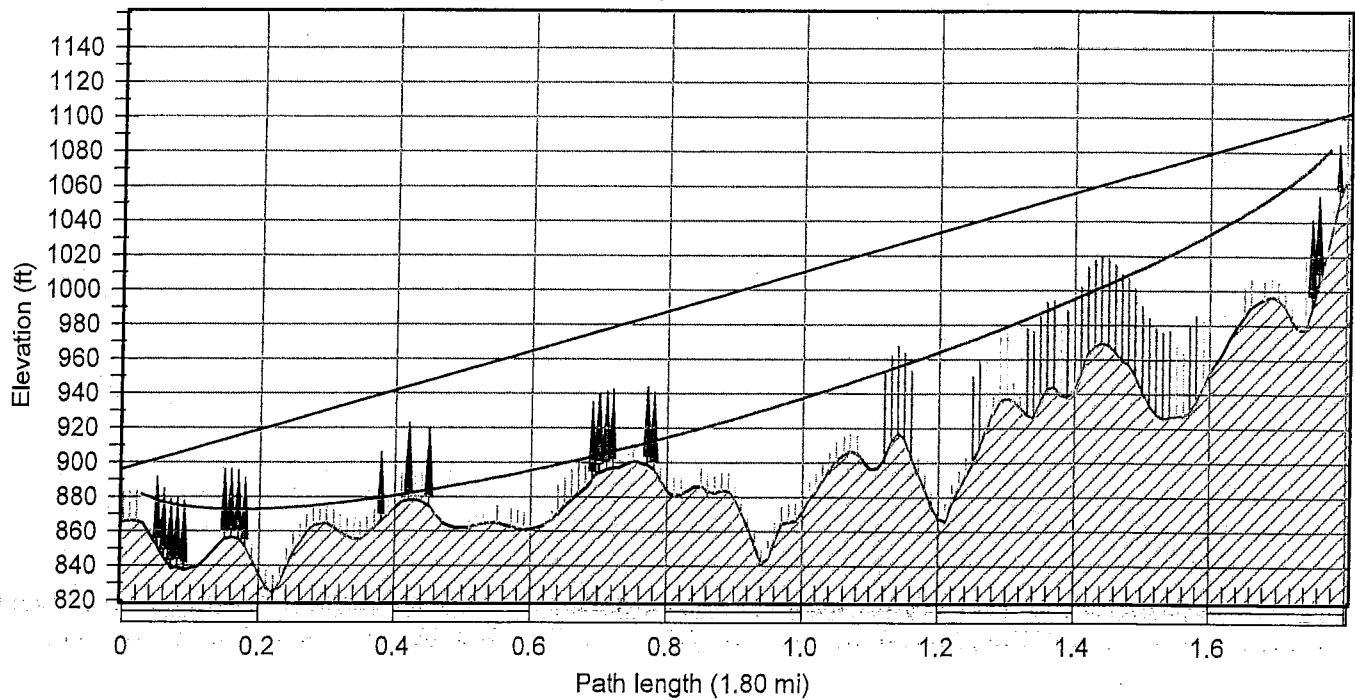
Transmission summary (District Office-Zone A1 Res.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

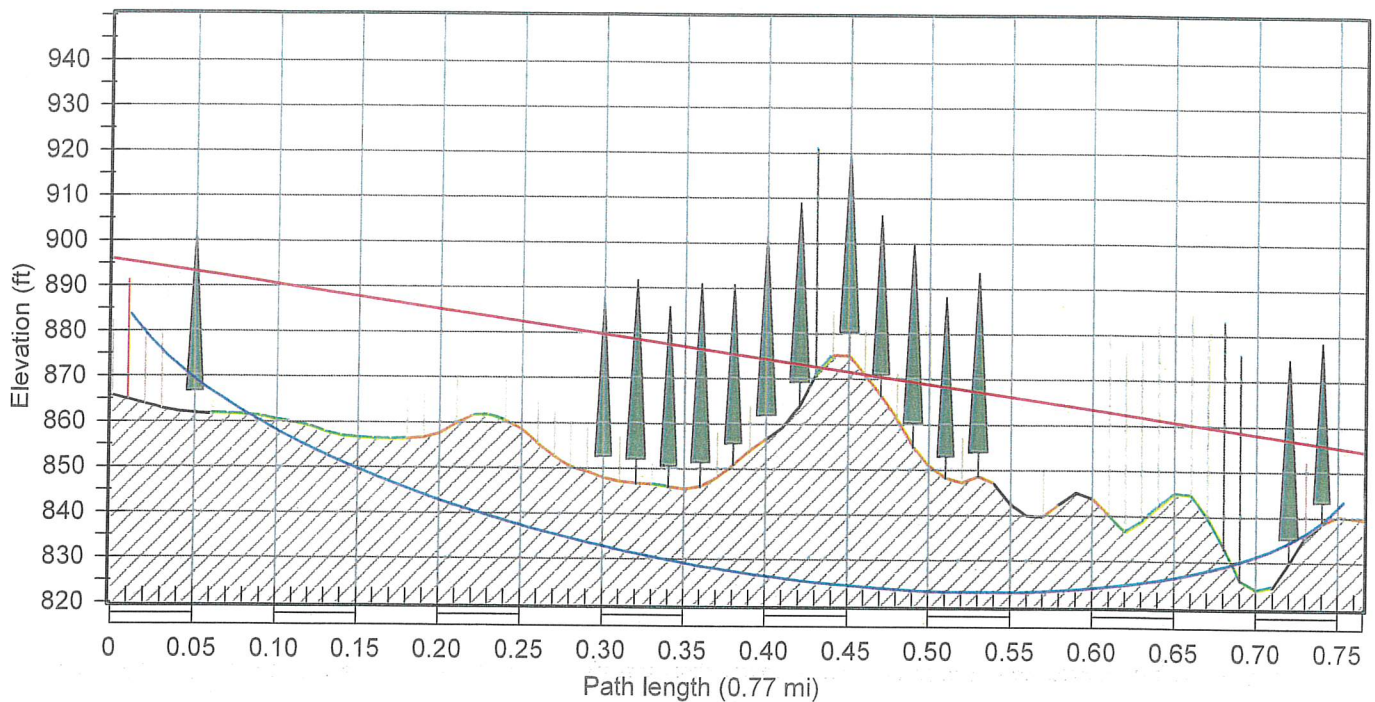
	District Office	Zone A1 Res
Latitude	40 32 44.89 N	40 32 21.49 N
Longitude	122 27 52.18 W	122 29 58.16 W
True azimuth (°)	256.33	76.30
Vertical angle (°)	3.53	-3.55
Elevation (ft)	865.84	1485.88
Antenna gain (dBd)	3.00	7.00
Antenna height (ft)	30.00	30.00
TX line model	LMR-400	LMR-400
TX line length (ft)	75.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	1.90	
Free space loss (dB)	85.95	
Diffraction loss	11.45	
Net path loss (dB)	87.50	87.50
Radio model	Trio FCC Qx150 12.5k 73.8kbps	
TX power (dBm)	33.50	33.50
ERP (dbm)	34.86	39.24
ERP (watts)	3.06	8.40
Receive signal (dBm)	-54.00	-54.00
Receive signal (µv)	446.35	446.35
Thermal fade margin (dB)	38.00	38.00

Transmission summary (District Office-Zone B Res.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

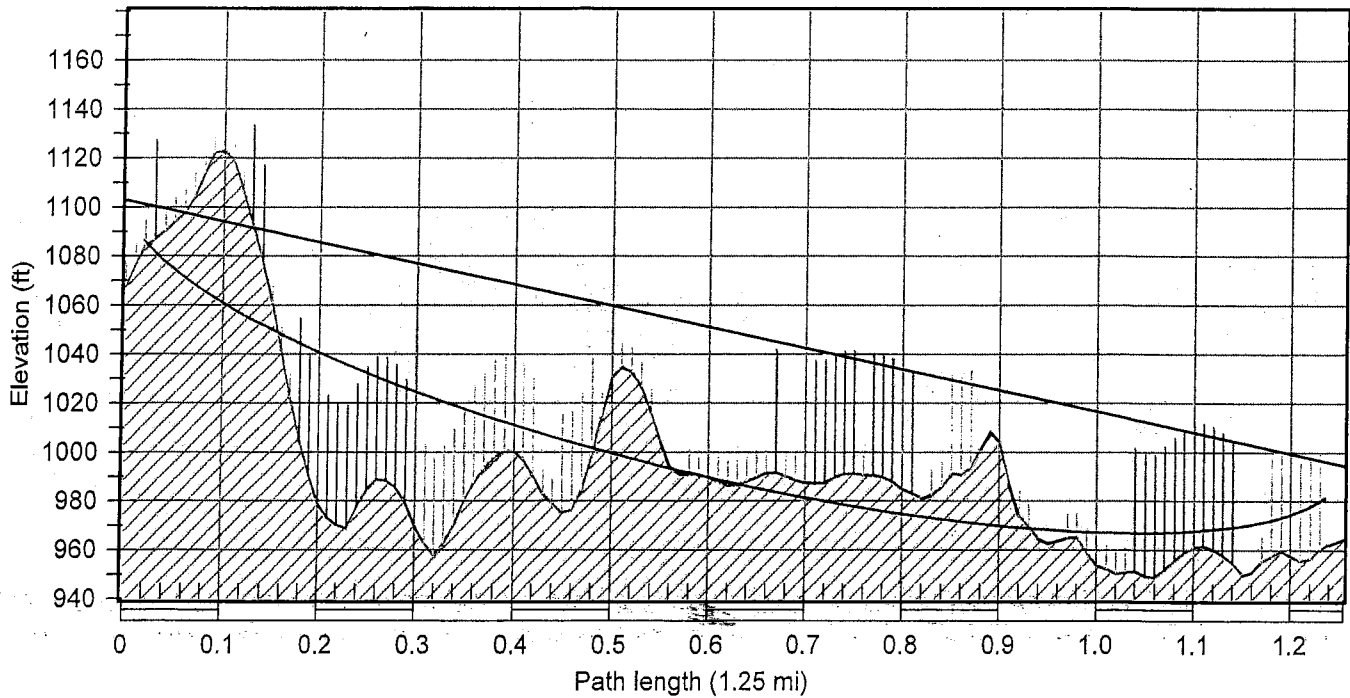
	District Office	Zone B Res
Latitude	40 32 44.89 N	40 31 37.10 N
Longitude	122 27 52.18 W	122 29 17.70 W
True azimuth (°)	223.91	43.90
Vertical angle (°)	1.23	-1.25
Elevation (ft)	865.84	1067.67
Antenna gain (dBd)	3.00	3.00
Antenna height (ft)	30.00	35.00
TX line model	LMR-400	LMR-400
TX line length (ft)	75.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	1.80	
Free space loss (dB)	85.50	
Diffraction loss	3.62	
Net path loss (dB)	83.14	83.14
Radio model	Trio FCC Qx150 12.5k 73.8kbps	
TX power (dBm)	33.50	33.50
ERP (dbm)	34.86	35.24
ERP (watts)	3.06	3.34
Receive signal (dBm)	-49.64	-49.64
Receive signal (µv)	736.71	736.71
Thermal fade margin (dB)	42.36	42.36



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

	District Office	Zone C PS
Latitude	40 32 44.89 N	40 33 07.90 N
Longitude	122 27 52.18 W	122 27 09.40 W
True azimuth (°)	54.81	234.82
Vertical angle (°)	-0.50	0.71
Elevation (ft)	865.84	839.39
Antenna gain (dBd)	3.00	7.00
Antenna height (ft)	30.00	15.00
TX line model	LMR-400	LMR-400
TX line length (ft)	75.00	25.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	0.77	
Free space loss (dB)	78.05	
Diffraction loss	53.69	
Net path loss (dB)	120.71	120.71
Radio modelTrio FCC Qx150 12.5k 55.4kbpsTrio FCC Qx150 12.5k 55.4kbps		
TX power (dBm)	34.00	34.00
ERP (dbm)	35.36	40.12
ERP (watts)	3.44	10.28
Receive signal (dBm)	-86.71	-86.71
Receive signal (µv)	10.33	10.33
Thermal fade margin (dB)	13.29	13.29

Transmission summary (Zone B Res-Diggins Rptr.pl5)



F = 154.46 MHz K = 1.33 %F1 = 60.0, 60.0

	Zone B Res	Diggins Rptr
Latitude	40 31 37.10 N	40 30 55.50 N
Longitude	122 29 17.70 W	122 30 23.90 W
True azimuth (°)	230.54	50.52
Vertical angle (°)	2.37	1.20
Elevation (ft)	1067.67	964.42
Antenna gain (dBd)	3.00	3.00
Antenna height (ft)	35.00	30.00
TX line model	LMR-400	LMR-400
TX line length (ft)	50.00	50.00
Connector loss (dB)	0.50	0.50
Frequency (MHz)	154.46	
Path length (mi)	1.25	
Free space loss (dB)	82.35	
Diffraction loss	49.50	
Net path loss (dB)	125.98	125.98
Radio model	Trio Qx150 12.5k 8kbps	
TX power (dBm)	40.00	40.00
ERP (dbm)	41.74	41.74
ERP (watts)	14.93	14.93
Receive signal (dBm)	-85.98	-85.98
Receive signal (µv)	11.23	11.23
Thermal fade margin (dB)	27.02	27.02

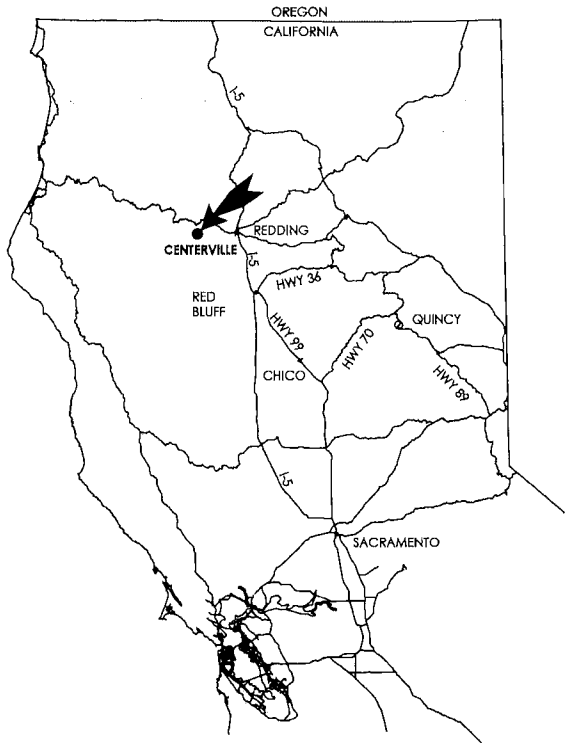
CENTERVILLE COMMUNITY SERVICES DISTRICT

RADIO AND ANTENNA REPLACEMENT PROJECT

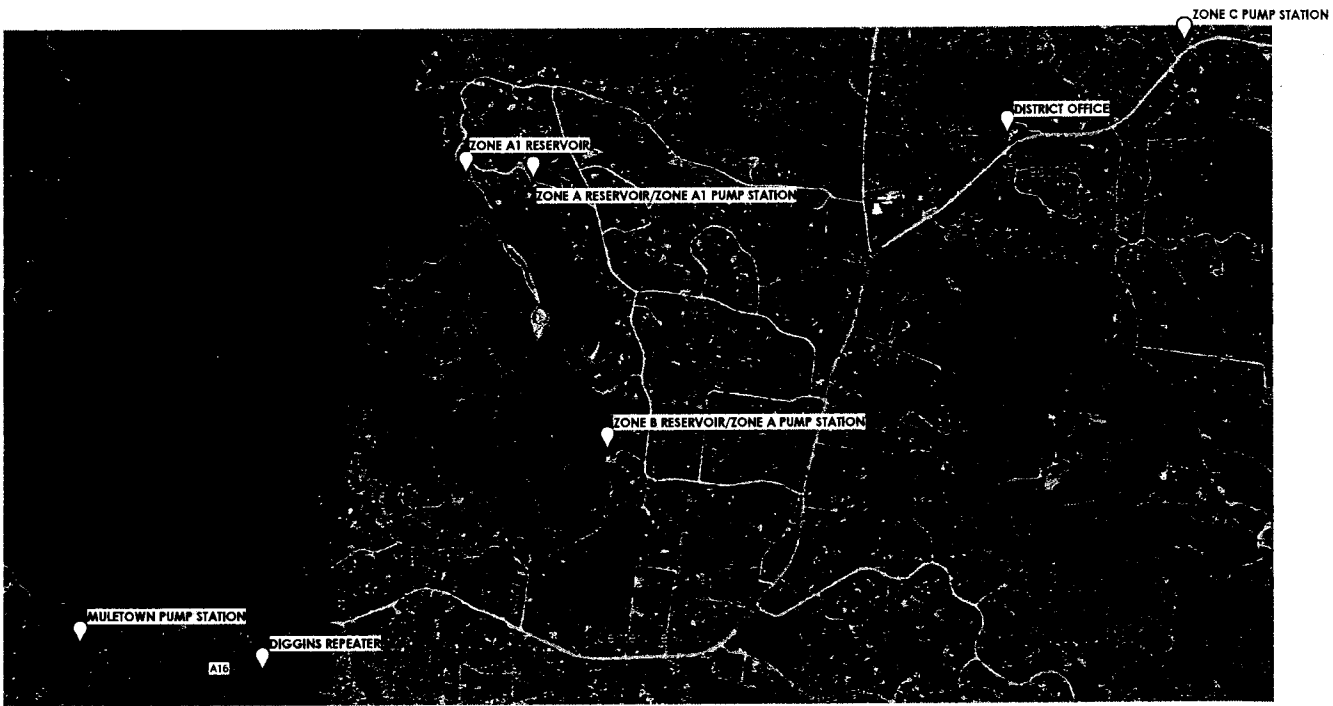
JOB NO 0214.85

CONTRACTOR SHALL POSSESS A CLASS C10 LICENSE AT THE TIME OF BID OPENING.

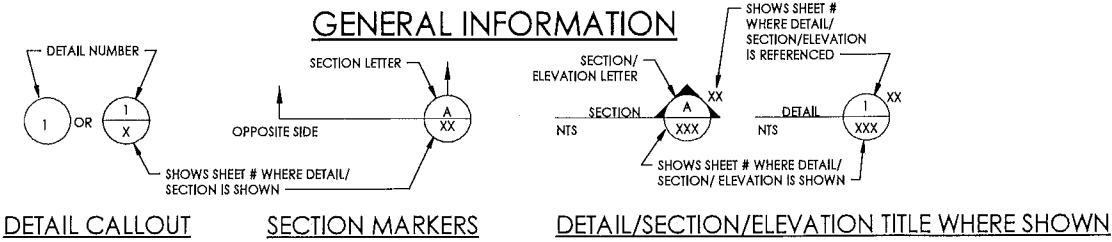
SHEET INDEX		
SHEET	PAGE	TITLE
E0	1	TITLE SHEET
E1	2	ELECTRICAL SCHEDULES
E2	3	DISTRICT OFFICE & ZONE A1 RESERVOIR POWER PLANS
E3	4	ZONE A RESERVOIR/ZONE A1 PUMP STATION & ZONE B RESERVOIR POWER PLANS
E4	5	MULETOWN PUMP STATION & DIGGINS REPEATER POWER PLANS
E5	6	ZONE C PUMP STATION POWER PLAN



LOCATION MAP



VICINITY MAP



PACE DESIGN TEAM

TONY BOWSER
BRYAN GENTLES
JEREMY MILLS

PRINCIPAL ENGINEER
PROJECT MANAGER
STAFF ENGINEER



SHEET

E0

PG 1 OF 6

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ELECTRICAL SYMBOLS				
LINE TYPES AND SYMBOLS		CONDUIT EXPOSED		
		CONDUIT CONCEALED or BURIED		
		INDICATES FIRE RATED WALL		
		CONDUIT UP		
		CONDUIT DOWN		
TICK MARKS		HOME RUN-DESTINATION SHOWN		
		TICK MARKS W/BARS INDICATES NUMBER OF #10 CONDUCTORS WITH #10 GROUND		
		TICK MARKS WITHOUT BARS INDICATES NUMBER OF #12 CONDUCTORS WITH #12 GROUND		
		"L" INDICATES 0-10V DIMMING CABLE, "5E" INDICATES CAT5E CABLE, "CL" INDICATES 0-10V DIMMING AND COLOR TUNING CABLE.		
DEVICES, BOXES AND TERMINATIONS		JUNCTION BOX		
		PORCELAIN LAMP HOLDER WITH PULL CHAIN AND INTEGRAL RECEPTACLE (HVAC LIGHT/PLUG ONLY)		
		CONNECTION POINT (CONTRACTOR SHALL DETERMINE CONNECTION CONFIGURATION)		
		LOW VOLTAGE DEVICE BOX		
		DUPLEX RECEPTACLE		
		QUADRUPLUX RECEPTACLE		
		EMERGENCY RECEPTACLE		
		CONTROLLED SPLIT DUPLEX RECEPTACLE		
		QUADRUPLUX RECEPTACLE: (1) CONTROLLED SPLIT DUPLEX RECEPTACLE, (1) DUPLEX RECEPTACLE		
		SINGLE OR THREE PHASE RECEPTACLE, SEE PLAN SHEETS TYPE PER LOCATION		
		FLOOR BOX		
		HAND HOLE		
		PULLBOX		
		ROOFTOP SUPPORT		
		FUSED DISCONNECT		
EQUIPMENT		XXA/XXF XX	60A/3/20F WP	60A DISCONNECT / 20A FUSE NEMA 3R
		XX XX	60A/3/20F WP	60A DISCONNECT NEMA 3R
		MAJOR ELECTRICAL COMPONENT OR DEVICE NAME OR IDENTIFYING SYMBOL AS SHOWN		
		SURFACE MOUNT PANELBOARD		
		FLUSH MOUNT PANELBOARD		
		EXOTHERMIC WELD, TERMINATION OR SPLICE POINT		
		GROUND ROD		
		GROUNDING ELECTRODE		
		CIRCUIT BREAKER		
		CURRENT TRANSFORMER, NUMBER INDICATED		
		KEYNOTE		
	(A : B)	INDICATES INTERCONNECTION OF PATHWAYS AND/OR CONDUCTORS, E.G., 4"C-4#500.1#3G (MSB : PNL A) INDICATES CONDUIT AND CONDUCTORS ROUTED FROM THE MAIN SWITCHBOARD TO PANELBOARD A.		
	26 00 00	SPECIFICATION NUMBER REFERENCE TAG. CONFORMANCE TO PROJECT SPECIFICATIONS IS REQUIRED. WHERE TAGS ARE SHOWN ON THE DRAWINGS, IT IS THE ENGINEER'S INTENT TO RAISE ADDITIONAL AWARENESS TO PRODUCTS OR EXECUTION METHODS THAT ARE CRITICAL, ATYPICAL OR NOT EXPRESSLY DETAILED ON THE DRAWINGS.		
ANNOTATION				

NOTE: THIS IS A SUPPLEMENTAL STANDARD ELECTRICAL LEGEND. SOME SYMBOLS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS. SEE LIGHTING CONTROL SHEET FOR LIGHTING LEGEND.

ELECTRICAL ABBREVIATIONS	
A	- AMMETER, AMPERE
AC	- ALTERNATING CURRENT
ACH	- ABOVE COUNTER HEIGHT
AFCI	- ARC FAULT CIRCUIT INTERRUPT
AFF	- ABOVE FINISHED FLOOR OR GRADE
AIC	- AMPS INTERRUPTING CAPACITY
AL	- ALUMINUM
ATS	- AUTOMATIC TRANSFER SWITCH
BCT	- BONDING CONDUCTOR FOR TELECOMMUNICATIONS.
BGES	- BUILDING GROUND ELECTRODE SYSTEM
BRKR	- BREAKER
BOD	- BOTTOM OF DEVICE
C or COND	- CONDUIT
CAB	- CABINET
CEB	- CRITICAL EMERGENCY BRANCH
CEC	- CALIFORNIA ELECTRIC CODE
CKT	- CIRCUIT
COD	- CENTER OF DEVICE
CR	- CONTROLLED RECEPTACLE
CT	- CURRENT TRANSFORMER
DC	- DIRECT CURRENT
(E) or EXIST	- EXISTING
EEB	- EQUIPMENT EMERGENCY BRANCH
EEOR	- ELECTRICAL ENGINEER OF RECORD
EGC	- EQUIPMENT GROUNDING CONDUCTOR
ENC	- ENCLOSURE
(F)	- FUTURE
FACP	- FIRE ALARM CONTROL PANEL
FACU	- FIRE ALARM CONTROL UNIT
FSD	- FIRE SMOKE DAMPER
G	- EQUIPMENT GROUNDING CONDUCTOR
GEC	- GROUNDING ELECTRODE CONDUCTOR
GFCI	- GROUND FAULT CIRCUIT INTERRUPT
GRND	- GROUND
J	- JUNCTION BOX
LAUN	- LAUNDRY
LCP	- LIGHTING CONTROL PANEL
LEB	- LIFE SAFETY EMERGENCY BRANCH
LTG	- LIGHTING
MBJ	- MAIN BONDING JUMPER
MCB	- MAIN CIRCUIT BREAKER
MFR	- MANUFACTURER
MLO	- MAIN LUG ONLY
MOCOP	- MAXIMUM OVERCURRENT PROTECTION
MSB	- MAIN SWITCH BOARD
MTS	- MANUAL TRANSFER SWITCH
MWIRE	- MULTIWIRED BRANCH CIRCUIT
NEC	- NATIONAL ELECTRIC CODE
NEMA	- NATIONAL ELECTRIC MANUFACTURER'S ASSOCIATION
N	- NEUTRAL
(N)	- NEW
NB	- NORMAL BRANCH
NSEB	- NON-SEGREGATED EMERGENCY BRANCH
OFCI	- OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	- OWNER FURNISHED, OWNER INSTALLED
PB	- PULLBOX
PNL	- PANELBOARD
PLR	- PLUG LOAD RELAY
RCPT	- RECEPTACLE
RM	- ROOM
SWBD	- SWITCHBOARD
SBJ	- SYSTEM BONDING JUMPER
SSBJ	- SUPPLY SIDE BONDING JUMPER
T	- THERMOSTAT OR TELE CONDUIT
TBB	- TELECOMMUNICATIONS BONDING
TGB	- TELECOMMUNICATIONS GROUND BUS
TMGB	- TELECOMMUNICATIONS MAIN GROUND BUS
TOD	- TOP OF DEVICE
TR	- TAMPER
TYP	- TYPICAL
V	- VOLT/METER, VOLT
W	- WAIT
WW	- WIREWAY
WP	- WEATHERPROOF (NEMA 3R)
XFMR	- TRANSFORMER

NOTE: THIS IS A SUPPLEMENTAL STANDARD LEGEND. SOME SYMBOLS OR ABBREVIATIONS MAY APPEAR ON THIS LEGEND AND NOT ON THE PLANS

GENERAL NOTES	
#	NOTE
1.	DO ALL WORK AND INSTALL PRODUCTS IN ACCORDANCE WITH APPLICABLE NECA REQUIREMENTS, APPLICABLE STATE LAWS, LOCAL LAWS, CODES, AND ORDINANCES. THE CONTRACTOR SHALL ADHERE TO THE SPECIFIC PRODUCT AND INSTALLATION REQUIREMENTS OF THE UTILITY COMPANIES AND MANUFACTURERS PROVIDING MATERIALS TO THE JOB. CONFLICTS, IF ANY, WILL BE RESOLVED AT THE DISCRETION OF THE EECOR.
2.	IT IS OF THE UTMOST IMPORTANCE THAT THE INSTALLING CONTRACTOR HAVE A MASTERY OF THE PROJECT-SPECIFIC REQUIREMENTS SHOWN IN SPECIFICATIONS AND CONSTRUCTION DRAWINGS. IT IS STRONGLY ADVISED THAT THE CONTRACTOR CONTACT THE EECOR IF FURTHER INFORMATION IS REQUIRED. THE EECOR SHALL REQUIRE REVISIONS TO BE MADE IN THE FIELD IF THE INSTALLATION DOES NOT FALL WITHIN THESE PROJECT-SPECIFIC GUIDELINES. NO ALLOWANCE SHALL BE MADE FOR INSTALLATIONS NOT ADHERING TO THESE REQUIREMENTS.

COMPLY WITH APPLICABLE CODES	
#	CODE
1.	2022 CALIFORNIA BUILDING CODE.
2.	2022 CALIFORNIA ELECTRIC CODE.
3.	2022 CALIFORNIA ENERGY CODE.
4.	2022 CALIFORNIA FIRE CODE.

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS		
NO	DATE	DESCRIPTION



DES	JM	CKD	BG	JOB NO.
DRN	JM	DATE	8/18/23	0214.85

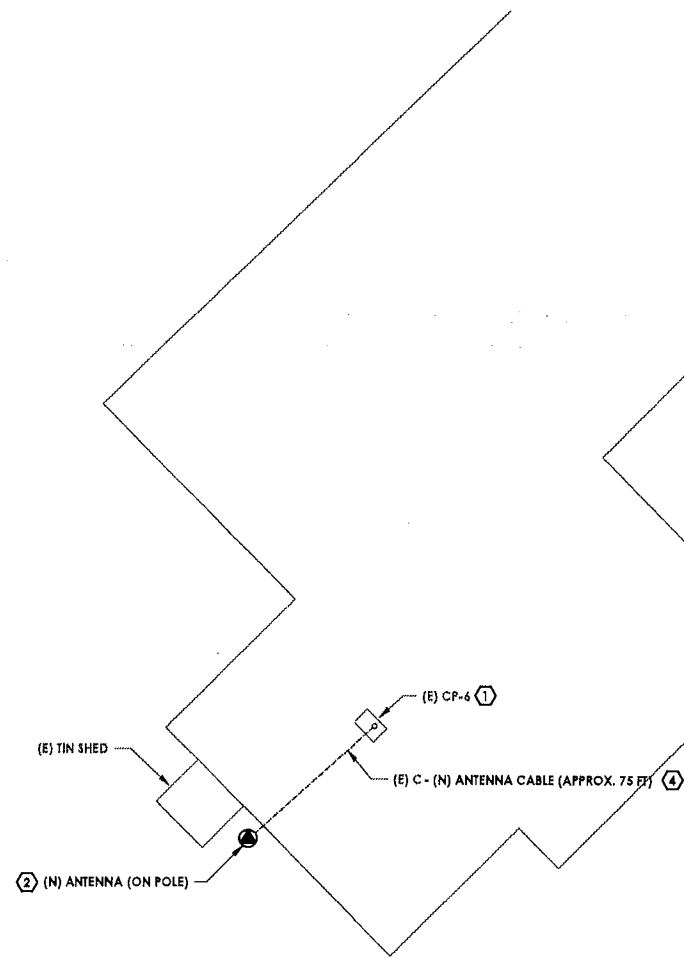


CENTERVILLE COMMUNITY SERVICES DISTRICT
RADIO AND ANTENNA REPLACEMENT PROJECT

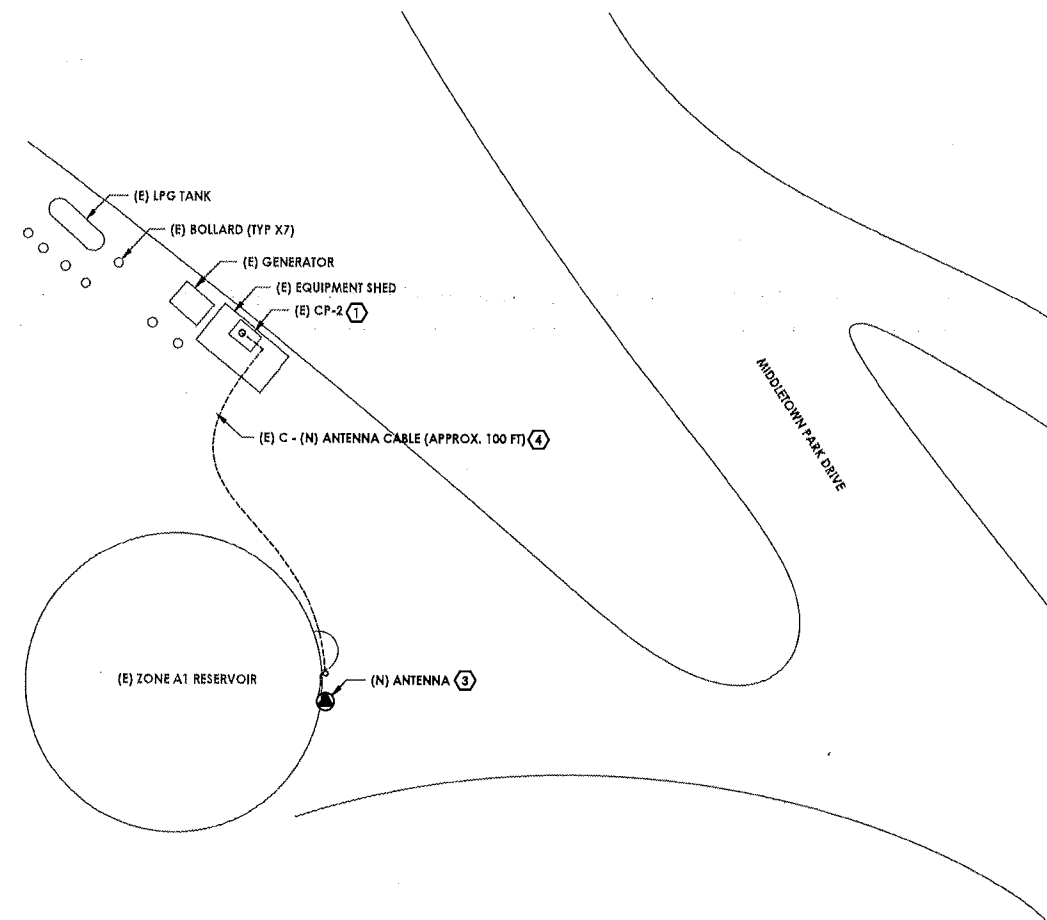
ELECTRICAL SCHEDULES

SHEET
E1
PG 2 OF 6

KEYNOTES	
#	NOTE
1.	DISCONNECT AND REMOVE EXISTING RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE. PROVIDE AND INSTALL NEW RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE PER PROJECT SPECIFICATIONS. MAKE MODIFICATIONS AS NECESSARY TO FACILITATE INSTALLATION.
2.	DISCONNECT AND REMOVE EXISTING ANTENNA. PROVIDE AND INSTALL NEW ANTENNA ON EXISTING 30' POLE PER PROJECT SPECIFICATIONS.
3.	DISCONNECT AND REMOVE EXISTING ANTENNA. PROVIDE AND INSTALL NEW ANTENNA ON TOP OF TANK PER PROJECT SPECIFICATIONS.
4.	PROVIDE AND INSTALL NEW ANTENNA CABLE IN EXISTING CONDUIT.



DISTRICT OFFICE POWER PLAN
±1" = 10'-0"



ZONE A1 RESERVOIR POWER PLAN
±1" = 10'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS		
NO	DATE	DESCRIPTION

DES JM

CKD BG

JOB NO.

DRN JM

DATE 8/18/23

0214.85

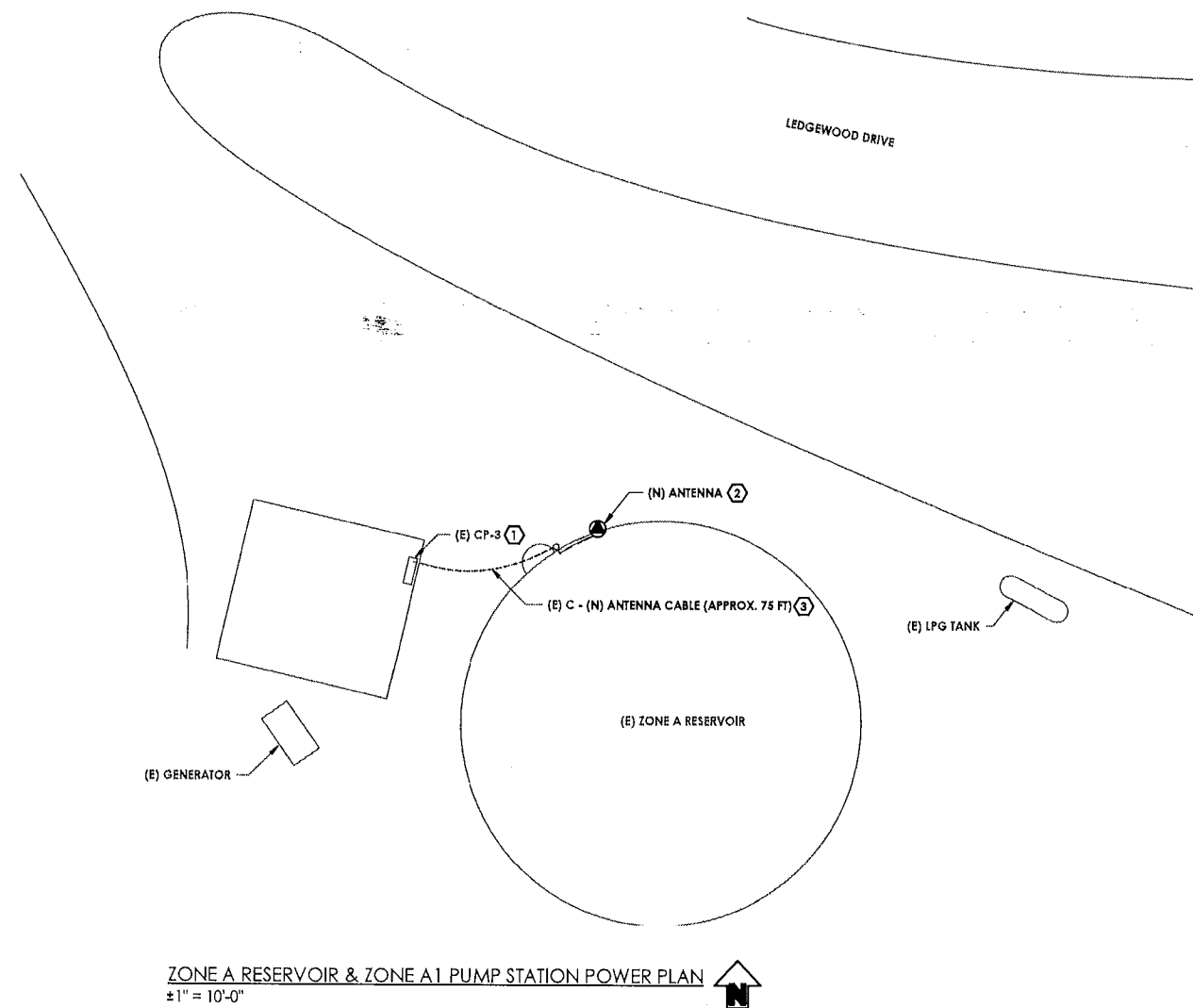
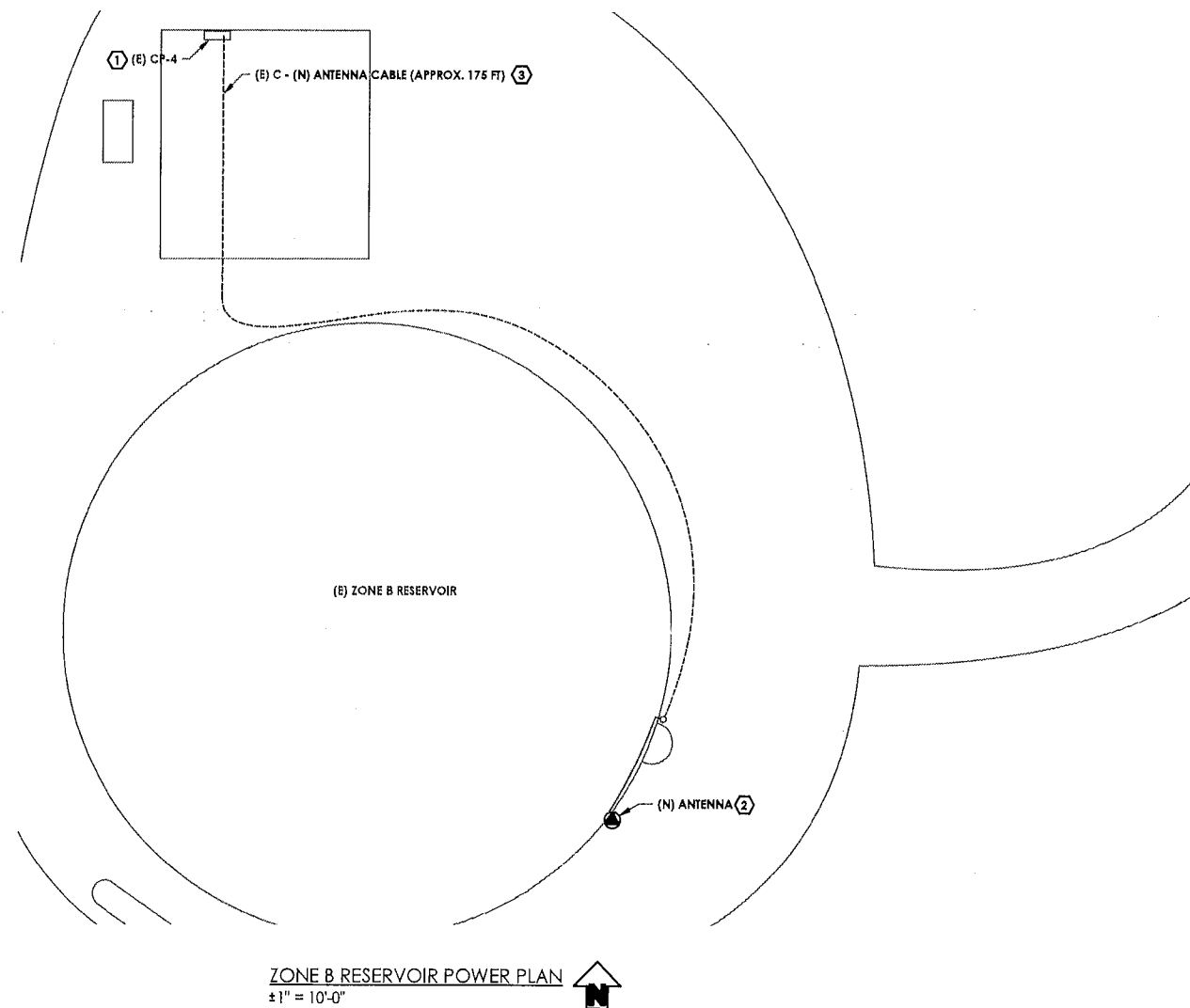
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8/18/23

CENTERVILLE COMMUNITY SERVICES DISTRICT
RADIO AND ANTENNA REPLACEMENT PROJECT

DISTRICT OFFICE & ZONE A1 RESERVOIR POWER
PLANS

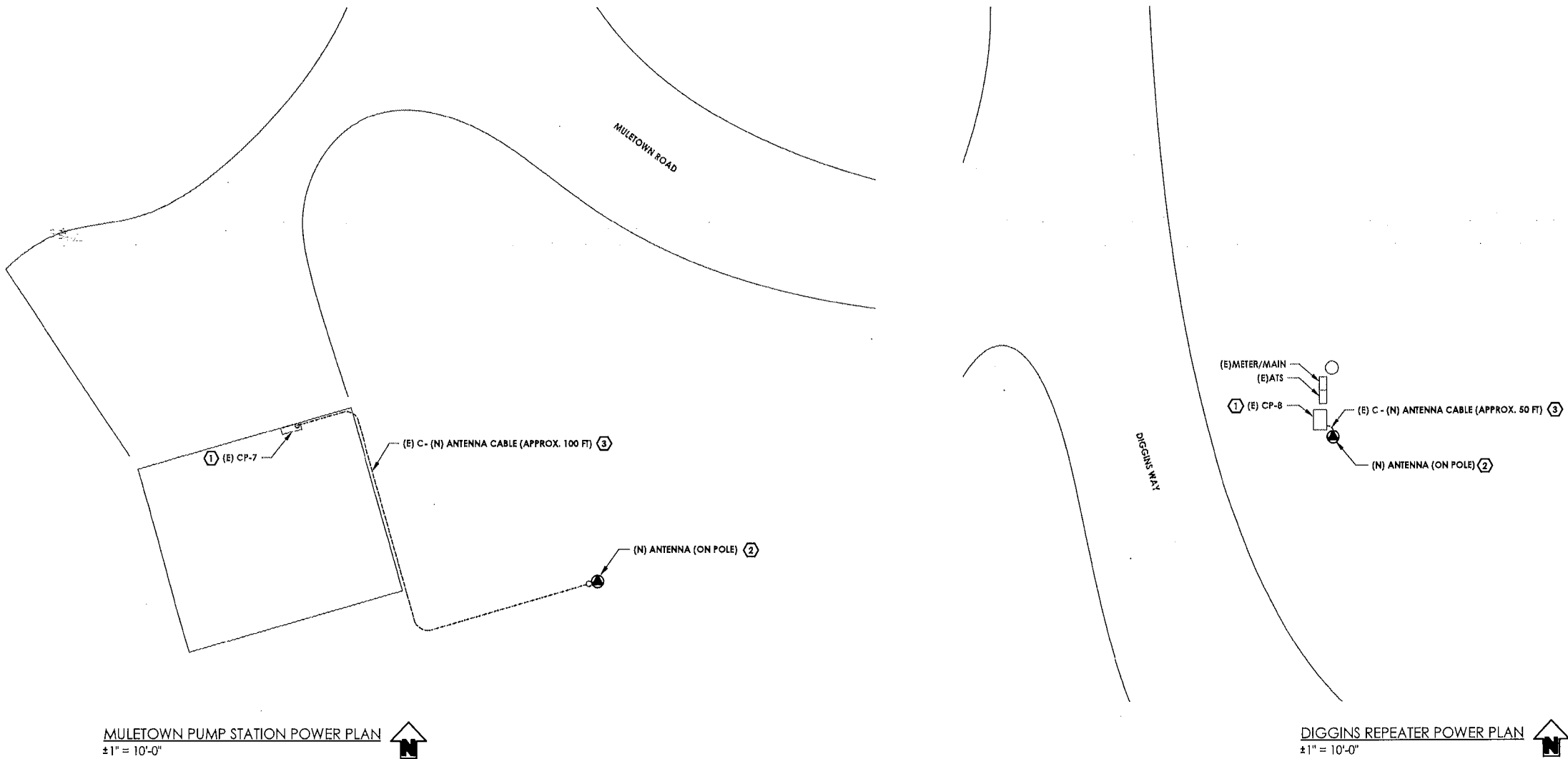
KEYNOTES	
#	NOTE
1.	DISCONNECT AND REMOVE EXISTING RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE. PROVIDE AND INSTALL NEW RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE PER PROJECT SPECIFICATIONS. MAKE MODIFICATIONS AS NECESSARY TO FACILITATE INSTALLATION.
2.	DISCONNECT AND REMOVE EXISTING ANTENNA. PROVIDE AND INSTALL NEW ANTENNA ON TOP OF TANK PER PROJECT SPECIFICATIONS.
3.	PROVIDE AND INSTALL NEW ANTENNA CABLE IN EXISTING CONDUIT.



BAR IS ONE INCH ON ORIGINAL DRAWING 0" ————— 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY	REVISIONS <table border="1"> <thead> <tr> <th>NO</th> <th>DATE</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		NO	DATE	DESCRIPTION																 DES: JM CKD: BG JOB NO.: 0214.85 DRN: JM DATE: 8/18/23	SIGNED: 8/18/23 	CENTERVILLE COMMUNITY SERVICES DISTRICT RADIO AND ANTENNA REPLACEMENT PROJECT ZONE A RESERVOIR/ZONE A1 PUMP STATION & ZONE B RESERVOIR POWER PLANS	SHEET E3 PG 4 OF 6
	NO	DATE	DESCRIPTION																					
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KEYNOTES	
KEYNOTE	NOTE
1.	DISCONNECT AND REMOVE EXISTING RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE. PROVIDE AND INSTALL NEW RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE PER PROJECT SPECIFICATIONS. MAKE MODIFICATIONS AS NECESSARY TO FACILITATE INSTALLATION.
2.	DISCONNECT AND REMOVE EXISTING ANTENNA. PROVIDE AND INSTALL NEW ANTENNA ON EXISTING 30' POLE PER PROJECT SPECIFICATIONS.
3.	PROVIDE AND INSTALL NEW ANTENNA CABLE IN EXISTING CONDUIT.



MULETOWN PUMP STATION POWER PLAN
±1" = 10'-0"

DIGGINS REPEATER POWER PLAN
±1" = 10'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING

0" 1"

IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY

REVISIONS		
NO.	DATE	DESCRIPTION

PACE
ENGINEERING

DES	JM	CKD	BG	JOB NO.
DRN	JM	DATE	8/18/23	0214.85

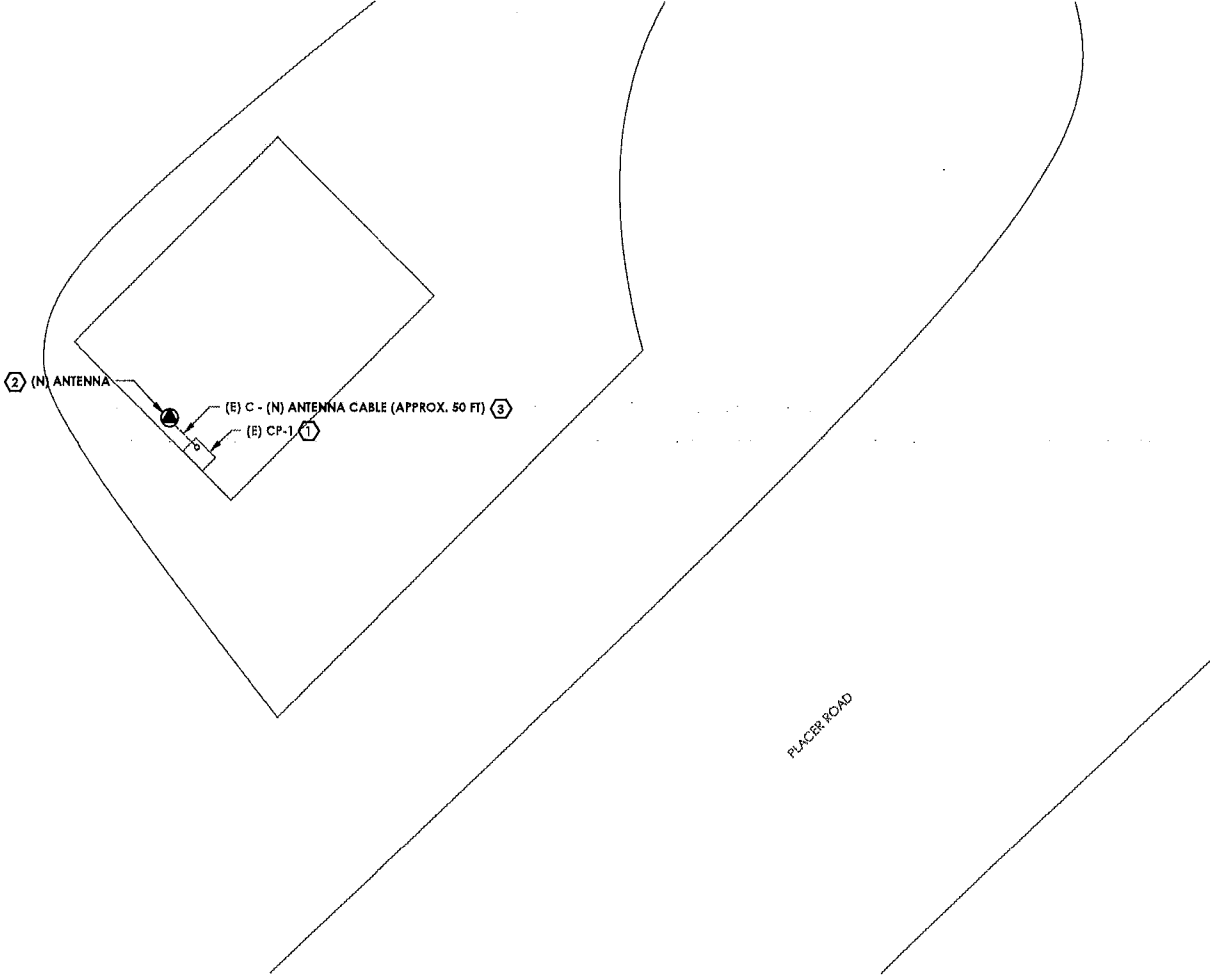
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CENTERVILLE COMMUNITY SERVICES DISTRICT
RADIO AND ANTENNA REPLACEMENT PROJECT

MULETOWN PUMP STATION & DIGGINS
REPEATER POWER PLANS

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KEYNOTES	
KEYNOTE	NOTE
1.	DISCONNECT AND REMOVE EXISTING RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE. PROVIDE AND INSTALL NEW RADIO, SURGE PROTECTIVE DEVICE, AND ANTENNA CABLE PER PROJECT SPECIFICATIONS. MAKE MODIFICATIONS AS NECESSARY TO FACILITATE INSTALLATION.
2.	DISCONNECT AND REMOVE EXISTING ANTENNA. PROVIDE AND INSTALL NEW ANTENNA PER PROJECT SPECIFICATIONS.
3.	PROVIDE AND INSTALL NEW ANTENNA CABLE IN EXISTING CONDUIT.



ZONE C PUMP STATION POWER PLAN
± 1" = 10'-0"

BAR IS ONE INCH ON ORIGINAL DRAWING
0" 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY


REVISIONS		
NO	DATE	DESCRIPTION



PACE
ENGINEERING

DES	JM	CKD	BG	JOB NO.
DRN	JM	DATE	8/18/23	0214.85

SIGNED 8/18/23



CENTERVILLE COMMUNITY SERVICES DISTRICT
RADIO AND ANTENNA REPLACEMENT PROJECT

ZONE C PUMP STATION POWER PLAN

SHEET
E5
PG 6 OF 6

CENTERVILLE



COMMUNITY SERVICES DISTRICT

MEMORANDUM

DATE: September 12, 2023
TO: Board of Directors
FROM: Chris Muehlbacher
SUBJECT: New Business 3 – Award the Server Replacement Project

Recommendation

ACTION – It is desired that the Board award the Server Replacement Project to Computer Logistics.

Discussion

The Server Replacement Project is budgeted in the current capital budget. The current server dates back to 2012 and is approaching the end of its useful service life. The Windows Server 2012 operating system will no longer be supported beyond October 10, 2023 which means that it will no longer receive security updates, non-security updates, bug fixes, technical support or online technical content updates. Over the past few months, the server has been showing signs of its age which required additional computer support. More recently during a power outage the server's hard drive crashed which required its replacement. Fortunately, the failure occurred on a Friday before a holiday weekend. This gave adequate time for it to be taken offsite for repairs and was placed back into service the following Tuesday. The District utilizes cloud-based back-up which helped facilitate restoring the server.

A total of two proposals were received for the Server Replacement Project which are summarized below:

1. <u>Computer Logistics</u>	
Hardware, Software & Tax	\$15,627.67
Professional Services	\$5,800
TOTAL	\$21,427.67
2. <u>Obsidian IT</u>	
Hardware, Software & Tax	\$15,660.05
Professional Services	\$10,725
TOTAL	\$26,385.05

These proposals were reviewed with the Resource & Planning Committee in preparation of the Capital Budget. Based upon the proposals, a total of \$24,000 was budgeted which includes a contingency reserve.

Alternative use of a virtual server

The Server Replacement Project will remove and replace the existing server located at the District Office. For comparison purposes, the potential of using a cloud-based virtual server was also explored. Considering the upfront capital expense and the need for future replacement of a physical server, it was deemed beneficial to explore whether a virtual server would be a viable alternative. In further exploring this option it was confirmed that the reoccurring monthly cost would be approximately \$530 per month. This cost would include the domain controller, the terminal server and the VPN gateway. Based upon that monthly expense, the physical vs virtual break-even is approximately 3.5 years. In comparing the current server having an approximate 11-year life span, it appears that the physical server will be more cost effective in the near-term until such time that the monthly cost would be lowered for the virtual server.

As part of exploring the potential use of a virtual server it was confirmed that it is not yet a common practice of neighboring agencies; furthermore, in soliciting information from CSDA members it too was a general concurrence that it is not yet a common practice. A primary concern would be the need for a reliable, higher speed internet. Related to the internet reliability is the issue of not having any access to the virtual server during times of internet service disruption. This would result in challenges for accessing customer accounts or files that are used by multiple users.

Based upon this inquiry, it remains the recommendation to maintain a physical server and award the project to Computer Logistics.

Financial Impacts

The Server Replacement Project has been included in the current Capital Budget and is funded by the Capital Improvement Reserve. The reserve has adequate funds to support the Capital Budget. Based upon this, the project does not have a fiscal impact beyond what has already been planned.

Attachment(s) – None

CENTERVILLE



COMMUNITY SERVICES DISTRICT

MEMORANDUM

Date: September 15, 2023
To: Board of Directors
From: Chris Muehlbacher
Subject: **Old Business 1: Tank Coating Program Update**

Recommendation

Information – This is a program update.

Discussion

As a result of the conditions observed during the Tank C2 washout it is Superior Tank Solutions recommendation that this tank be completed in the current agreement year 3 in lieu of the planned Tank A1. Doing so will now schedule the rehab of Tank A1 in year 6 of the agreement. Following the rehab of Tank C2 the remaining rehabs will be completed in agreement years 5 and 6. Related to this, staff is in negotiations to advance the rehab in year 6 to year 4. While doing this will require additional washouts in order to maintain a three-year interval there is an inherent benefit for completing the work earlier. Additional information will be presented to the Board once known.

Attachment(s): None

CENTERVILLE



COMMUNITY SERVICES DISTRICT

MEMORANDUM

Date: September 14, 2023
To: Board of Directors
From: Chris Muehlbacher
Subject: **Old Business 2 – Carr Fire Recovery Project Update**

Recommendation

Information – This is a project update.

Discussion

At present the CalOES consultant has completed the expense validation process and has submitted it for FEMA final review and close-out. No estimate of schedule is available at this time.

Fiscal Impact

It is anticipated that the remaining reserve funds will be retained by the District. It has been reaffirmed by the consultant that part of the close-out process is to confirm that the projects were completed, the expenses are valid, and that there were no additional funding sources such as an insurance claim.

In summary, FEMA awarded a total of seven (7) projects totaling \$347k for the benefit of this District as a result of Carr Fire impacts. At present, there remains approximately \$141k in reserve which were not used in completing the approved projects.

Attachment(s)

None