



AGENDA ITEM 7

TO: WASTEWATER SUBCOMMITTEE

SUBMITTED BY: TAMARA MILLER

MEETING DATE: JUNE 2, 2016

SUBJECT: RODEO SANITARY DISTRICT OUTFALL INSPECTION

RECOMMENDATION

It is recommended that the Wastewater Subcommittee review and approve the request from Rodeo Sanitary District to participate in funding the cost to conduct both an underwater inspection and cathodic system evaluation of the outfall pipeline.

BACKGROUND

As part of the NPDES permit, Rodeo Sanitary District is required to inspect the outfall every five years. The last inspection was in 2011. Rodeo Sanitary District has received bids from Underwater Resources Inc. and V & A Engineering for the underwater inspection and cathodic system evaluation of the outfall pipeline, respectively. These are the same vendors who have performed these services in prior inspections. The cost for the underwater inspection and cathodic system evaluation of the outfall pipeline, respectively, are \$15,370 and \$7,000. The proposals were provided by Rodeo Sanitary District and are attached for information.

In accordance with the Joint Powers Agreement between the agencies, the portion of the costs that Pinole and Hercules is responsible for is 76.2% or \$17,045.94.

ATTACHMENT

Underwater Resources Proposal
V&A Engineering Proposal



ESTIMATE

Customer: Rodeo Sanitary District
 Address: 800 San Pablo Ave
 Rodeo CA 94572
 Attn: Steven Beall

Estimate No.: 160426
 Estimate Date: 26-Apr-16

Job Title: Outfall Inspect

JOB DESCRIPTION:

URI will mobilize a three (3) person dive crew, our 27-foot MV Bay Responder, and shallow air equipment, drive to Vallejo Launch Ramp & launch MV Bay Responder. We will pick up V&A Corrosion Engineers and their cathodic potential gear, transit to the job site, use the given lat & long coordinates, and perform corrosion testing. When the corrosion testing is complete, URI will drop off the V&A rep in Vallejo and (if time permits) transit back to the jobsite to perform the inspection of the outfall diffuser section. This job will be bid for two 8-hour days and attempted to be completed in one.

QTY.	Description	Unit	TOTAL
<u>EQUIPMENT MOBILIZATION</u>			
4	Hours, Project Manager - Planning & Facilitate Crew & Equip. Mobilize	\$ 135.00	\$ 540.00
12	Hours, Shop Labor (3) - Assemble/Load Equipment & Boat in San Leandro, CA	\$ 90.00	\$ 1,080.00
<u>Field Work Day 1 - Locate Pipeline & Survey Diffuser Section</u>			
3	Hours, Travel (3) Crew	\$ 90.00	\$ 270.00
1	ST Shift, Supervisor	\$ 1,220.00	\$ 1,220.00
1	ST Shift, Diver	\$ 1,850.00	\$ 1,850.00
1	ST Shift, Tender	\$ 1,140.00	\$ 1,140.00
1	Dayrate Charge - MV Bay Responder	\$ 850.00	\$ 850.00
1	Dayrate Charge - Shallow Air Diving System	\$ 150.00	\$ 150.00
1	Dayrate Charge - UW Video System w/Generator	\$ 300.00	\$ 300.00
1	Dayrate Charge - Thickness Meter (UT), Digital Ultrasonic Multiple Echo	\$ 150.00	\$ 150.00
1	Dayrate Charge - UW Digital Camera w/Housing & LED	\$ 50.00	\$ 50.00
1	Dayrate Charge - Hand Tools, Consumables and Parking	\$ 150.00	\$ 150.00
1	Dayrate Charge - Crew Vehicle	\$ 150.00	\$ 150.00
1	Launch Ramp Parking Fee	\$ 15.00	\$ 15.00
<u>Field Work Day 2 - Diver Assistance to V&A Corrosion Engineers</u>			
3	Hours, Travel (3) Crew	\$ 90.00	\$ 270.00
1	ST Shift, Supervisor	\$ 1,220.00	\$ 1,220.00
1	ST Shift, Diver	\$ 1,850.00	\$ 1,850.00
1	ST Shift, Tender	\$ 1,140.00	\$ 1,140.00
1	Dayrate Charge - MV Bay Responder	\$ 850.00	\$ 850.00
1	Dayrate Charge - Shallow Air Diving System	\$ 150.00	\$ 150.00
1	Dayrate Charge - UW Video System w/Generator	\$ 300.00	\$ 300.00
1	Dayrate Charge - UW Digital Camera w/Housing & LED	\$ 50.00	\$ 50.00
1	Dayrate Charge - Hand Tools, Consumables and Parking	\$ 150.00	\$ 150.00
1	Dayrate Charge - Crew Vehicle	\$ 150.00	\$ 150.00
1	Launch Ramp Parking Fee	\$ 15.00	\$ 15.00
1	Marina Slip Fee	\$ 50.00	\$ 50.00
<u>CLEAN/STOW EQUIPMENT</u>			
4	Hours, Project Manager - Video Processing, Paperwork, Report	\$ 135.00	\$ 540.00
8	Hours, Shop Labor - Unload Equipment/Clean & Stow Away	\$ 90.00	\$ 720.00
			Total: \$15,370.00

TERMS: NET 30 DAYS. Svc. Chg: 1.5% Per Month On Unpaid Balances over 30 days

V&A Project No. 16-0108

April 27, 2016

Steven S. Beall, P.E.
Rodeo Sanitary District
800 San Pablo Avenue
Rodeo, CA 94572

Subject: Outfall Pipeline Cathodic Protection (CP) System Evaluation Proposal for Corrosion Engineering Services

Dear Mr. Beall:

Thank you for requesting a proposal for corrosion engineering services for the outfall pipeline located in Rodeo, California. The outfall consists of approximately 3,900 feet of 30-inch diameter pipe. The CP system associated with the pipe consists of a 24 volt, 22 amp, oil-cooled rectifier and 4 anodes. The rectifier and a short section of the outfall are on the treatment plant site. Most of the outfall extends northwest from the Rodeo shoreline into the San Francisco Bay. V&A performed previous evaluations of the CP system in 2005 and 2011. Evaluations are recommended at 5-year intervals. V&A Consulting Engineers (V&A) is prepared to evaluate the CP system associated with the outfall pipeline.

Per your request, the following is our proposal and detailed scope of work for the subject services:

Scope of Work

1. **Document Review:** Review the rectifier data and results from the previous cathodic protection evaluations. Review the plans and details for the outfall.
2. **Evaluation:** The evaluation of the cathodic protection system will consist of pipe-to-soil and pipe-to-water potential measurements on the onshore and offshore length of the outfall pipeline. The rectifier will be adjusted based on those measurements. One V&A cathodic protection technician (NACE International CP-2) will conduct the evaluation in one day.
 - a. **Onshore:** The onshore evaluation will measure the potential at several locations between the Eductor Vault and the water line. V&A will be picked up by the dive company at the waterfront right before testing and dropped off right after the testing. V&A will not be onboard for all of the divers work. V&A will perform the following:
 - 1) Measure the current and voltage output of the rectifier in the as-found condition.
 - 2) Measure pipe-to-soil potentials using exposed or above grade pipe risers to electrically connect with the pipe.
 - 3) Temporarily install an interrupter in the rectifier to remotely cycle the rectifier on and off. Measure "On" and "Instant Off" potentials.
 - 4) Measure pipe-to-water potentials with a reference electrode set into the water. The reference electrode will be set over the pipe and also approximately 1,000 feet west of the pipeline.
 - b. **Offshore:** The offshore evaluation will measure the potential of the outfall at the diffuser end of the pipeline. This will indicate the level of cathodic protection at the extreme end of the outfall pipeline. Rodeo Sanitary District will retain a diver to visually assess the diffuser end of the outfall pipeline. V&A will require assistance from the diver to measure to the pipe-to-water potential at the diffuser end of the pipeline.
 - 1) V&A will accompany the diver to the diffuser end of the outfall pipeline in a boat provided by the diver. V&A will not accompany the diver on the dive itself.
 - 2) The diver will attach a C-clamp to the pipeline and hold a 5-pound zinc reference electrode adjacent to the pipe. V&A will supply the C-clamp and reference electrode.

- 3) V&A will measure the pipe-to-water potential of the diffuser end of the pipeline from the boat while the diver is holding the reference electrode in place.
 - 4) Compare the potentials measured during the offshore evaluation with those measured during the onshore evaluation.
 - c. **Rectifier Adjustment:** Adjust the output of the rectifier based on the pipe-to-soil potentials. Adjust the output of the rectifier to meet NACE SP-0169 criteria for corrosion protection, if the equipment is still functional enough to do so. Previous evaluation of the rectifier indicated that the output had decreased, and the rectifier is beyond its design life.
3. **Report:** Submit a letter summarizing the data collected and provide recommendations for corrosion control of the outfall pipeline and monitoring of the cathodic protection rectifier.

V&A proposes to complete this work on a time and materials basis at a total cost not to exceed **\$7,000** with terms of net 60 days. This fee is valid for 90 days from the date of this proposal. The scope of work was developed as a result of our discussions and represents our mutual understanding.

Estimated costs for the above project scope are itemized in the attached Resource Allocation Estimate. These costs represent our best estimate at this time and may change subject to future developments during the project. It is possible that some of the estimated manpower requirements for specific task items may increase while others may not require the entire anticipated effort. This provides us a greater degree of confidence in the overall project estimate, rather than in any given particular task.

If unforeseen circumstances should arise which indicate that more time is required, V&A will provide a written estimate of additional required time and cost. V&A will not proceed with work beyond the not-to-exceed figure without a written authorization from your office. Charges to this project will be made for actual time spent on the project and will be charged as per the attached Resource Allocation Estimate. We request that you carefully review this proposal to assure full understanding of the scope of the work. Our Fee Schedule is adjusted annually in January. Fees will be adjusted at that time and a new Fee Schedule will be sent. Charges on the remainder of the project will be based on the new schedule.

We are prepared to begin work on your project upon receiving written approval, a notice to proceed, or a purchase order from your office.

On behalf of our staff and myself, I would like to thank you for the opportunity to be of service to you and Rodeo Sanitary District. We look forward to working with you.

Sincerely,
V&A Consulting Engineers, Inc.

Chelsea Teall
 Chelsea Teall, P.E.
 Project Manager

Accepted: _____
 Rodeo Sanitary District

Date: _____



RESOURCE ALLOCATION ESTIMATE

JOB NO: 16-0108

4/27/2016

CLIENT: Rodeo Sanitary District

JOB TITLE: Outfall Pipeline Cathodic Protection System Evaluation

Task	Description	Principal-in-Charge	Sr. Project Manager	Project Manager	Assistant Engineer	Engineering Assistant	Total
1	Document Review			2	3	2	7
2	Evaluation			2	8	2	12
3	Report	1	1	8	8	2	20
	Subtotal	1	1	12	19	6	39
	Hourly	\$297	\$259	\$232	\$141	\$130	
	Total Direct Labor	\$297	\$259	\$2,784	\$2,679	\$780	\$6,799
	Other Direct Costs					Amount	
	Truck	\$85	per Day	1	Days	\$85	
	Mileage	\$0.575	per Mile	60	Miles	\$35	
	Office Expenses/Printing/Reproduction					\$81	
	Subtotal Other Direct Costs						\$201
	GRAND TOTAL ESTIMATED COST						\$7,000