The mission of Three Valleys Municipal Water District is to supplement and enhance local water supplies to meet our region's needs in a reliable and cost-effective manner.

THREE VALLEYS MWD

BOARD OF DIRECTORS REGULAR MEETING

OCTOBER 5, 2022

8:00 AM

1021 E. Miramar Avenue | Claremont, California 91711-2052

909.621.5568 | www.threevalleys.com

THREE VALLEYS MUNICIPAL WATER DISTRICT
REGULAR BOARD MEETING AGENDA

1021 E. Miramar Avenue, Claremont, CA 91711
October 5, 2022 – 8:00 AM

The mission of Three Valleys Municipal Water District is to supplement and enhance local water supplies to meet our region's needs in a reliable and cost-effective manner.

SPECIAL NOTICE OF TELECONFERENCE ACCESSIBILITY

Pursuant to the provisions of Assembly Bill 361, which amended certain provisions of the Brown Act regarding teleconference meetings during periods of statewide emergencies, and as a precaution to our Board of Directors, District staff and general public as a result of the ongoing COVID-19 pandemic, Three Valleys MWD will hold this meeting of its Board of Directors both in-person at the above location and via teleconference. The public may participate in the meeting by physical attendance or by teleconference by clicking on the link below:

https://tvmwd.zoom.us/webinar/register/WN_Ge3nAt9xThqbHrKQz_Hw1g
(Dial-in instructions are provided after registering at the link above)

Any member of the public wishing to participate in public comment may do so in any of the following manners: (1) when prompted by the President during the public comment period, (2) by filling out the electronic speaker's card at the following link https://arcg.is/0z5GqO prior to the close of public comment, (3) by sending an email to PublicComment@tvmwd.com prior to the close of public comment, or (4) those attending the meeting in person may complete a speaker's card and provide it to the Executive Assistant prior to the close of public comment.

1. CALL TO ORDER — ROBERTO

2. ROLL CALL — AGUIRRE

   Jody Roberto, President
   Brian Bowcock, Vice President
   Carlos Goytia, Secretary
   Mike Ti, Treasurer
   David De Jesus, Director
   Bob Kuhn, Director
   Danielle Soto, Director

3. FLAG SALUTE — ROBERTO

4. AGENDA REORDER/ADDITIONS *[Government Code Section 54954.2(b)(2)]* — ROBERTO

   Additions to the agenda may be considered when two-thirds of the board members present determine a need for immediate action, and the need to act came to the attention of TVMWD after the agenda was posted; this exception requires a degree of urgency. If fewer than two-thirds of the board members are present, all must affirm the action to add an item to the agenda. The Board shall call for public comment prior to voting to add any item to the agenda after posting.

5. PUBLIC COMMENT *(Government Code Section 54954.3)* ROBERTO

Opportunity for members of the public to directly address the Board on items of public interest that is within the subject matter jurisdiction of TVMWD. The public may also address the Board on items being considered on this agenda.

We request that remarks be limited to three minutes or less. Pursuant to Government Code Section 54954.3, if speaker is utilizing a translator, the total allotted time will be doubled.

6. ACTION AGENDA LITCHFIELD

The following items on the Action Agenda call for discussion and action by the Board. All items are placed on the agenda so that the Board may discuss and take action on the item if the Board is so inclined.

A. ADOPT RESOLUTION NO. 22-10-942 RE-AUTHORIZING REMOTE TELCONFERENCE MEETINGS PURSUANT TO THE PROVISIONS OF ASSEMBLY BILL 361 LITCHFIELD

The Board will consider adopting Resolution No. 22-10-942 re-authorizing remote teleconference meetings pursuant to AB 361.

BOARD ACTION REQUIRED 6.A

Staff Recommendation: Approve as Presented

7. GENERAL MANAGER'S REPORT LITCHFIELD

The Executive Leadership Team will provide brief updates on existing matters under their purview and will be available to respond to any questions thereof.

A. RESERVE SCHEDULE FOR FISCAL YEAR ENDED JUNE 30. 2022 LINTHICUM

The Board will review the reserve schedule for FY ended June 30, 2022.

B. LAFCO BALLOT SPECIAL DISTRICT REPRESENTATIVE LITCHFIELD

The Board will discuss candidates for Special District LAFCO Voting Member.

C. PUBLIC WATER AGENCY GROUP EMERGENCY PREPAREDNESS AND RESPONSE UPDATE HOWIE

The Board will be provided an update on PWAG Emergency Preparedness and Response accomplishments.

D. CONSUMER PRICE INDEX DATA REPORT ROBLES

The Board will review the status of the consumer price index.

E. MIRAMAR ELECTRICAL SWITCHBOARD UPGRADE PANZER

The Board will be provided an update on the electrical switchboard upgrade.

F. MIRAMAR TRANSMISSION LINE LEAK DETECTION PANZER

The Board will be provided an update on a potential leak detection project.

(ITEM 7 CONTINUED)

G. STATE OF CALIFORNIA DELTA CONVEYANCE PROJECT LETTER OF SUPPORT — LEE

The Board will be provided an oral update on the Delta Conveyance Project letter of support.

8. DIRECTORS'/GENERAL MANAGER'S ORAL REPORTS — ROBERTO

Directors may report on activities for meetings to which they are assigned to serve as the representative or alternate of TVMWD and on other areas of interest.

9. CLOSED SESSION — ROBERTO

A. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION [Government Code Section 54956.9(d)(1)]

Name of Case: San Diego County Water Authority v. Metropolitan Water District of Southern California, et al., San Francisco County Superior Court Case No. CPF-14-514004 (Consolidated with Case Nos. CPF-16-515282 and CPF-18-516389)

B. CONFERENCE WITH LEGAL COUNSEL – EXISTING LITIGATION [Government Code Section 54956.9(d)(1)]

Name of Case: Chino Basin Municipal Water District v. City of Chino, et al., San Bernardino County Superior Court Case No. RCV RS 51010

C. CONFERENCE WITH LEGAL COUNSEL – ANTICIPATED LITIGATION

- Significant exposure to litigation pursuant to Government Code Section 54956.9(d)(2)
- One potential case

10. FUTURE AGENDA ITEMS — ROBERTO

11. ADJOURNMENT AND NEXT MEETING — ROBERTO

The Board will adjourn to a regular Board Meeting on October 19, 2022 at 8:00 AM.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Executive Assistant at (909) 621-5568 at least 24 hours prior to the meeting.

Pursuant to Government Code Section 54957.5, materials related to an item on this agenda submitted after distribution of the agenda packet will be posted on the TVMWD website at www.threevalleys.com.

Three Valleys MWD Board meeting packets and agendas are available for review at www.threevalleys.com.

RESOLUTION NO. 22-10-942

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT RE-RATIFYING THE PROCLAMATION OF A STATE OF EMERGENCY BY GOVERNOR NEWSOM, DECLARING THAT LOCAL EMERGENCY CONDITIONS PERSIST, AND RE-AUTHORIZING REMOTE TELECONFERENCE MEETINGS OF THE BOARD OF DIRECTORS AND ITS STANDING COMMITTEES FOR THE PERIOD OCTOBER 19, 2022, TO NOVEMBER 14, 2022, PURSUANT TO BROWN ACT PROVISIONS

WHEREAS, the Three Valleys Municipal Water District (the "District") is committed to preserving and nurturing public access and participation in meetings of its Board of Directors; and

WHEREAS, all meetings of the District's Board of Directors (the "Board") and its standing committees are open and public, as required by the Ralph M. Brown Act (California Government Code Sections 54950-54963), so that any member of the public may attend, participate, and watch those bodies conduct their business; and

WHEREAS, the Brown Act, in Government Code Section 54953(e), makes provision for remote teleconferencing participation in meetings by members of a legislative body, without compliance with the requirements of Government Code Section 54953(b)(3), subject to the existence of certain conditions; and

WHEREAS, a required condition for application of Government Code Section 54953(e) is that a state of emergency is declared by the Governor pursuant to Government Code Section 8625, proclaiming the existence of conditions of disaster or of extreme peril to the safety of persons and property within the State caused by conditions as described in Government Code Section 8558; and

WHEREAS, a proclamation is made when there is an actual incident, threat of disaster, or extreme peril to the safety of persons and property within the jurisdictions that are within the District's boundaries, caused by natural, technological, or human-caused disasters; and

WHEREAS, on March 4, 2020, Governor Gavin Newsom proclaimed a state of emergency to exist in California as a result of the threat of COVID-19, and such proclamation has not yet been lifted; and

WHEREAS, it is further required under Government Code Section 54953(e) that state or local officials have imposed or recommended measures to promote social distancing or that the legislative body meeting in person would present imminent risks to the health and safety of attendees; and

WHEREAS, the Board previously adopted Resolution No. 22-09-936 on September 7 2022, finding that the requisite conditions exist for the Board and its standing committees to

conduct remote teleconference meetings without compliance with Government Code Section 54953(b)(3); and

WHEREAS, as a condition of extending the use of the provisions set forth in Government Code Section 54953(e), the Board must reconsider the circumstances of the state of emergency that exists within the District, and the Board has done so; and

WHEREAS, emergency conditions persist within the District, specifically COVID-19 and its Delta variant remain highly contagious and, therefore, a threat to the health, safety, and well-being of the District's employees, directors, vendors, contractors, customers, visitors, and residents; and

WHEREAS, orders from the Los Angeles County Department of Public Health and regulations from the State of California impose limitations on gatherings and provide guidance on best practices with respect to actions to reduce the spread of COVID-19; and

WHEREAS, the Board does hereby find that a state of emergency continues to exist within the District's service area as a result of the continuing presence of COVID-19, which has caused, and will continue to cause, conditions of imminent risk to attendees of Board meetings, and has resulted in local, State, and federal social distancing orders and related guidance, and which has caused, and will continue to cause, conditions of peril to the safety of persons within the District that are likely to be beyond the control of services, personnel, equipment, and facilities of the District, and the Board desires to re-affirm that a local emergency exists and re-ratify the proclamation of state of emergency by the Governor of the State of California; and

WHEREAS, as a consequence of the local emergency persisting, the Board does hereby find that the Board and all standing committees thereof shall continue to conduct their meetings without compliance with paragraph (3) of subdivision (b) of Government Code Section 54953, as authorized by subdivision (e) of Government Code Section 54953, and that such legislative bodies shall continue to comply with the requirements to provide the public with access to the meetings as prescribed in paragraph (2) of subdivision (e) of Government Code Section 54953; and

WHEREAS, the District will continue to provide proper notice to the public regarding all Board and standing committee meetings in accordance with Government Code Section 54953(e)(2) and shall continue to provide notice to the public of how they may access any such meeting via call-in number and/or internet link.

NOW, THEREFORE, THE BOARD OF DIRECTORS OF THE THREE VALLEYS MUNICIPAL WATER DISTRICT DOES HEREBY RESOLVE AS FOLLOWS:

Section 1. Recitals. The Recitals set forth above are true and correct and are incorporated into this Resolution by this reference.

Section 2. Affirmation that Local Emergency Persists. The Board hereby considers the conditions of the state of emergency within the District and proclaims that a local emergency

persists throughout the District as a result of the continuing presence of COVID-19, which continues to cause conditions of imminent risk to attendees of the District's Board and standing committee meetings, and which have resulted in local, State, and federal social distancing orders and guidance, and that continuing to conduct the District's Board and standing committee meetings virtually will minimize the possible spread COVID-19 and any variant thereof.

Section 3. Re-Ratification of Governor's Proclamation of a State of Emergency. The Board hereby re-ratifies the Governor of the State of California's Proclamation of State of Emergency regarding COVID-19, dated March 4, 2020.

Section 4. Remote Teleconference Meetings. The District's General Manager, or his or her delegee, and the Board and standing committees of the District are hereby authorized and directed to take all actions necessary to carry out the intent and purpose of this Resolution, including but not limited to continuing to conduct open and public meetings in accordance with Government Code Section 54953(e) and other applicable provisions of the Brown Act.

Section 5. Effective Date of Resolution. This Resolution shall take effect on October 19, 2022 and shall be effective until the earlier of (i) November 14, 2022, or (ii) such time as the Board adopts a subsequent resolution in accordance with Government Code Section 54953(e)(3) to extend the time during which the Board and standing committees of the District may continue to teleconference without compliance with paragraph (3) of subdivision (b) of Government Code Section 54953.

PASSED AND ADOPTED by the Board of Directors of the Three Valleys Municipal Water District this 5th day of October 2022, by the following vote:

AYES:
NOES:
ABSENT:
ABSTAIN:

_____
Jody Roberto
President, Board of Directors

ATTEST:

_____
Carlos Goytia
Secretary, Board of Directors

SEAL:

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **Reserve Schedule for Fiscal Year Ended June 30, 2022**

☐ **Funds Budgeted: $** ☐ **Fiscal Impact: $**

Staff Recommendation

No Action Necessary – Informational Item Only

Background

Attached for Board review is the Reserves Schedule as of June 30, 2022 presented as prescribed by GASB Statement No. 54 *Fund Balance Reporting and Governmental Fund Type Definitions*. GASB 54 presentation is not required, however tracking fund balance in this manner provides greater visibility as to the level of fund balance available for use. GASB 54 establishes fund balance classifications that comprise a hierarchy based primarily on the extent to which a government is bound to observe constraints imposed upon the use of the resources reported in governmental funds. The hierarchy of five possible classifications of fund balance is:

- Nonspendable – Amounts that cannot be spent due to form.
- Restricted – Amounts constrained for a specific purpose by external parties, constitutional provision or enabling legislation.
- Committed (Reserved for Encumbrance) – Amounts constrained for a specific purpose by a government using its highest level of decision-making authority.
- Assigned (Board Designated) – Amounts intended for specific purposes.
- Unassigned – The residual fund balance.

The Board has control primarily over Committed, Assigned and Unassigned.

Discussion:

Committed (Reserved for Encumbrance):

The Reserved for Encumbrance category reflects the final reconciliation for all encumbered projects that were completed or are still in progress.

- $30,842 remains from projects completed or that will not continue on as of June 30, 2022. As has been done in the past, staff is proposing to return those funds to Capital Asset reserves.
- $1,673,757 remains from projects that are incomplete as of June 30, 2022. Staff recommends carrying these funds forward to FY 22-23 to finish these projects.

Assigned (Board Designated) and Unassigned (General):

- There are excess reserves of $661,512 from FY 21-22. Staff recommends allocating $46,245 of this amount to Water Rate Stabilization reserves and $76,989 of this amount to Capital Asset reserves to bring these categories up to their lower goal targets. The remaining $538,278 would be added to unassigned General reserves.
- Board Elections reserves will be replenished to the lower goal target just as we pay for the next elections.
- Total Board Designated and Unassigned reserves will be approximately $9.2 million. This is below our $10 million goal target for Emergency reserves, however with the budget adopted for FY 22-23, we expect this to increase to $10.5 million.
- Lower and upper goal limits are updated annually with the revised strategic plan.

This item will be brought forward to the October 19th Board meeting for approval consideration.

Strategic Plan Objective(s):

3.1 – Utilize and comply with a set of financial policies to maintain TVMWD's financial health

3.3 – Be accountable and transparent with major decisions

Attachment(s)

Exhibit A – Reserve Schedule as of Fiscal Year End June 30, 2022

Meeting History

None

NA/JL

TVMWD RESERVES SCHEDULE

FUND BALANCE	June 30, 2021 BALANCE	SOURCES	USES	TRANSFERS	Capital Asset Reserve	Year End Allocation	June 30, 2022 BALANCE	June 30, 2023 BALANCE	RESERVE GOAL	
NONSPENDABLE										
Deposits	8,976	-	(8,976)	-	-	-	-			
Invested in Capital Assets net of related debt	33,284,198	1,116,465	(77,941)	95,207	-	-	34,417,929			
	$ 33,293,174	**$ 1,116,465**	**$ (86,917)**	**$ 95,207**	**$ -**	**$ -**	**$ 34,417,929**			
RESTRICTED										
Restricted for pension trust	885,040	200,000	(112,348)	-	-	-	$ 972,692			
	$ 885,040	**$ 200,000**	**$ (112,348)**	**$ -**	**$ -**	**$ -**	**$ 972,692**			
RESERVED FOR ENCUMBRANCE										
Filter Aid System Upgrades	30,000	-	-	-	-	-	30,000			
MiraGrand Well	136,544	1,000,000	(2,294,868)	2,185,000	-	-	1,026,676			
PM-26 Expansion	-	100,000	(34,183)	-	-	-	65,818			
Emergency Electrical Upgrades	19,530	250,000	(13,270)	-	-	-	256,260			
Well #1 Rehabilitation	11,847	-	-	-	(11,847)	-	-			
Emerald Relocation	60,000	-	(118,898)	63,000	(4,102)	-	(0)			
PM-27 Connection	25,000	-	-	(25,000)	-	-	-			
PM-29 Connection	25,000	-	-	(25,000)	-	-	-			
Security Equipment	-	200,000	(90,371)	-	-	-	109,629			
BFP Belt Replacement	-	84,000	(1,213)	(70,000)	(12,787)	-	0			
Turbidimeters Replacement	-	40,000	(37,894)	-	(2,106)	-	0			
Chlorine System	-	250,000	(86,341)	(63,000)	-	-	100,659			
CalTrans Well	-	50,000	-	-	-	-	50,000			
Analyzers - Chemical Systems	-	10,000	-	13,000	-	-	23,000			
GIS Services		50,000	(38,285)	-		-	11,715			
	$ 307,921	**$ 2,034,000**	**$ (2,715,322)**	**$ 2,078,000**	**$ (30,842)**	**$ -**	**$ 1,673,757**			
BOARD DESIGNATED									**Lower**	**Upper**
Board Elections	195,049	90,000	-	-	-	-	$ 285,049	$ 375,049	$ 375,000	$ 500,000
Water Rate Stabilization	1,353,755	-	-	-	-	46,245	1,400,000	1,400,000	1,400,000	2,100,000
Capital Asset R/R	5,552,169	-	-	(2,160,000)	30,842	76,989	3,500,000	4,674,080	3,500,000	9,700,000
Opportunity	2,350,000	-	-	-	-	-	2,350,000	2,350,000	2,000,000	3,000,000
Employee Benefits	378,237	300,000	-	-	-	-	678,237	678,237	-	3,400,000
Spadra Basin - Future Groundwater Project	232,000	-	(232,000)	-	-	-	-			
Emergency	-	-	-	-	-	-	-	-	-	-
	$ 10,061,210	**$ 390,000**	**$ (232,000)**	**$ (2,160,000)**	**$ 30,842**	**$ 123,234**	**$ 8,213,286**	**$ 9,477,366**	**$ 7,275,000**	**$ 18,700,000**
UNASSIGNED										
General	442,982	-	-	-		538,278	$ 981,260	$ 1,015,206		
	$ 442,982	**$ -**	**$ -**	**$ -**	**$ -**	**$ 538,278**	**$ 981,260**	**$ 1,015,206**		
TOTAL FUND BALANCE	**$ 44,990,327**						**$ 46,258,924**			

Item 7.B

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **LAFCO Ballot Special District Representative**

☐ **Funds Budgeted: $** ☐ **Fiscal Impact: $**

Staff Recommendation

No Action Necessary – Informational Item Only

Discussion

On September 28, 2022, TVMWD received a ballot and supporting materials for candidates for Special District LAFCO Voting Member for the term expiring May 2026. The candidates are as follows:

Special District LAFCO Voting Member:
Steven Appleton, Greater Los Angeles County Vector Control District
Robert W. Lewis, Rowland Water District
Sharon Raghavachary, Crescenta Valley Water District
Yvette Stevenson-Rodriguez, Orchard Dale Water District

Ballots must be returned to Lagerlof, LLP by 5:00 p.m. on November 30, 2022.

Strategic Plan Objective(s)

3.3 – Be accountable and transparent with major decisions

Attachment(s)

Exhibit A – LAFCO Letter, ballot and supporting materials

Meeting History

None

NA/ML

Lagerlof

MEMORANDUM

TO: PRESIDING OFFICER OF EACH INDEPENDENT SPECIAL DISTRICT IN LOS ANGELES COUNTY

FROM: WILLIAM F. KRUSE

RE: BALLOT; SPECIAL DISTRICT LAFCO REPRESENTATIVE

DATE: September 26, 2022

Enclosed is the Ballot and the supplementary materials submitted for each of the candidates for Special District LAFCO **VOTING MEMBER** for the term expiring in May 2026. Nominations closed as of 5:00 p.m. on September 21, 2022.

Please vote for ONE candidate for the position. The marked ballots should be placed in the envelope marked "Ballot Envelope" and sealed. Please write the name of your agency and sign your name on the outside of the ballot envelope and return the completed ballots by mail to:

William F. Kruse, Esq.
Lagerlof, LLP
155 N. Lake Avenue, 11th Floor
Pasadena, CA 91101.

No ballot will be counted if it is missing the name of the voting agency and the signature of the Presiding Officer on the ballot envelope.

The candidate receiving the highest number of votes will be declared the special district **voting member** to LAFCO.

Ballots must be returned by 5:00 p.m. on November 30, 2022.

WFK/dc
Enclosures

cc: Paul Novak, w/enc.

Lagerlof LLP
155 N Lake Avenue, 11th Flr
Pasadena, CA 91101

Lagerlof.com
Email: wkruse@lagerlof.com

T: (626)-793-9400
F: (626)-793-5900

BALLOT

SPECIAL DISTRICT LAFCO VOTING MEMBER

Please vote for no more than one candidate.

☐ **STEVEN APPLETON**
Occupation: Board of Trustee Member
Sponsor: Greater Los Angeles County Vector Control District

☐ **ROBERT W. LEWIS**
Occupation: Water District Director
Sponsor: Rowland Water District

☐ **SHARON RAGHAVACHARY**
Occupation: Water District Director
Sponsor: Crescenta Valley Water District

☐ **YVETTE STEVENSON-RODRIGUEZ**
Occupation: Board President
Sponsor: Orchard Dale Water District

NOMINATION
OF
INDEPENDENT SPECIAL DISTRICT VOTING MEMBER
TO THE
LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

To: Independent Special District Selection Committee

From: **GREATER LOS ANGELES COUNTY VECTOR CONTROL DISTRICT**

Date: **SEPTEMBER 21, 2022**

Name of Candidate: **STEVEN APPLETON**

GREATER LOS ANGELES COUNTY VECTOR CONTROL DISTRICT is pleased to nominate **STEVEN APPLETON** as a candidate for appointment as special district voting member to the Los Angeles Local Agency Formation Commission. The nominee is an elected official or a member of the board of an independent special district appointed for a fixed term. For your consideration, we submit the following additional information together with a resume of the candidate's qualifications.

Elective office: **BOARD OF TRUSTEE, LOS ANGELES CITY**

Agency: **GREATER LOS ANGELES COUNTY VECTOR CONTROL DISTRICT**

Type of Agency: **SPECIAL DISTRICT**

Term Expires: **JANUARY 6, 2025**

Residence Address: **2825 BENEDICT STREET**
LOS ANGELES, CA 90039

Telephone: **310-740-7294**

PLEASE ATTACH RESUME OR CANDIDATE STATEMENT (limit one page)

GREATER LOS ANGELES COUNTY VECTOR CONTROL DISTRICT
(Name of Agency)

By: Mary-Joy Coburn

Its: Mary-Joy Coburn, Communications Director / Board Liaison

Steve Appleton

I am running for the position of Special District Voting Member on LAFCO. If I am elected, you can trust that I will be an effective and engaged representative for Special Districts.

As the Trustee for the City of Los Angeles and former President of the Greater Los Angeles County Vector Control District, I have participated in annexation decisions that gave me a small window into one aspect of LAFCO's work.

Mosquitoes do not read "City Limit" signs. Spheres of influence for vector control are often better drawn by physical and social bounds versus municipal lines. When we have considered annexations, our board and staff took a scientific approach. Would extending our outreach, prevention and treatment area increase efficiency of regional control of mosquito-borne disease? To approve an annexation request we also considered if eliminating isolated pockets of vectors reduced our net cost per parcel or area. As the new environmental control of Sterile Insect Technique (SIT) emerges, our board and staff have created cooperative agreements with adjacent vector control districts to help fund initial development.

Such agreements may harken the new future of regional cooperation and technology sharing in an era where climate change is affecting all levels of government services. Water resources, fire suppression and park equity all require new thinking. In this context LAFCO's role may shift from facilitating "orderly growth" to the more nuanced idea of "sustainable growth." I am poised to be a student of the issues who listens to all sides of any issue and represents Special Districts in this process.

Resume:

- Public artist who has created award-winning civic art works for LA Metro, the Los Angeles Community Redevelopment Agency, City of Denver, City of Seattle, and internationally.

- Founder of *Water Institute of Science Policy (WISP)* in 2019 to focus academic and community discussion on sustainable urban park, habitat, and water issues. Affiliated with the Institute for Sustainability, California State University, Northridge.

- 2021-2022 organized five events that brought together academic researchers with local communities. Sponsors included: Cal State University Northridge, Berggruen Institute, California State University's 13th Annual Conference, *"Water Connects: Justice, Resilience, and Innovation."*

- Founder of LA River Kayak Safari (LARKS) that has led more than 12,000 people on tours of a naturalized section of our urban waterway. Leading a native plant restoration project with indigenous collaborators. Technical stakeholder for recreational water testing of LA City Sanitation (LA San) and the "State of the Watershed" report of the "Council for Watershed Health."

NOMINATION
OF
INDEPENDENT SPECIAL DISTRICT VOTING MEMBER
TO THE
LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

To: Independent Special District Selection Committee

From: Rowland Water District

Date: September 6, 2022

Name of Candidate: Robert W. Lewis

Rowland Water District is pleased to nominate Robert W. Lewis as a candidate for appointment as special district voting member to the Los Angeles Local Agency Formation Commission. The nominee is an elected official or a member of the board of an independent special district appointed for a fixed term. For your consideration, we submit the following additional information together with a resume of the candidate's qualifications.

Elective office: Director, Division IV

Agency: Rowland Water District

Type of Agency: Special District Water Agency

Term Expires: December 2, 2022

Residence Address: 2231 S. Fullerton Road Unit #8, Rowland Heights, CA 91748

Telephone: (626) 964-0875

PLEASE ATTACH RESUME OR CANDIDATE STATEMENT (limit one page)

Rowland Water Agency
(Name of Agency)

By: Tom Coleman

Its: General Manager

LAFCO Candidate Statement:

Robert W. Lewis

As the longest-serving board member at Rowland Water District, I understand the need for effective oversight and informed decision making to best serve the public. With this knowledge and my extensive experience in local government, I respectfully seek appointment as the special district representative to the Local Agency Formation Commission of Los Angeles County.

One of my first political positions was on the City of Fullerton's Redevelopment Commission. Since then, I have committed nearly 30 years to Rowland Water District and its customers. I endeavor to represent my community the way I would want to be represented. Beyond my board of directors experience I represent Rowland Water District on numerous other public agencies, including:

- Association of California Water Agencies (ACWA) Region 8 Board Member; ACWA is a statewide industry group that monitors and influences legislation and policies affecting water supply
- ACWA/Joint Powers Insurance Authority Alternate Voting Representative
- Puente Basin Water Agency Board of Commissioners; this commission coordinates and secures supplemental funding for projects that improve regional water quality
- California Municipal Utilities Association (CMUA); this association represents its members' interests on energy and water issues before the California Legislature, the Governor's Office, and regulatory bodies
- San Gabriel Valley Regional Chamber of Commerce Government Affairs Committee Member
- Several LAFCO Committees. Of importance, I was a member of the Special Districts Ad Hoc Committee in the 1990's which worked in establishing the LAFCO Special Districts seat.

During my Board tenure, I advocated for expanding the water supply by tapping into a local groundwater source to be used for irrigation and saving drinking water. This commitment has reduced Rowland's dependence on water that is imported hundreds of miles to our area.

Supply and reliability are pressing issues facing my District. Upon my re-election this fall, my goals at Rowland are to meet the challenge of a drier California future, expand water supply sources, and educate customers about the value of water and conservation to stretch water supplies. I work with my fellow board members, general manager and leadership team in a cohesive and effective manner, which I would like to do in a larger capacity with LAFCO.

I take pride in contributing to my community. My pledge to my constituents will always be that when money is planned for projects and programs at my agency, I want to know that it is justified, and then I support it.

I would be honored to be appointed to the open position to help guide decision-making for LAFCO for the County of Los Angeles.

NOMINATION
OF
INDEPENDENT SPECIAL DISTRICT **VOTING MEMBER**
TO THE
LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

To: Independent Special District Selection Committee

From: President James D. Bodnar and Member of the Board of Directors

Date: July 23, 2022

Name of Candidate: Sharon S. Raghavachary

The Board of Directors of the Crescenta Valley Water District is pleased to nominate Sharon S. Raghavachary as a candidate for appointment as special district voting member to the Los Angeles Local Agency Formation Commission. The nominee is an elected official or a member of the board of an independent special district appointed for a fixed term. For your consideration, we submit the following additional information together with a resume of the candidate's qualifications.

Elective office: Director of the Board of Directors of

Agency: Crescenta Valley Water District

Type of Agency: Water and Sewer District

Term Expires: December 2025

Residence Address: 2209 Maurice
La Crescenta, CA 91214

Telephone: 818 541-9071

PLEASE ATTACH RESUME OR CANDIDATE STATEMENT (limit one page)

Crescenta Valley Water District
(Name of Agency)

By: 

Its: Chairman of the Board of Directors

Sharon S. Raghavachary

Director Raghavachary has been active in the La Crescenta Community for 20 years and has a background in accounting and computer systems.

Ms. Raghavachary has been a member of the Crescenta Valley Water District Board of Directors since June of 2019 and served as President in 2021.

Ms. Raghavachary is a founder of the Crescenta Valley Community Association. She served for seven years on the Crescenta Valley Town Council, during which time she was co-chair of the Foothill Design Committee that wrote design standards for Foothill Boulevard and was a member of Supervisor Antonovich's Library Committee. She also served as Council Vice President and Land Use Committee Chair.

Additionally, Director Raghavachary served three years on the Parent Advisory Council for Children's Hospital Los Angeles, providing input for the new hospital tower. She has been a volunteer for the Los Angeles County Sheriff's Department and Treasurer of the Crescenta Valley Arts Council, as well as a Girl Scout troop leader for ten years. For over five years she wrote a featured column for the Glendale News Press and the Crescenta Valley Weekly. She is currently serving her second year on the Clark Magnet High School's School Site Council.

Ms. Raghavachary has teenage twins, a boy, and a girl, who attend Clark Magnet High School and Crescenta Valley High School.

NOMINATION
OF
INDEPENDENT SPECIAL DISTRICT VOTING MEMBER
TO THE
LOS ANGELES COUNTY LOCAL AGENCY FORMATION COMMISSION

To: Independent Special District Selection Committee

From: Orchard Dale Water District

Date: September 7, 2022

Name of Candidate: YVETTE STEVENSON-Rodriguez

Orchard Dale Water District is pleased to nominate YVETTE STEVENSON-Rodriguez as a candidate for appointment as special district voting member to the Los Angeles Local Agency Formation Commission. The nominee is an elected official or a member of the board of an independent special district appointed for a fixed term. For your consideration, we submit the following additional information together with a resume of the candidate's qualifications.

Elective office: LAFCO Special District Representative

Agency: Orchard Dale Water District

Type of Agency: Special District

Term Expires: 11/2024

Residence Address: 14036 Mystic St. Whittier, CA 90604

Telephone: 562-447-6909 / 562-941-0114

PLEASE ATTACH RESUME OR CANDIDATE STATEMENT (limit one page)

Orchard Dale Water District
(Name of Agency)

By:

Its:

Yvette Stevenson Rodriguez
LAFCO Candidate, 2022

ysr@odwd.org
(562)447-6909
Whittier, California

Director, President, Orchard Dale Water District
Member of the Board

Currently, I preside as President of the Board, with 15+ years as a Member of the Board with various achievements completed as follows:

- Achieved completion of two regional multi-million dollar water reliability projects on behalf of Orchard Dale Water District in collaboration with LA County and Water Replenishment District.
- Authored the first Investment policy for Orchard Dale Water District and developed additional policies such as the Safety Work Boots program for field staff and Education Enrichment program for all eligible employees.
- Assessed water resources, reviewed financials and constructed scenarios with executive staff to develop a water resource plan to mitigate interruptions of service due to infrastructure and prolong droughts.

Director, Development, Non Profit Education TCS Foundation

Directed and Managed a Non Profit Education Foundation established for K-12 grade students to provide both academic enrichment programs, a summer school program and an experiential learning grant program for classroom teachers.
-Developed and executed a successful citywide fundraising program, contributions raised from this campaign funded 200 experiential learning grants awarded to Teachers for classroom enrichment.
-Collaborated and assisted with developing Summer School Programs,

Education
University of Phoenix

Memberships
California Special Districts Association
Central Basin Municipal Water Association

Notables
Proud Mom of Bosco Brave student

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **PWAG – Emergency Preparedness and Response Update**

☐ **Funds Budgeted: $** ☐ **Fiscal Impact: $**

Staff Recommendation

No Action Necessary – Informational Item Only

Discussion

For a number of years, TVMWD has been an active member and participant in the local Public Water Agency Group (PWAG). The group provides a wealth of pertinent updates, resources and training opportunities to its members, which includes agencies throughout the San Gabriel Valley and regions immediate to Los Angeles County. The group generally meets quarterly. An additional and much needed branch of the PWAG membership was developed about five years ago, pertaining to Emergency Preparedness and Response.

Attached for board review is a summary list of the major PWAG Emergency P&R accomplishments, from the beginning of the program and running through the end of the recently completed fiscal year June 30, 2022.

Just a few of the key accomplishments to note:

1. Regular training opportunities in coordination with AWWA, CISA, USEPA, CSTI, DHS, LA County, and other agencies.
2. Mutual Aid Agreements developed, approved, and signed by member agencies
3. EPA-mandated American Water Infrastructure Act (AWIA) project completion
4. COVID Pandemic Response Support and Prevention Program
5. Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) funding awarded ($200,000)

Strategic Plan Objective(s)

2.6 – Safety

3.3 – Be accountable and transparent with major decisions

Attachment(s)

Exhibit A – PWAG Emergency Preparedness Accomplishments

Meeting History

None

NA/KRH

PWAG
Public Water Agencies Group

Emergency Preparedness Committee Accomplishments

1. Emergency Preparedness Committee (EPC) established with monthly meetings and follow-up
2. Mission Statement, Values, Vision developed
3. Strategic Plan developed, maintained, and adjusted as-needed
4. Emergency Preparedness Coordinator hired as employee
5. CalWARN membership supported and strongly encouraged
6. Training Opportunities regularly shared (AWWA, CISA, USEPA, CSTI, DHS, LA County, and other agencies)
    a. Priority Telecommunications Services (GETS/WPS) Training completed
    b. Cybersecurity Trainings completed (DHS)
    c. NIMS/SEMS/ICS Combined 4-hour Training development and delivery
    d. Crisis Communications: multiple sessions
    e. Personal Preparedness Training development and delivery
7. Frequent general 'Situational Awareness' messaging ongoing
8. PWAG Website developed, EPC materials provided in a password-protected members' section
9. EPC Member Directory developed and maintained
10. Mutual Aid Agreements developed, approved, and signed by member agencies
11. Mutual Aid Resources Inventory completed and maintained
12. Disaster Management Area Coordinator (DMAC) relationships developed and maintained
13. LA County Office of Emergency Management (OEM) relationships developed
14. LA County Department of Public Works (DPW) relationships developed and maintained
15. Local Emergency Planning Committee (LEPC) Region I relationship developed and maintained
16. EPA-mandated American Water Infrastructure Act (AWIA) project completed
17. Emergency Communications Project – vendor chosen; radio purchase completed
    a. PWAG radio training completed
    b. Draft Radio Protocols document underway
    c. Draft Communications Plan underway
18. Power Resiliency Project – generators purchased and distributed to "caretaker" PWAG agencies
    a. Generator Standards developed by generator committee members
19. 'COVID Pandemic Response Support' established
    a. Daily Updates sent for several months, gradually transitioned to 3x/week, then
    b. Weekly Updates ongoing
    c. Bimonthly Zoom Calls ongoing
20. COVID Prevention Program written plan developed and updated
21. Subject Matter Experts (SMEs) for emergency response support contracted with members
22. Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) funding awarded ($200,000)
    a. Consultant selected
23. Emergency Management Coordinator hired
    a. Safety Working Group established
    b. Member Agencies Emergency Response Plan (ERP) review and standardization ongoing
    c. NIMS/SEMS/ICS Combined 4-hour Training update completed
24. Draft Emergency Resource Prioritization document in process
25. Contact with members: site visits, emergency response updates are frequently provided

Item 7.D

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **CPI Data Report**

☐ **Funds Budgeted: $** ☐ **Fiscal Impact: $**

Staff Recommendation

No Action Necessary – Informational Item Only

Background

During the budget process, the board requested staff to provide an update on the Consumer Price Index (CPI) during the fall.

Discussion:

TVMWD uses the Consumer Price Index (CPI)- Urban Wage Earners and Clerical Workers prepared by the Bureau of Labor Statistics to determine the Cost-of-Living-Adjustment (COLA). The CPI uses information from the Los Angeles, Long Beach, and Anaheim area.

The last CPI information presented to the board was for 2021. A 4.29% COLA was approved for July 2022, with the rise in inflation, the board requested staff to provide a CPI update in the fall.

The CPI for January through August 2022 is as follows:

Year	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual	COLA
2011	221.540	222.814	225.770	227.051	226.842	225.461	224.277	224.665	226.096	226.116	225.786	224.444	225.072	
2012	226.245	227.585	230.281	230.023	230.180	228.917	228.446	230.229	231.085	233.431	230.426	228.940	229.649	2.03%
2013	230.651	232.983	233.200	232.030	232.387	232.378	232.190	232.245	232.817	232.735	231.598	231.594	232.234	1.13%
2014	232.578	233.886	235.500	235.717	236.647	236.880	236.963	236.504	236.451	235.921	233.896	232.330	235.273	1.31%
2015	231.063	232.975	235.991	235.697	238.816	237.792	239.889	238.755	237.324	237.472	237.190	236.787	236.646	0.58%
2016	238.609	238.262	239.146	239.536	240.320	240.522	240.580	240.267	240.851	241.932	240.809	240.846	240.140	1.48%
2017	242.735	244.254	244.932	245.417	246.153	245.900	246.681	247.260	248.550	249.234	249.680	249.854	246.721	2.74%
2018	251.785	253.243	254.451	255.379	256.652	256.208	256.632	257.318	258.246	259.899	259.064	258.101	256.415	3.93%
2019	259.182	259.734	261.278	264.469	265.283	264.640	265.012	264.687	266.517	269.314	268.041	266.274	264.536	3.17%
2020	268.127	268.938	266.964	265.930	267.007	268.118	270.012	270.563	270.257	270.864	270.695	270.167	268.970	1.68%
2021	271.129	272.816	274.097	277.126	279.139	280.687	282.271	282.691	283.191	285.973	287.940	288.910	280.498	4.29%
2022	291.852	292.690	297.870	299.436	301.960	305.577	304.441	304.137					299.745	6.86%

Strategic Plan Objective(s)

3.3 – Be accountable and transparent with major decisions

Attachment(s)

None

Meeting History

None

NA/VR

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **Miramar Electrical Switchboard Upgrade**

☒ **Funds Budgeted: $25,000** ☒ **Fiscal Impact: $157,216**

Staff Recommendation

No Action Necessary – Informational Item Only

Background

The Miramar Electrical Switchboard Upgrade Project [Project] was designed to increase Miramar Treatment Plant operational reliability, reduce shutdown period during planned service interruptions and provide a safe work environment. During the annual Miramar Treatment Plant shutdown in February 2022, the main electrical breakers could not be isolated by staff resulting in an increased unplanned shutdown. On April 20, 2022, the Three Valleys Municipal Water District [TVMWD] Board of Directors approved a Professional Services Agreement Amendment with Mullens & Associates to develop additional design services to address the breakers and safety concerns while also providing value engineering services to remain cost effective [Table 1].

Discussion

The amended agreement with Mullen & Associates was intended to develop engineering design and construction bid documents with updated project costs to be included in TVMWD's 5-year Capital Improvements Plan. Since then, staff worked with Eaton, the original manufacturer of the switchboard/breaker, and discovered that Eaton provides a specialized team to modify existing equipment to bring it to current standards, in lieu of complete replacement. This process would utilize the existing cabinets and modified equipment to install the new breakers. This technique is a specialized practice, and it is recommended that it only be performed by the original manufacturer. As a result, Mullen & Associates was requested to not complete the task #2 as authorized by the amendment approved by the Board in April 2022.

Table 1 | Mullen & Associates Professional Services Agreement

	Cost
Original Agreement	**$74,940.00**
Amendment 1	
Task #1- Revise design drawings to incorporate emergency generator connections for Well 2 and the existing emergency generator only	$16,000.00
Task #2- Research, engineer, and develop design drawing and documents to replace the existing main SCE switchboard	$25,000.00
Amendment Task Subtotal	**$41,000.00**
Revised Agreement	**$115,940.00**

The original concept of acquiring new electrical switchboard/breaker has an estimated cost of $600,000. Staff identified second methodology requires a single source contract with Eaton in the amount of $182,216 for services to retrofit the existing breakers at the Miramar Treatment Plant main switchgear, resulting in Project savings of $442,784. The rehabilitation method would result in Miramar Treatment Plant shutdown in a few days compared to a few weeks for the full replacement as contemplated by the original method.

Staff will rescind the previously approved task order #2 for the electrical switchboard/breaker replacement in the amount of $25,000 [Table 1] and reallocate the funds to the proposed rehabilitation of the existing switchboard. Staff recommends the sole source contract with Eaton in the amount of $182,216.00 for the higher value it provides along with the overall Project savings. The project entails long procurement time frames with the actual work to occur during the annual plant shutdown. Procuring a contract now will allow the vendor to guarantee the costs of the material and start the extended procurement process. This project was not budgeted in the current fiscal year, however with the extended procurement schedule, costs are not anticipated to occur until FY 23/24. This project will be included in the FY 23/24 budget. The contract award to Eaton will be presented for the Board's consideration on October 19, 2022.

Strategic Plan Objective(s)

1.4 – Maintain water infrastructure to assure 100% reliability

1.5 – Prepare for long-term MWD shutdown or catastrophic event that affects operations

Attachment

Exhibit A – Eaton proposal

Meeting History

On November 18, 2020, the TVMWD Board of Directors authorized the General Manager to award Mullen & Associates a design contract for the Miramar Emergency Electrical Upgrades Project for $74,940.

On April 6, 2022, the TVMWD Board of Directors approved a Professional Services Agreement Amendment with Mullen & Associates for $41,000 with a not-to-exceed contract amount of $115,940.

NA/ KP

Response to Request for Proposal

THREE VALLEYS MUNICIPAL WATER DIST

Three Valleys MWD-SPB Retrofills

Eaton Proposal Number LAK2-220503-01-AW-R1

May 31, 2022

Presented By: Eaton Corporation
Electrical Engineering Services & Systems
13039 Crossroads Pkwy South
City of Industry, CA 91746

Contacts:

Eaton Corporation
Electrical Engineering Service & Systems
Service Sales Representative:
Robert Henriquez(LAK2)
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Eaton Corporation
Electrical Engineering Service & Systems
Technical Application Support Engineer:
Adam Webb
Phone: 626-290-7183
Email: AdamLWebb@eaton.com

Powering Business Worldwide

Table of Content

Introduction

Eaton Breaker Retrofill

Eaton provides our customers with an IEEE Certified alternate conversion solution for metal enclosed and metal-clad switchgear components for low voltage (LV) and medium voltage (MV) applications. These switchgear solutions are assembled in various combinations to satisfy specific application requirements. Newer technology and circuit breakers with increased capabilities can be interfaced into the existing enclosures and provide a less expensive alternative to the installation of new switchgear while providing improved uptime and reliability of the installation. These conversions utilize standard production circuit breakers so they are interchangeable with current Eaton low voltage (LV) and medium voltage (MV) power circuit breakers supplied in new switchgear.

Eaton has for many years provided replacement circuit breakers, and LV circuit breaker conversions. Eaton has consolidated its resources of engineers and technicians into a team for developing and testing retrofill conversions as an alternative to customers that want the interchangeability of their vintage power circuit breakers with those of new Eaton switchgear. Eaton's retrofill conversions provide customers with all the necessary drawings, literature, testing, and documentation for successful installation and operation of the new retrofill conversions. Eaton's retrofill conversions replace the vintage power circuit breaker with new current technology and replaces all the cell structure envelope in which it engages both mechanically and electrically.

- Reduced maintenance cost and downtime with reliable Magnum DS Breaker technology
- Designed and tested to IEEE/ANSI standards
- Installation savings and robust interface
- Designed for easy access, inspection, and minimal maintenance.
- Latest Eaton technology and circuit breakers with increased capabilities can be interfaced into the existing enclosures
- Conversions of fixed mounted circuit breakers to drawout construction improve uptime and reliability of the installation
- Mechanism parts and control components are current stock production items and most parts are available on a 24/7 basis
- LV power circuit breakers are directly interchangeable with new Eaton switchgear circuit breakers of the same ratings.

Eaton's Arc-flash Reduction Maintenance System™

A circuit breaker equipped with an Arc-Flash Reduction Maintenance System™ can improve safety by providing a simple and reliable method to reduce fault clearing time. The Arc-Flash Reduction Maintenance System™ unit utilizes a separate analog trip circuit that provides faster interruption times than the standard (digital) "instantaneous" protection. Work locations downstream of a circuit

breaker with an Arc-Flash Reduction Maintenance System™ unit can have a significantly lower incident energy level.

The table below shows how incident energy varies with fault duration times where the bolted fault level is 40 kA.

BOLTED FAULT (kA)	ARCING FAULT (kA)	FAULT DURATION (SECONDS)	INCIDENT ENERGY (cal/cm2)	HAZARD RISK CATEGORY
40	20	2	89	>4
40	20	0.5	22	3
40	20	0.3	13	3
40	20	0.1	4.4	2
40	20	0.05	2.2	1
40	20	0.04	1.8	1

Note for the table above:
1. Incident energy values shown in this table were calculated using the IEEE STD 1584TM-2002 method for a 480 Vac system with a working distance of 24 inches. Other parameters are: Grounding type = solid grounded and Equipment type = Switchgear.

Qualifications

Eaton's Electrical Engineering Services & Systems is committed to providing the highest quality services, while providing advanced product-based solutions. Eaton implemented the following programs and procedures to establish a new level of excellence in field engineering service quality.

1. We have developed comprehensive standardized test procedures that meet or exceed industry standards. Our observance of such high-quality standards demonstrates our commitment to identifying any potential product deficiencies. All of this ensures that when we test a power distribution system, we can provide an accurate and impartial assessment of its suitability and reliability.

2. Eaton field personnel are certified to test per NETA standards by the National Institute for Certification in Engineering Technologies (NICET) Electrical Power Certification Program. This program provides an independent verification of the capabilities, knowledge, and experience of our field personnel for electrical testing.

3. All our field personnel are thoroughly trained, with lead personnel having extensive field service and project management experience. Our field personnel receive training by both Eaton and other vendors, through which they obtain a clear understanding of the entire equipment construction and assembly process. This preparation is advantageous in the field during commissioning and subsequent service work. Additionally, our field personnel have direct access to factory personnel, a benefit not always available to most independent service companies. Safety training related to Arc flash and OSHA requirements are also provided to all field service personnel, and we maintain safety training records.

4. We maintain an equipment calibration program in accordance with the International Standards Organization (ISO). Furthermore, we have invested in the latest technologically advanced field test equipment and diagnostic software.

5. Our field personnel have access to one of the largest groups of Power System Engineers, which are dedicated to the study of electrical power distribution systems. Their primary expertise involves performing technically independent power system studies, including short-circuit, coordination, load-flow, motor starting, harmonics and other power quality and system reliability related analysis.

Equipment Bill of Material

QTY (3) 2000 Amp Magnum retro-fill kit
- Electrically operated
- Draw out breaker
- Digitrip 520MC trip unit w/maintenance mode
- 100 KIAC
- 1 unit w/2000 amp rating plug - **MAIN**
- 1 unit w/1600 amp rating plug - **MCC**
- 1 unit w/1000 amp rating plug - **GEN**

QTY (1) 2000 Amp Magnum Breaker - **SPARE**
- Electrically operated
- Draw out breaker
- Digitrip 520MC trip unit w/maintenance mode
- 100 KIAC
- 1 unit w/2000 amp rating plug

- Includes Neutral Sensor if Needed
- Interruption Rating to Match SPB100 Rating at 480Vac
- May Require a Bump Out at the Front of the Gear
- **Note: A bump out at the front of the gear may be necessary to accommodate this drawout retrofill. Please verify this is acceptable.**

Eaton's Magnum DS Low-voltage Power Circuit Breakers offer the highest ANSI interrupting and withstand ratings in the industry in the smallest physical size and are the most easily maintained ANSI circuit breakers on the market.

Standard Features

- **Controls and indicators are functionally grouped together on the front cover.**
- **Through the door design permits easy and safe access to the front cover controls and trip unit.**
- **Rigid frame of high strength engineered thermoset composite resins.**
- **Compact and Lightweight.**
- **Spring stored energy mechanism.**
- **Field installed accessories.**
- **100% rated for continuous operation.**
- **3 cycle closing.**
- **Digitrip microprocessor based true rms sensing trip units.**
- **Patented "Heal-Toe" contact.**
- **"C" loop current path.**
- **Braided current path connections.**
- **Sealed Arc Chambers – Insulating and isolating arc chambers.**
- **Finger proof secondary contacts (Magnum DS side).**
- **Mechanical main contact wear indicator.**
- **One piece arc chutes and covers.**

Three Valleys MWD-SPB Retrofills
THREE VALLEYS MUNICIPAL WATER DIST **May 22**

Scope of Work

EESS will provide the necessary manpower and equipment to install the New Magnum DS Draw-Out, 2000A Breaker Retrofills kits into the designated cubicles. There will be a total of (3) outages required to perform the work scope.

Outage #1: A site visit and outage will be required by an Eaton engineer to confirm existing equipment and gather any appropriate measurements prior to release for manufacturer. A total equipment outage will be required to take appropriate measurements. Estimated outage: 4hrs to 6hrs

Outage #2: Installation of new Magnum Retrofill kit for #1 & #2 Main and Gen Breakers. Estimated Outage: 8 to 10hrs.

Outage #3: Installation of new Magnum Retrofill kit for #3 MCC Breaker. Estimated Outage: 6 to 8hrs.

1. EESS will remove existing SPB circuit breakers along with any unnecessary components, and install Eaton's Magnum DS circuit breaker and cassette.

2. EESS will perform Site Acceptance Testing and Startup per standard SATSU guidelines.

Closeout Documentation

Once site work is complete EESS will supply final documentation reflecting the modernization and a field service test report documenting test results of the new equipment.

Pricing

Pricing for the scope of work described above is as follows:

Item	Description	Price (C/N)
1	Required Initial Site Measurements by Eaton Engineering. Customer Approval Drawings will be provided. Outage Required.	$ 14,618.00
2	Qty (2) NEW Breakers, 2000A Magnum DS Draw-Out (D/O), Electrically Operated (E/O) with 520MC Trip Unit, LSIG (4W) and ARMS for #1&2 (Main & GEN) with Installation, including Site Acceptance Testing and Start-Up. Outage Required.	$ 98,425.00
3	Qty (1) NEW Breaker, 2000A Magnum DS Draw-Out (D/O), Electrically Operated (E/O) with 520MC Trip Unit, LSIG (4W) and ARMS for #3 (MCC) with Installation, including Site Acceptance Testing and Start-Up. Outage Required.	$ 49,993.00
4	**SPARE:** Qty (1) NEW Breaker, 2000A Magnum DS Draw-Out (D/O), Electrically Operated (E/O) with 520MC Trip Unit, LSIG (4W) and ARMS	$ 17,243.00
5	Breaker Coordination Study, only. Applicable to NEW Magnum DS Breakers	$ 1,937.00
	GRAND TOTAL	**$ 182,216.00 C/N**
	Labor is Overtime (M-F, anytime and Saturday). Excludes Sundays and/or Holidays.	

Delivery

The scheduling of work will be mutually agreed upon between the customer and Eaton's Electrical Engineering Services & Systems.

Material Shipment: Standard way is L-T-L FOB Factory pre-paid and allowed. FOB Point or Destination is per Eaton Selling Policy 25-000 and is a 2% net adder.

F.O.B. Factory shipment is 24 to 30 weeks after receipt of order, completion of site data collection visit, and approval of customer approval drawings. Please allow 6-8 weeks after site measurement visit for customer approval drawings, if required. Please note that this lead time may be affected by COVID-19, and subject to change. Please consult factory for current lead times at the time of order placement.

Please allow 3 to 4 weeks for scheduling purposes.

Qualifications / Clarifications

- Seller shall not be responsible for any failure to perform, or delay in performance of, its obligations resulting from the COVID-19 pandemic or any future epidemic, and Buyer shall not be entitled to any damages resulting thereof.
- All work to be completed at straight time, Monday through Friday except for scheduled outages as defined in our proposal.
- 3rd party UL inspection not included. Requirements for UL listed components are the responsibility of the end user.
- No time/labor included for site specific training meetings/classes/videos. If required, additional charges will apply and will be billed separately from this proposal.
- Any significant delays due to adverse weather will result in additional charges.
- If straight time work is required to be performed on an overtime basis, Customer will be billed the difference between the straight time and overtime rate.
- Stand-by power needs, if deemed necessary, are not included.
- Applicable fees for outage related costs, including stand-by and re-connect services, are not included.
- Method of procedure (MOP) development or meeting time not outlined in the scope of work will be treated as an extra.
- Delays beyond the control of Eaton, extras and authorized additional work will be charged in accordance with the Eaton's Electrical Engineering Services & Systems the Current Price List PL02700001E.
- Delay time: If Eaton arrives onsite to perform scheduled work and the work is cancelled, Eaton will charge for four (4) hours minimum per person, plus travel expenses if no replacement work can be scheduled. If sufficient notice (72 hours) is given to Eaton when canceling scheduled work, no additional charge will apply.
- *Waste Management:*
  - Proposal includes disposal of debris that is brought onto the construction site by Eaton and sub-contractors only. Disposal of materials removed or found onsite will be the responsibility of others.

- Excavated soils are assumed to be non-contaminated and will be left onsite and smoothed flat
- It is the responsibility of Customer to hire a local environmental engineering firm to perform any site-specific hazardous material testing
- Handling or remediation of contaminated or hazardous materials or associated soil/air monitoring is not included with Eaton's scope of work.

Safety Clarifications

- Eaton will not perform work activities in situations where the proper level of PPE is not practical. At no time will work be performed when the arc-flash exposure levels are above 40 cal/cm2.
- To establish an electrically safe work condition, the customer is to provide an up-to-date site electrical one-line diagram(s) for lockout/tagout purposes showing all sources of power.
- For electrical outages requiring utility isolation, the customer and utility shall coordinate lockout/tagout requirements with Eaton in a written plan of execution.
- Customer shall be responsible to perform all switching. Any requirement of Eaton for perform switching will require customer signature and a minimum of two EESS personnel present. Additional charges will apply.

Testing Clarifications:

- All testing will be performed by Eaton's Electrical Engineering Services & Systems (EESS) per Eaton's standard testing guidelines unless otherwise specified.
- All test results will be evaluated in accordance with manufacturer's published data.

Safety Training of Eaton Field Personnel:

- All Eaton field personnel received training to comply with OSHA CFR1910 Electrical Safety Standard, which sets minimum safety rules and practices for the design, operation, and maintenance of high-voltage systems (over 600 volts). Safety standards are in place to meet or exceed NFPA 70E requirements, and appropriate Personal Protective Equipment (PPE) have been issued.
- The customer is responsible to ensure that any supporting plant personnel have also be fully trained in electrical safety and provided with the appropriate personnel protective equipment.

Safety Arc-Flash Provisional Statement:

The customer supplied Arc-Flash study along with their labeled equipment to meet NFPA requirements will be used to determine the Personal Protective Equipment (PPE) required to perform the work required for this proposal. When a current study and labeling is not available, the time required to determine the proper PPE will be at the current rate per hour, unless included within the Eaton scope of work. Eaton will not perform work activities in situations where the proper level of PPE is not practical. At no time will work be performed when the arc-flash exposure levels are above 40 cal/cm^2.

Division of Responsibility

Eaton Responsibilities:

- Eaton will provide you with a minimum notice of 72 hours of intent to service any equipment.
- Eaton shall furnish test engineers, field technicians, support personnel, tools, equipment, materials, supplies, and transportation as required.
- Eaton will provide and install safety locks and grounding, as required, and in accordance with the facility safety guidelines.
- Eaton will perform voltage test and install necessary circuit / equipment safety grounds to assure safe working conditions
- Upon completion of work:
  1) Eaton will remove safety grounds installed by Eaton
  2) Eaton will remove safety locks installed by Eaton.

Customer Will Be Responsible for the Following:

- Providing free access to equipment within their facility.
- Ensuring that all equipment is available upon arrival of Eaton personnel, including removal from service to permit continuous progression of work. Delay time in making equipment available will be treated as an extra.
- Identifying site contact for this project.
- Providing electricians to remove equipment covers and re-install the same when required.
- Coordinating all outages and perform all switching to de-energize and isolate equipment to be serviced.
- Ensuring that all circuits to be de-energized have been clearly identified and that all plant personnel and downstream operations are aware of the required outage date, time and duration. This includes maintaining power to vital or necessary plant equipment and processes during the performance of this scope of work.
- Providing a copy of the past maintenance records to Eaton personnel.
- Providing manufacturers maintenance manuals upon arrival of Field Engineer/s.
- Supplying a complete set of electrical plans, including the plant single-line diagram, specifications, and any pertinent change orders to Eaton before commencement of work.
- Supply a suitable and stable source of power for operation of test and motorized equipment at each test site when normal power is removed or authorize Eaton to obtain a source of auxiliary power, Eaton shall specify requirements. Any non-standard generators rentals will result in a price adder to this proposal.
- Providing a place to receive and unload replacement equipment, test equipment or other supplies.
- Providing special tools supplied by equipment manufacturers.

Proprietary and Confidential Information

This submittal contains Eaton proprietary and confidential information, which may only be used by THREE VALLEYS MUNICIPAL WATER DIST to evaluate and respond to this submittal. By accepting this submittal from Eaton, THREE VALLEYS MUNICIPAL WATER DIST agrees to not use this submittal, or any information contained herein, in any manner adverse to Eaton's interests; to keep in confidence the submittal and all information contained; and to not disclose to any third party or publish this submittal, any portion thereof, or any information contained herein without Eaton's prior written consent.

Terms and Conditions

Unless previously negotiated and agreed upon, any order arising out of this offer will be governed by the conditions contained in Eaton Selling Policy 25-000 effective September 1, 2021. Taxes, if applicable, are not included. This offer is valid for 30 days unless otherwise extended, modified, or withdrawn, in writing, by Eaton. Payments are due and payable net within thirty (30) days from the date of each invoice.

Ordering Instructions

To accept this proposal under Eaton's SP-25000 T&Cs and Net 30 Payment Terms, please:

1. Reference: **LAK2-220503-01-AW-R1**
2. Issue a purchase order to **EATON CORPORATION**
   - Email purchase order to RobertHenriquezJr@Eaton.com
   - PO must state Eaton Selling Policy 25-000 applies
   - PO must state Net 30 payment terms applies

Mail Address:
Eaton Corporation
13039 Crossroads Parkway South
City of Industry, CA 91746

Remit to Address:
Eaton Corporation
P.O. Box 93531
Chicago, IL 60673

If Unable to Accept Eaton SP-25000 T&Cs or Net 30 Payment Terms:

Contact your local Eaton Authorized Distributor to purchase these services. Provide a copy of this proposal to your distributor and have them contact me, directly. If you do not have an Eaton Authorized Distributor, please contact me for options.

A HARDCOPY OF THE PURCHASE ORDER MUST BE RECEIVED BY EESS PRIOR TO SERVICE BEING SCHEDULED.

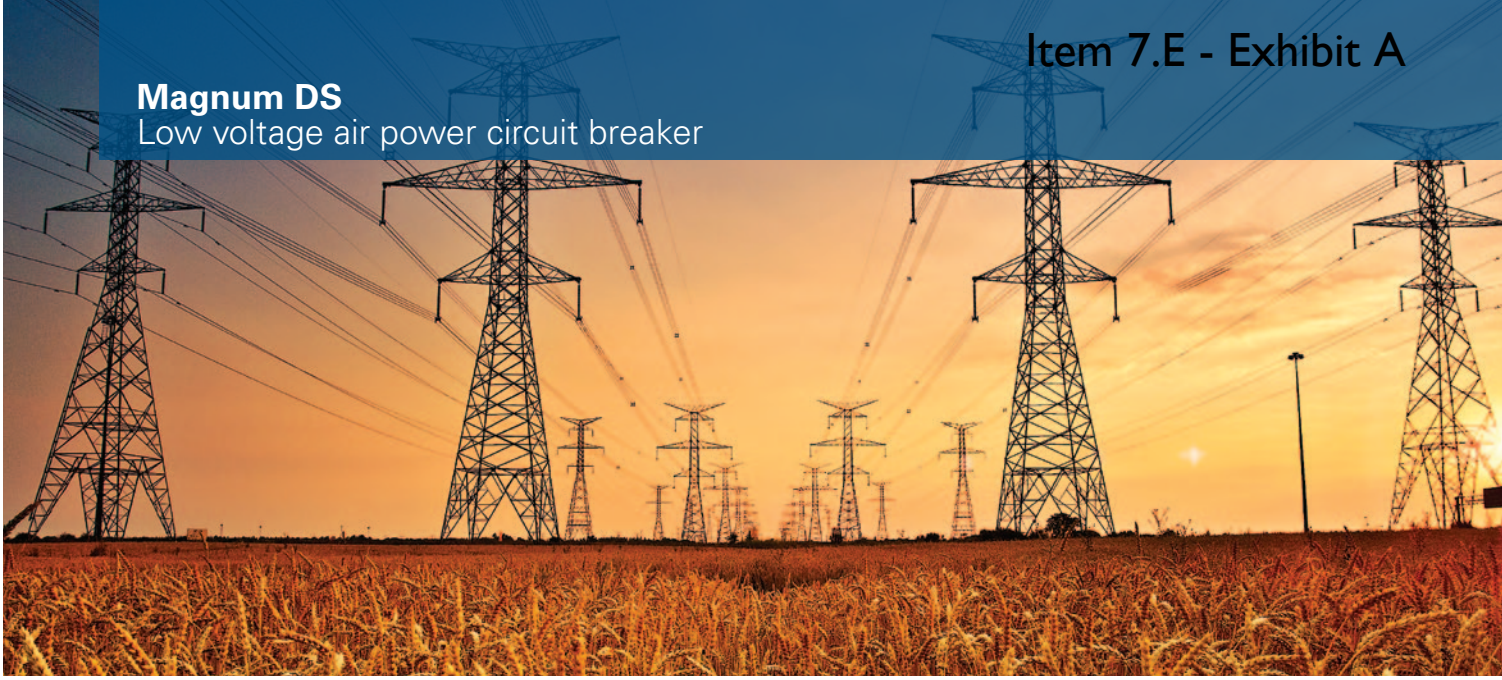
Should there be any further questions or needs, please contact at any time. It is a privilege to have this opportunity to be of service. Eaton's Electrical Services & Systems looks forward to working with you on this project.

Sincerely,

Robert Henriquez(LAK2)

Robert Henriquez(LAK2)
roberthenriquezjr@eaton.com
(M) 213-304-9026
Service Sales Engineer
Eaton Corporation
Electrical Services and Systems Division

Magnum DS
Low voltage air power circuit breaker



Industry-proven high performance

Magnum DS® low voltage air power circuit breakers are ANSI designed, tested and certified to UL® 1066. Characteristic of Eaton power circuit breakers, Magnum offers industry-leading performance in terms of interruption and short time withstand ratings.

Product characteristics

- Up to 635 Vac operating voltage
- Up to 200 kA interruption ratings
- Up to 130 kA short time withstand ratings
- 200–6000A continuous current
- Three- and four-pole configurations
- Fixed and drawout

Protection, coordination, information and diagnostics with the Digitrip™ trip unit family

- Comprehensive trip unit offering covering basic overcurrent protection to current, power and power quality metering with programmable alarms
- Communicates with translators to common protocols, such as Modbus® INCOM™ and PROFIBUS,® and Ethernet

Safety

- Zone selective interlocking for improved coordination and reduced arc flash energy
- Arcflash Reduction Maintenance System™ technologies for arc flash reduction
- Mechanical and electrical interlocks to prevent unintentional operation

Reliability

- High short time withstand ratings maximize system uptime, while downstream overcurrent protection devices clear local faults
- Proven high endurance for demanding load transfer applications

Maintenance, modification and service

- UL-approved field-installable accessories
- Common to all frame sizes
- Easy to add or replace accessories and renewal parts at the point of use
- Primary disconnecting contacts are mounted on the breaker for ease of inspection and replacement
- Eaton's Electrical Services & Systems is available for startup and support

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Dimensions in inches (mm)

	Height		Depth		Width	
Description	**Three-Pole**	**Four-Pole**	**Three-Pole**	**Four-Pole**	**Three-Pole**	**Four-Pole**
Standard Frame (800–3000A)						
Fixed	16.80 (426.7)	16.80 (426.7)	14.60 (370.8)	14.60 (370.8)	16.20 (411.5)	21.20 (538.5)
Drawout	21.00 (533.4)	21.00 (533.4)	18.70 (475.0)	18.70 (475.0)	13.30 (337.8)	17.00 (431.8)
Double Frame (3200–5000A)						
Fixed	16.80 (426.7)	16.80 (426.7)	14.60 (370.8)	14.60 (370.8)	34.90 (886.5)	44.10 (1120.1)
Drawout	21.00 (533.4)	21.00 (533.4)	18.70 (475.0)	18.70 (475.0)	36.00 (914.4)	45.80 (1163.3)

Specifications

Continuous Current	Frame	254 Interruption	254 Withstand	508 Interruption	508 Withstand	635 Interruption	635 Withstand	Catalog Number
800	Standard	100	85	100	85	100	85	**MDSC08**
1200	Standard	100	85	100	85	100	85	**MDSC12**
1600	Standard	100	85	100	85	100	85	**MDSC16**
2000	Standard	100	85	100	85	100	85	**MDSC20**
2500	Standard	100	85	100	85	100	85	**MDSC25**
3000	Standard	100	85	100	85	100	85	**MDSC30**
3200	Standard	100	85	100	85	100	85	**MDSC32**
4000	Double	100	100	100	100	100	100	**MDSC4N**
5000	Double	100	100	100	100	100	100	**MDSC5N**
6000	Double	100	100	100	100	100	100	**MDSC6N**
2500	Standard	130	85	130	85	130	85	**MDSH25**
3000	Standard	130	85	130	85	130	85	**MDSH30**
3200	Standard	130	85	130	85	130	85	**MDSH32**
4000	Double	130	130	130	130	130	130	**MDSH4N**
5000	Double	130	130	130	130	130	130	**MDSH5N**
6000	Double	130	130	130	130	130	130	**MDSH6N** ①②
3200	Double	150	100	150	100	100	100	**MDSE3N**
4000	Double	150	100	150	100	100	100	**MDSE4N**
5000	Double	150	100	150	100	100	100	**MDSE5N**
6000	Double	150	100	150	100	100	100	**MDSE6N** ①②
1200	Standard	200	30	200	30	65	30	**MDSX12** ③
1600	Standard	200	30	200	30	65	30	**MDSX16** ③
2000	Standard	200	30	200	30	65	30	**MDSX20** ③
3200	Double	200	50	200	50	65	30	**MDSX3N** ③
4000	Double	200	50	200	50	65	30	**MDSX4N** ③
5000	Double	200	50	200	50	65	30	**MDSX5N** ③
3200	Double	200	100	200	100	100	100	**MDDX3N**
4000	Double	200	100	200	100	100	100	**MDDX4N**
5000	Double	200	100	200	100	100	100	**MDDX5N**
800	Standard	200	—	200	—	200	—	**MDSL08** ④
1200	Standard	200	—	200	—	200	—	**MDSL12** ④
1600	Standard	200	—	200	—	200	—	**MDSL16** ④
2000	Standard	200	—	200	—	200	—	**MDSL20** ④

① 5000A and 6000A rated power circuit breaker for use in a forced air cooled enclosure manufactured and tested by the manufacturer.

② 5000A and 6000A rated power circuit breaker for use in a forced air cooled Magnum DS switchgear or power module enclosure manufactured by Eaton.

③ Magnum MDSX current limiting power circuit breaker with fast opening contacts.

④ Magnum MDSL current limiting power circuit breaker with integral current limiters. Current limiter selected determines short time and fixed instantaneous trip rating. Maximum voltage rating is 600 Vac.

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United States
Eaton.com

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Arcflash Reduction Maintenance System

What is an Arcflash Reduction Maintenance System™ unit?

A circuit breaker equipped with an Arcflash Reduction Maintenance System can improve safety by providing a simple and reliable method to reduce fault clearing time. The Arcflash Reduction Maintenance System unit uses a separate analog trip circuit that provides faster interruption times than the standard (digital) "instantaneous" protection. Work locations downstream of a circuit breaker with an Arcflash Reduction Maintenance System unit can have a significantly lower incident energy level.

Benefits of the Arcflash Reduction Maintenance System unit

- Increased worker safety—when enabled, the Arcflash Reduction Maintenance System provides an accelerated instantaneous trip to reduce arc flash
- The operator can pre-select from five levels of protection to facilitate the maximum arc-flash reduction while avoiding nuisance tripping during planned startup and maintenance operations without disturbing the normal operational trip unit settings
- Once the setting for the Arcflash Reduction Maintenance System has been properly chosen, the Arcflash Reduction Maintenance System is enabled by a simple lockable switch that can be incorporated into a lockout/tagout (LOTO) procedure
- The lockable switch is mounted on the front door, or remotely, up to 9.78 ft (3m) away from the breaker, eliminating the need to open the door to enable it (no special PPE required)
- The Arcflash Reduction Maintenance System is designed to be used only during the time that a worker is exposed to the flash hazard. The Arcflash Reduction Maintenance System is not activated or armed continuously. This feature improves overcurrent coordination when compared to a permanently installed instantaneous trip element on the same circuit breaker
- Reduction in incident energy levels may allow reduced levels of PPE to be used, offering an improvement to worker comfort and mobility
- When properly applied, the hazard risk category frequently can be lowered one or two categories, permitting less PPE

How is the Arcflash Reduction Maintenance System used to reduce incident energy?

When the Arcflash Reduction Maintenance System is enabled and fault current is detected, the clearing time of the associated circuit breaker is reduced.

The table below shows how incident energy varies with fault duration times where the bolted fault level is 40 kA.

Bolted Fault (kA)	Arcing Fault (kA)	Fault Duration (Seconds)	Incident Energy (cal/cm²)	Hazard Risk Category
40	20	2	89	>4
40	20	0.5	22	3
40	20	0.3	13	3
40	20	0.1	4.4	2
40	20	0.05	2.2	1
40	**20**	**0.04**	**1.8**	**1**

Note: Incident energy values shown in this table were calculated using the IEEE® STD 1584TM-2002 method for a 480 Vac system with a working distance of 24 inches. Other parameters are: grounding type = solid grounded and equipment type = switchgear.

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How is the pickup setting of the Arcflash Reduction Maintenance System chosen?

The pickup settings must be chosen by a person who is qualified in power system analysis. The initial setup of each Arcflash Reduction Maintenance System will require power system analysis to determine the fault currents that flow through the circuit breaker associated with the Arcflash Reduction Maintenance System unit. The Arcflash Reduction Maintenance System has five pickup settings that are based on multiples of the per unit secondary current monitored by the trip unit of its associated circuit breaker (2.5X, 4X, 6X, 8X or 10X rating plug).

The pickup setting is chosen using the following steps:

1. Calculate the arcing fault current that could flow through the circuit breaker associated with the Arcflash Reduction Maintenance System.

   Note: The table shows that arcing fault current is much lower than that of the bolted fault current. Formulas from IEEE STD 1584TM-2002 are used to calculate the arcing current.

2. Determine the total transient load current that can flow to loads fed by the circuit breaker equipped with the Arcflash Reduction Maintenance System. These can include motor inrush and transformer inrush.

Choose a pickup setting for the Arcflash Reduction Maintenance System that is:

1. Below 75% of calculated arcing current.
2. Above the total transient load current.

Include the tolerance of the Arcflash Reduction Maintenance System pickup in the setting choice.

Upgrading existing Magnum DS® installations with the Arcflash Reduction Maintenance System

- Enhance existing Magnum DS lineups
- Field installable
- For further information, contact Eaton's Aftermarket Group at 1-800-937-5487

Arcflash Reduction Maintenance System Upgrade Solution—520MC Trip Unit

Busting myths about the Arcflash Reduction Maintenance System unit

Myth 1: All it does is turn the instantaneous setting down to a lower value.

FALSE: Unlike other products, the Arcflash Reduction Maintenance System involves a separate circuit that acts faster than the standard "instantaneous" protection.

- The Arcflash Reduction Maintenance System is an analog circuit that provides faster interruption times versus the digital "instantaneous" protection (~20 ms faster)
- Faster interruptions = less fault current let through = less arc flash energy

Myth 2: Coordination is lost.

FALSE: The Arcflash Reduction Maintenance System mode is activated on the first breaker upstream from the point of maintenance. During maintenance, downstream personnel and equipment protection is greatly enhanced, in lieu of simple downstream coordination. When the maintenance is complete, the Arcflash Reduction Maintenance System mode is set to OFF and normal protective settings resume.

Myth 3: Nuisance trips occur because of noise.

FALSE: Noise does not affect protection as explained for activation methods that follow:

- Local at the trip unit—The Arcflash Reduction Maintenance System circuit has passed all the tests that a normal trip unit needs to pass for noise immunity: RF, Surge, Burst. This is as robust as any normal (non–Arcflash Reduction Maintenance System) trip
- External switch—The trip unit circuit is in Off/Remote Enable mode. An external switch can then be mounted on the gear and wired to the breaker to enable or disable the mode. This has been tested up to 9.78 ft (3m) away from the switch to the breaker. It has passed all the "noise" tests at that maximum length. For added assurance, Eaton recommends that the switch be mounted reasonably close to the breaker
- For more information, please visit arcflashsafetysolutions.com

Powering Business Worldwide

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March 2013

INFORMATION

BOARD OF DIRECTORS
STAFF REPORT

To: TVMWD Board of Directors

From: Matthew H. Litchfield, General Manager

Date: October 5, 2022

Subject: **Miramar Transmission Line Leak Detection**

☐ **Funds Budgeted: $** ☒ **Fiscal Impact: $190,000**

Staff Recommendation

No Action Necessary – Informational Item Only

Background

Metropolitan Water District of Southern California [Metropolitan] invoices Three Valleys Municipal Water District [TVMWD] monthly for the imported water delivered into the TVMWD service area. Every month, staff reconciles the total volume of water billed by Metropolitan with the total volume of water sold. Historically, the difference between the billed and sold amount [water loss] was balanced during each year. However, since 2020, the water loss trend has increased, and is continuing to increase to approximately ten percent each year. The Miramar Transmission Line Leak Detection Project [Project] has been developed to identify potential leaks within the pipeline distribution system and develop corrective measures to address the water loss.

Discussion

On average, 14 to 18 percent of total daily treated potable water in the United States is lost through leaks, with some water systems reporting water-loss rates exceeding 60 percent. The water loss identified by TVMWD ranges between five to ten percent, with variations depending on the quantities of flow, i.e., higher losses when the distribution system flow is lower and more noticeable. Water loss control program helps to identify real or physical losses of water from the water system and apparent losses, the water that is consumed but not accounted for. Real losses represent costs to a water system through the additional energy and chemical usage required to treat the lost water. Apparent losses represent a loss of revenue because the water is consumed but not accounted for and thus not billed.

On average, 30 percent of the TVMWD imported water purchases from Metropolitan is through Miramar Treatment Plant and the remaining 70 percent is purchased from Weymouth via direct Metropolitan service connections. From TVMWD's revenue perspective, the treated water purchases from Metropolitan service connections are completely accounted for. The water loss for TVMWD's system occurs mainly in the deliveries associated with the Miramar Treatment Plant. Over the course of the last year, staff has been working to identify physical loss of water within the Miramar Treatment Plant. The investigation has been completed with no significant loss within the treatment plant. Staff has also been working with Metropolitan to identify any potential inaccuracies of the PM-21 service connection into Miramar Treatment Plant.

As a result, the Project has been developed to identify other potential sources that could contribute to the water loss. Staff has developed a two-prong approach to reach a resolution. The first path is through the Project to identify any potential sources/weaknesses within the Miramar pipeline distribution system. The second path is to work with Metropolitan to identify potential deficiencies with the current Metropolitan meter at the Miramar Treatment Plant. Staff has been working with Metropolitan on this second path and will provide future updates as information is available.

The current industry standard has two common methods to detect leaks within buried pipelines. The first method uses a SmartBall® internally within the pipe. The second method uses ultrasonic listening and ground penetrating radar. Proposals were solicited and received for both methods; the two technologies significantly range in cost with the SmartBall® being the highest of the two.

The ultrasonic method requires manpower walking along the pipe alignment to detect any leaks. Since the majority of the Miramar transmission line resides in major arterial streets, this method poses issues with completing the ultrasonic listening and potential traffic/ safety issues on the ground. The SmartBall® platform is a free-swimming inspection tool used to detect leaks and gas pockets and map pipeline networks. This platform assesses pressurized water pipelines in a single deployment, without disrupting regular service. The SmartBall® platform also provides pipeline condition data and confirms the location of underground pipelines and their alignment with other critical assets. The pipeline condition data also provides valuable information for any rehabilitation or asset management decisions. Staff's recommendation is to pursue the SmartBall® technology due to the higher value it provides.

Since both methods are innovative technologies, there are few manufacturers that are local who would be competitive in providing pricing or have sufficient equipment to complete the scope of the project. The SmartBall® Technology is provided by Xylem, a widely recognized name in the water industry. Staff has reviewed the references provided by Xylem and agrees that their expertise in the scope of work will provide a successful project.

Annual system water loss of ten percent or 700 acre-feet results in a potential revenue loss of $750,000. The SmartBall® technology to perform the leak detection analysis is $160,450. TVMWD will be pursuing potential funding opportunities to offset the cost of the Project. As listed in Xylem's proposal, it would be TVMWD responsibility to provide any traffic control to facilitate the inspection. The Project will be presented to the Board of Directors on October 19, 2022 for its consideration to establish a project budget of $190,000 through an amendment of the fiscal year budget and for award of contract to Xylem.

Strategic Plan Objective(s)

1.4 – Maintain water infrastructure to assure 100% reliability

2.7 – Energy Efficiency

Attachment(s)

Exhibit A – Xylem Proposal

Exhibit B – GPRS Proposal

Exhibit C – Budget Amendment

Meeting History

None

NA/KP

xylem
Let's Solve Water

Proposal for

PCCP INSPECTION AND LEAK DETECTION

Miramar System

SmartBall®, PureRobotics® & PipeDiver®

May 11, 2022

Prepared for

Three Valleys MWD

Attn: Kevin Panzer

1021 E. Miramar Avenue

Claremont, CA 91711

pure TECHNOLOGIES
a xylem brand

Kevin Panzer, P.E.
Assistant Engineer
Three Valleys MWD

RE: PCCP Inspection and Leak Detection – Miramar System

Dear Kevin,

Pure Technologies U.S. Inc., a Xylem brand, is pleased to offer our services for inspection, leak detection, and mapping of the Miramar System using our PipeDiver, Robotics and SmartBall platforms. The inspection scope involves approximately 7 miles of 36in, 30in, 24in, and 18in diameter prestressed concrete cylinder pipe (PCCP) potable water pipeline. We propose using the PipeDiver free-swimming electromagnetic inspection platform as well as using our PureRobotics® tethered inspection platform to identify individual pipes with broken steel prestressing wire wraps, a key structural component of PCCP. Our SmartBall® free-swimming inspection platform inspects pipelines while they are in service, detects acoustic activity associated with leaks and pockets of trapped air and can leverage motion data to map pipelines.

Included in this scope is Transient Pressure Monitoring as well as a suite of Condition Assessment Engineering services—design review, finite element analysis, and remaining useful life analysis—to enable you to proactively manage the failure risk and asset life of your pipeline.

The PipeDiver platform has been successfully used to inspect and inform the management of over 1,500 miles of pipelines around the world. Through this experience, we have identified key success factors for free-swimming inspections to minimize risk and disruption to pipeline operations. Highly trained and experienced technicians will work closely with your operations personnel to understand and mitigate inspection risks during project planning and execution. The PureRobotics platform has been successfully used to inspect over 600 miles of pipelines around the world. Through this experience we have identified key factors for success for robotic inspections to minimize risk and pipeline downtime associated with the inspection. The SmartBall platform has been deployed for more than 15 years to successfully inspect over 7,500 miles and report over 3,300 leaks.

Pure Technologies is a recognized industry leader in the inspection, assessment, and management of pressurized water and wastewater pipelines. We continually strive to set the industry standard with the most trusted, technologically advanced tools operated by our highly experienced team.

We look forward to addressing any questions you may have and helping you solve your water challenges.

Christopher Aronitz, PE, PMP
Business Development Manager
619-514-9140
Christopher.Aronitz@Xylem.com

PCCP Inspection & Leak Detection

The best way to proactively manage any pipeline is to better understand its health using proven condition assessment solutions combined with advanced analysis.

A comprehensive condition assessment of PCCP water pipeline involves deploying inspection tools to accurately assess the health of the buried infrastructure along with advanced engineering analysis to provide a clearer understanding of risks that inform short- and long-term repair and replacement strategies.

We propose a comprehensive condition assessment initiative for Three Valleys MWD comprising four phases:

1. Leak and air pocket detection helps determine a pipe's baseline condition. Pure Technologies' free-swimming SmartBall® platform uses acoustic technology to accurately locate leaks and air pockets and operates while the pipeline is in service.
2. Inline wall inspection identifies and locates broken wire wraps to provide a critical baseline for pipe degradation. Prestressing wires are the main structural component in PCCP. The PipeDiver® platform is a free-swimming condition assessment tool that is easy to deploy and operates while the pipeline remains in service.
3. Transient Pressure Monitoring accurately measures the operating pressure in a pipeline to better understand the system hydraulics and the effect of pressure surges on the pipeline.
4. Condition Assessment Engineering turns inspection and monitoring data into actionable recommendations for PCCP owners. Structural evaluation services, such as finite element analysis and degradation modeling, help utilities make long-term capital planning decisions about reinspection, rehabilitation, and replacement while ensuring safe pipeline operation into the future.

FUTURE PROJECT ONLY

Leak and Air Pocket Detection

The first phase of the condition assessment is an initial survey for leaks and air pockets using the SmartBall platform. This inspection will identify potential leaks and air pockets as a preliminary indicator of pipeline condition.

The SmartBall inspection platform is a free-swimming, nondestructive inline inspection technology that detects acoustic activity associated with leaks and pockets of trapped air in pressurized pipelines. Optionally, SmartBall can map the pipeline using the motion data of the tool along with field-collected GPS data.

The SmartBall tool is typically inserted through a valve into an active line. Once deployed, the tool is propelled by the hydraulic flow and can navigate inline valves, 90-degree bends, tees, diameter changes, profile changes, and vertical risers. It is typically extracted by inserting an expandable retrieval net through a pressurized stack attached to a 4-inch full-bore flanged valve.

The SmartBall tool is continuously tracked during an inspection using proprietary tracking devices synchronized with the tool and tracking sensors installed along the pipeline prior to deployment.

The collected data is evaluated by experienced data analysts using proprietary software and methods to report the location of leaks and air pockets, as well as provide a qualitative estimate of leak magnitudes to help prioritize further investigation and repair activities. When mapping of the pipeline is included in the project scope, advanced location algorithms are used to evaluate motion data recorded by the SmartBall tool in combination with field-collected GPS data to determine the alignment of the pipeline.

An overview of the SmartBall platform inspection process is shown in Figure 1. Further details of the SmartBall technology can be found in the data sheets included in this proposal.

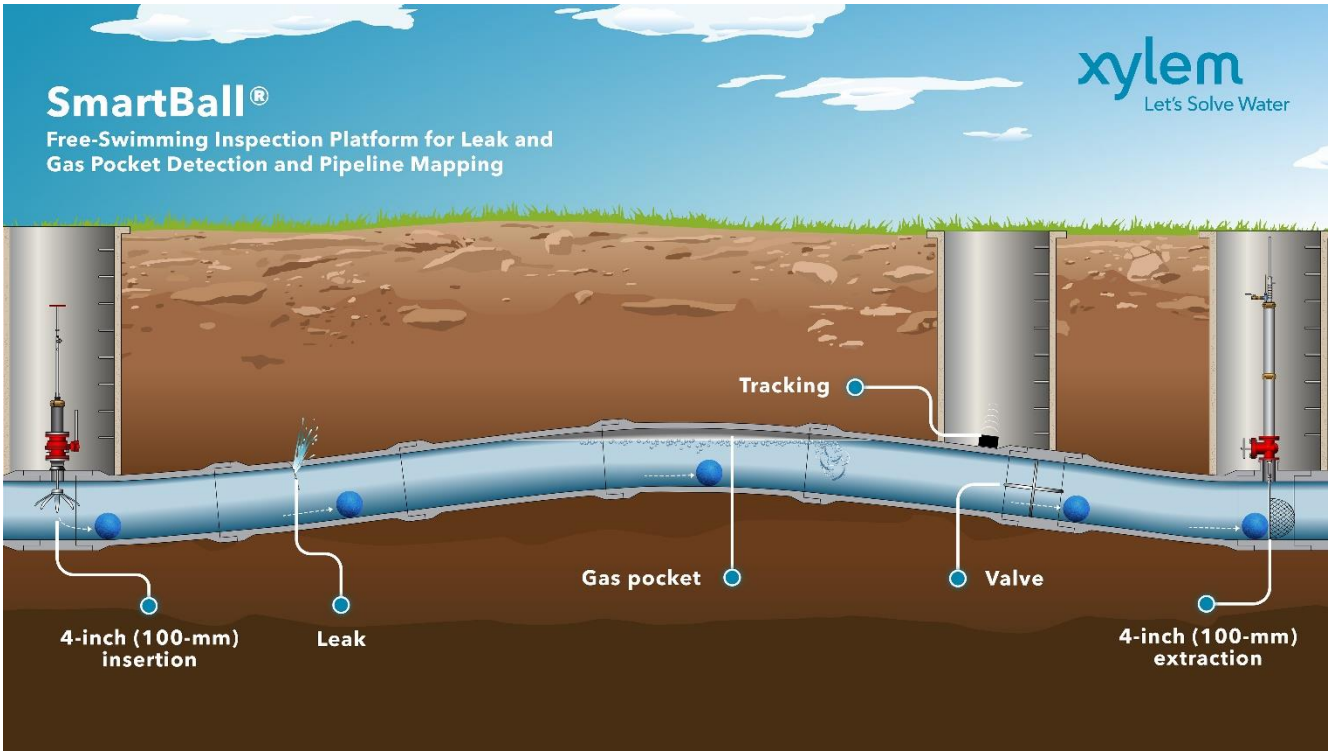


Figure 1: SmartBall Inspection Overview

FUTURE PROJECT ONLY

Inline Wall Inspection

After completing the inline leak and air pocket survey, the pipeline will be inspected with the PipeDiver and PureRobotics platform to identify broken prestressing wire wraps, which are the main structural component in PCCP.

The PipeDiver and PureRobotics platform provides accurate, detailed pipe wall condition data to inform proactive management decisions. Pure Technologies' industry-leading, patented electromagnetic technology can locate groups of as few as five broken wire wraps along the length

Project Milestones and Deliverables

Planning and Mobilization

The planning process is an integral part of the project. Gathering more detailed pipeline information during the planning process facilitates a more successful inspection. Pure Technologies will meet with Three Valleys MWD to perform a site visit to assess access to the pipeline and identify site or pipe features that could pose a challenge during the inspection. Steps are then put into place to mitigate any potential risk. Based on information gathered and the preliminary site visit, the team drafts a detailed Project Planning Document that outlines the inspection plan, including insertion and extraction procedures and tracking sensor locations. The Project Planning Document will be submitted to Three Valleys MWD prior to starting the work. Changes in scope that arise from the planning process that impact pricing outlined in this proposal will be discussed with Three Valleys MWD and mutually agreed upon before proceeding.

Civil work may be required for successful insertion and/or extraction of the PipeDiver, PureRobotics or SmartBall tool and will be identified during the detailed planning process. Civil work may include, but is not necessarily limited to, pipeline fitting modifications, excavation, tapping, shoring, and/or any other activity necessary to access valves and appurtenances identified as critical to the inspection. It is expected that the Three Valleys MWD will complete this work.

[If pipeline mapping is included in scope:] During the site visit, GPS location data will be collected for all Control Points and Reference Points. Chambers and vaults must be opened to ensure that the GPS points can be recorded above the actual pipeline feature or to add an offset to the GPS points. This data collection effort is expected to take an additional one to two days onsite.

Activities undertaken as part of the planning and mobilization process include, but are not necessarily limited to:

- Project document review
- Preliminary site visit and review
- Evaluation of the need for alternative methods for insertion and extraction, such as utilizing pressurized insertion and extraction tubes for PipeDiver or a hydrant insertion for a SmartBall
- Pre-inspection coordination/meetings
- Planning document development
- Equipment and staffing logistics to and from the project sites
- Tool preparation
- Pre-inspection activities required in advance of the scheduled inspection date

Optional Flow Rate Verification. Onsite verification of flow rates under inspection conditions can be conducted during initial site visit. This can be an important step in the planning process for complex pipeline networks that require numerous valves to be operated or for utilities needing additional assistance to verify that operating conditions in the pipeline are suitable for inline inspection.

Planning and Mobilization Deliverables

1. Project Planning Document that outlines the inspection plan, including insertion and extraction procedures and tracking sensor locations.

Leak & Air Pocket Detection & Mapping

Tracking sensor installation will occur for both the PipeDiver and SmartBall tools in the days prior to inspection It is expected that Three Valleys MWD will assist in any installations that require soft digs or pavement coring to access the pipeline and will provide appropriate traffic control during tracking installations, if required, as outlined in the Project Planning Document.

Figure 6

Leak locations are determined using data recorded by the sensors onboard the SmartBall tool as well as that recorded by the tracking devices. This data is also used to determine if a leak is occurring on a pipe joint or barrel. Leaks occurring on the barrel of a pipe may indicate the pipe has been structurally weakened and is in danger of failing. Experience has shown our analysis methods are accurate to within approximately ±6 feet.

The inspection is anticipated to take two days to complete. Immediately preceding the deployment of the SmartBall tool, Pure Technologies personnel will measure the flow speed, flow direction, and pipeline operating pressure to verify the conditions in the pipeline. Several tracking teams will be assigned to monitor the tool's movement through the pipeline. If required, Three Valleys MWD will provide traffic control during the inspection at each tracking sensor location. Coordination with operations staff will be required throughout the duration of the inspection, particularly for activities such as valve operation, pump management, etc. These activities will be outlined in the Project Planning Document. Upon completion of the inspection, data will be downloaded from the SmartBall and shared with the Pure Technologies analysis team.

Prior to demobilizing from the inspection, the Pure Technologies team will review data recorded by the SmartBall tool and investigate suspected medium and large leaks identified during the inspection. The results from this analysis will be communicated directly to Three Valleys MWD through email, phone, or in-person. To investigate, personnel will travel to the location of the suspected leak to look for obvious signs of leakage, listen with a ground microphone, investigate nearby pipeline features and manholes, and will record additional GPS points used to improve the final reported location of the leak that will be delivered in the draft report.

The Pure Technologies analysis team will analyze the data collected by the SmartBall platform to document details of acoustic events including acoustic intensity plots and tracking details. A dig sheet will be developed for each leak to aid in location and excavation. Dig sheets include an aerial view of the pipeline alignment and detail a leak location based on the distance from the leak to the nearest upstream and downstream pipeline features.

[If pipeline mapping is included in scope:] The SmartBall platform will be inserted into the pipeline a second time to complete location data collection. Using the latest accelerometer and gyroscope technologies with advanced location algorithms, the pipeline directional data will be calculated. The Pure Technologies data analysis team will combine this data with aboveground GPS data points to develop a geodatabase of the pipeline location.

[If pipeline mapping is included in scope:] Data analysts will use the SmartBall directional data, along with field-collected aboveground GPS points and pipeline bearing information, to create a geodatabase that characterizes the alignment of the pipeline. This alignment is then compared to available pipeline information, such as an existing pipeline GIS and as built drawings, to identify conflicts or confirm the assumed pipeline alignment. In areas where the SmartBall-derived alignment agrees with a utility's records, the utility can feel more confident the assumed location of the pipeline is close to actual. If a conflict is identified, a targeted effort of exposing the pipeline, line finding and/or surveying at these specific areas may be warranted depending on the location accuracy required for the subject pipeline. The error range of the mapping results will be calculated considering the distance between control points, availability of GPS points and pipeline heading, and quality of rolling motion of the SmartBall tool.

Further details on considerations related to the pipeline inspection such as pressure, flow requirements, or insertion/extraction requirements can be found in Appendix A.

Optional hydrant extraction: Pure Technologies can provide equipment to safely retrieve the SmartBall tool from pipelines utilizing existing fire hydrants when other access points are unavailable. The SmartBall tool can also be inserted into the pipeline using hydrants. This method of insertion is performed at no additional fee from Pure Technologies but may require the utility to provide pumping services.

Leak & Air Pocket Detection Deliverables

1. Immediate notification of suspected medium and large leaks, if needed
2. Draft Inspection Report including:
    - Project background and inspection details
    - Details of acoustic events including acoustic intensity plots and tracking details
    - A table of results identifying locations of acoustic events (e.g., leaks and/or air pockets)
    - Dig sheets to aid in locating and excavating reported leaks, including an aerial view of the pipeline alignment and detail of each leak location
3. [If pipeline mapping is included in scope.] Geodatabase including SmartBall-collected alignment data, GPS points, and range of accuracy.
4. [If pipeline mapping is included in scope.] Identification of conflicts between an existing pipeline alignment dataset and the SmartBall generated GIS alignment.
5. Final Inspection Report incorporating comments from Three Valleys MWD.

Project Schedule

A typical schedule for this project is shown below.

Leak & Air Pocket Detection	
Task	**Timing**
Site visit	Within 30 days following NTP
Project Planning Document	2 weeks before inspection
Field Inspection	8-10 weeks following NTP
Leak investigation prior to demobilization	24 hours after completion of inspection
Draft Report • Leak and air pocket detection only • Leak, air pocket, and XY Alignment, <4 miles • Leak, air pocket, and XY Alignment, >4 miles	4 weeks after inspection 8 weeks after inspection 10 weeks after inspection
Final Report and Geodatabase	2 weeks after receipt of comments on Draft Report

FUTURE PROJECT ONLY

Inline Wall Inspection	
Task	**Timing**
Site visit	Within 30 days following NTP
Project Planning Document	2 weeks after site visit
Field Inspection	1-3 weeks from Project Planning document approval
Draft Report	6 weeks following inspection
Final Report	2 weeks after receipt of comments on Draft Report

Transient Pressure Monitoring	
Task	**Timing**
Site visit	Within 30 days following NTP
Project Planning Document	2 weeks after site visit
Field Inspection	1-3 weeks from Project Planning document approval

Condition Assessment Engineering	
Design Review	Included with draft Inline Wall Inspection Report
Finite Element Analysis	Included with draft Inline Wall Inspection Report
Remaining Useful Life Analysis	Included with draft Inline Wall Inspection Report

Project Pricing – Leak Detection Only

Project Pricing					
Item	Description	Unit	Unit Price	Quantity	Total Price
1.1	SmartBall Project Planning and Mobilization	$20,000	Each	1	$20,000
1.2	SmartBall Inspection (up to 2 miles)	$20,000	Each	1	$20,000
1.3	SmartBall Inspection (2-4 miles)	$9,500	Per Mile	2	$19,000
1.4	SmartBall Inspection (4-7 miles)	$8,650	Per Mile	3	$25,950
1.5	SmartBall Inspection (7-10 miles)	$7,650	Per Mile	0	$0
1.6	SmartBall Additional Insertion	$5,500	Each	1	$11,000
1.7	SmartBall Report	$15,000	Each	1	$15,000
				Estimated Total Project Cost	$110,950

Optional Services Pricing					
Item	Description	Unit	Unit Price	Quantity	Total Price
1.8	SmartBall Mapping	Per Mile	$6,500	7	$45,500
1.9	Flow Testing to confirm flow under inspection conditions (during site visit)	Each	$4,000	1	$4,000

Pricing Notes

- All travel, shipping and related expenses are included in the mobilization and field data collection/inspection fees.
- Pricing is based on available information provided to date.
- If additional work is required due to circumstances outside of Pure Technologies' control or based on additional requests from Three Valleys MWD, a mutually agreed change order will be required.
- A cancellation charge in the amount of the costs incurred to mobilize will apply should the work be cancelled within the two weeks prior to the agreed Mobilization Date.
- If Three Valleys MWD requests a change to the mobilization Date within 2 weeks of the previously agreed Mobilization Date, additional charges will occur.
- A stand-by charge of $5,000 per day applies if the project is delayed by Three Valleys MWD after mobilization.
- Pricing does not include traffic control, civil works, permitting, confined space support, or valve exercising. These tasks are the responsibility of Three Valleys MWD unless otherwise agreed.
- Suitable access points for insertion and extraction of the inspection tools are the responsibility of Three Valleys MWD.
- Structural Analysis Design Check can be completed without developing FEA performance curves.
- Final Engineering Report cannot be completed without the design check and predictive analyses activities.

Payment Schedule

Invoicing Schedule	
Service	Invoicing Period
Project Planning and Mobilization	Upon submittal of the Project Planning Document
Inspection	Upon completion of Inspection
Technology Report	Upon submittal of the final Technology Report
Engineering Report	Upon submittal of the final Engineering Report
SmartBall Mapping	Upon completion of Inspection
Flow Testing	Upon completion of Site Visit

Standard Terms and Conditions

SCHEDULE "A"

CONDITIONS OF ENGAGEMENT FOR THE PROVISION OF SERVICES

(North America)

The Proposal is issued upon and is subject to these Conditions of Engagement. If the Proposal is accepted by the Client, these Conditions of Engagement and the Proposal will be deemed to form part of the Contract between the Client and Pure.

DEFINITIONS

1. In these Conditions of Engagement, the following definitions apply:
    a. **Client** means any person or persons, firm or company engaging Pure to provide the Services.
    b. **Contract** means the agreement awarded to Pure as a result of the Proposal.
    c. **Pure** means Pure Technologies Ltd., Pure Technologies Canada Ltd., Pure Technologies U.S. Inc., PureHM Inc., PureHM U.S. Inc., or any of their affiliates, as the case may be, which submitted the Proposal and is a party to the Contract.
    d. **Proposal** means Pure's offer to carry out the Services and includes all related correspondence plus agreed written variations or amendments thereto.
    e. **Services** mean those services of whatever nature to be supplied by Pure under the Contract.
    f. **Site** means the facility, land, installation or premises to which Pure is granted access for the purposes of the Contract and may include any combination of the foregoing.

PURE'S OBLIGATIONS

2. Pure will perform the Services in accordance with the procedures described in the Proposal, using reasonable skill, care and diligence and consistent with industry standards.
3. Pure will ensure that the equipment used in performing the Services is in a good and functional state.

CLIENT'S OBLIGATIONS

4. The Client will provide to Pure full, good faith co-operation to assist Pure in providing the Services. Unless otherwise specified in the Proposal and without limiting the generality of the foregoing, the Client will at its own expense:
    a. ensure, if required, access to private land will be given to Pure and that any official permits or permissions required for Pure to have access to the Site or carry out the Services are obtained and are in force for the duration of the Services;
    b. inform Pure in writing of any special circumstances or danger which the execution of the Services may entail or which are inherent in the Site, including the existence and identity of any known hazardous substance or material; and

c. perform such additional duties and responsibilities and provide such information and resources as are described in the Proposal.

5. The description of the Services and related compensation amount set out in the Proposal will be based upon information that the Client shall have provided to Pure, and assumptions that Pure shall have identified in the Proposal. The Client acknowledges that if any such information provided by Client is materially incomplete or inaccurate, or if the assumptions identified by Pure are not correct, then the parties will modify the Proposal to reflect the actual information, assumptions, and Services required, and the compensation to Pure will be adjusted accordingly using the change order process set out in the Contract, or if there is no such process, on an equitable basis.

PROPRIETARY AND CONFIDENTIAL INFORMATION

6. All reports generated in the performance of the Services and delivered by Pure to the Client will become the property of the Client.
7. Pure's equipment which is made available to the Client in connection with the Contract and the raw data generated in the performance of the Services will remain the sole and exclusive property of Pure. The Client will not acquire any proprietary rights in Pure's equipment, systems, software, technology, inventions (whether or not patentable), patents, patent applications, documentation, specifications, designs, data, databases, methods, processes or know-how ("Pure's Proprietary Technology"). Any modifications or improvements to the Pure's Proprietary Technology made during the performance of the Services will be the sole and exclusive property of Pure.
8. Both parties agree to keep confidential all documentation and information provided by the other during the performance of the Contract. The obligations set out in this clause 0 will remain in full force and effect after any termination or expiry, as the case may be, of the Contract.
9. Notwithstanding anything herein to the contrary, Pure will have a limited, non-exclusive, royalty-free license to utilize data collected in the performance of services hereunder for purposes of:
    a. providing services
    b. analyzing and improving the services, and
    c. internal research and development for the benefit of Pure clients.

LIABILITY AND WARRANTIES

10. Pure will indemnify the Client against any expense, demand, liability, loss, claim or proceeding whatsoever in respect of personal injury to or the death of any person, or any loss, destruction or damage to any tangible property and arising directly or indirectly from the negligence of Pure, its employees, servants or agents except to the extent caused by the negligence of the Client or any person for whom the Client is responsible. The Client will similarly indemnify Pure.
11. Pure will not be liable for any loss of production, loss of use of property, loss of revenue or profit, equipment downtime, business interruption, loss of goodwill, loss of anticipated savings, cost of procurement of substitute goods or services, or for any consequential,

indirect, incidental, or special loss or damage suffered by the Client or any third party, or for any punitive damages, even if advised of the possibility thereof and notwithstanding the failure of essential purpose of any remedy.

12. Pure's cumulative liability under the Contract, whether in contract, tort (including negligence), or otherwise, will in no event exceed the aggregate consideration paid by the Client to Pure for the portion of the Services that gave rise to the liability, provided, however, that this clause shall not limit Pure's indemnification obligations under these Conditions of Engagement.
13. The report(s), data, and any other recommendations or advice made by Pure relating to the pipeline or the Services will be made in accordance with the procedures described in the Proposal, using reasonable skill, care and diligence consistent with industry standards, but do not and will not constitute a warranty of the pipeline's quality, capacity, safety or fitness for purpose. Pure will not be liable to the Client for any liability or damages that arise from the Client's reliance upon or application or use of such final report, data, or recommendations or advice made by Pure in relation to the pipeline or Services, and the Client will indemnify Pure against any liability to third parties resulting therefrom.
14. Pure's warranties for the Services will be set out in the Contract. Pure disclaims all implied or statutory warranties or conditions, including of merchantability, merchantable quality, durability, or fitness for a particular purpose to the extent allowed by applicable law. This means Pure's warranty obligations will be limited to what is expressly set out in the Contract.

Appendix A – SmartBall Inspection Considerations

Insertion and Extraction

The SmartBall tool is typically inserted through a 4-inch (100mm) or larger full-bore flanged valve into an active pipeline. When using standard insertion equipment, the valve should have direct access to the pipeline with no bends in the connecting riser. The minimum internal diameter of valve opening must be no less than 3.5 inches (90 mm). A minimum of 4 feet (1.3 m) of overhead clearance is required above the flange of the insertion valve. Alternative methods for insertion include utilizing check valves in pump stations, areas where the pipeline transitions to gravity, and pumping the SmartBall through offset piping such as a hydrant or bypass.

The SmartBall tool is typically extracted from the pipeline by a installing a pressurized stack on a 4-inch full bore flanged valve, or larger, with a minimum internal diameter no less than 3.5 inches (90 mm). The valve should be on the crown of the pipe and be located on a flat section of pipeline with no vertical slopes or horizontal bends 30 feet (9 m) upstream of the valve. A minimum of 16 feet (5 m) of overhead clearance is required above the flange of the extraction valve. It is possible to core the roof of a vault above the valve with a 6-inch (150 mm) or greater opening if the vault does not have enough overhead clearance. The net utilizes a tracking sensor and a camera to confirm the SmartBall tool has been caught in the extraction net. Other extraction methods, such as retrieval from a reservoir using a remotely operated vehicle (ROV), are possible and can be evaluated by the SmartBall technical experts for feasibility.

Tracking

Prior to the inspection, tracking sensors will be installed along the pipeline to track the position of the SmartBall tool. The tracking sensors function best when they are installed as close as possible to the water column in the pipeline and are attached to metal surfaces of pipeline appurtenances, such as air release valves, flanges, valves, or any other contact point on the pipeline. At these locations, Pure Technologies staff clean an area approximately 3 inches by 3 inches and will adhere tracking sensors using a fast-drying epoxy. Computers synchronized with the SmartBall tool will be connected to the tracking sensors to calculate the location and velocity of the SmartBall tool as it approaches and passes the tracking location. Tracking teams will set up at tracking sensors before the deploying the SmartBall tool and will 'leap-frog' to subsequent tracking locations as the SmartBall tool traverses the pipeline on its way to the extraction point. A tracking plan and details for installing tracking sensors will be included in the Project Planning Document submitted to Three Valleys MWD prior to the inspection.

Flow Requirements

The SmartBall tool requires a fluid velocity of 0.5 feet per second (0.15 meters per second) to traverse flat sections of pipeline. The ideal fluid velocity for most pipelines is 2 to 4 feet per second (0.6 to 1.2 meters per second) for traversing slopes and allowing tracking teams to relocate to the next tracking location. The maximum fluid velocity before data quality is impacted is 6 feet per second (1.8 meters per second) for leak and air pocket inspection and 3 feet per second (0.9 meters

per second) for SmartBall Mapping. The SmartBall tool usually travels at approximately 70% of average fluid velocity. Three Valleys MWD staff will control the flow rate to confirm the requisite velocity during tool deployment as requested in the Project Planning Document. Pure Technologies will also evaluate pumping rates and cycle times to determine if supplemental water will be required to complete the inspection. It should be noted that air pocket and leak detection surveys should be performed as close to typical operating conditions as feasible.

Pipeline Pressure

Acoustic leak detection functions by detecting the acoustic signature generated by the sudden drop in pressure of water exiting the pipeline at the site of the leak. Inline leak detection technology is inherently more sensitive than external methods and correlators because it brings the acoustic sensor within one pipe diameter of the leak.

SmartBall technology requires a minimum pressure differential of 15 psi (1 bar) for acoustic leak detection. This is the difference in pressure between internal and external pipeline conditions. For pipelines in high water tables, and river crossings, the resultant hydrostatic head acting against the exterior of the pipe wall should be taken into consideration.

Three Valleys MWD staff will operate the system to maintain pipeline pressures as necessary to accommodate the needs of its customers. A review of the pipeline will be performed as part of the planning process to identify potential areas where the pressure may drop below the minimum required pressure differential for acoustic leak detection. Additional factors that affect acoustic leak detection include tunnels and encasements where the sudden drop in pressure that causes the acoustic signature generated by the leak may not occur at the site of the leak inside the pipeline, but rather at the point where the fluid exits the tunnel or encasement if the "leak path" becomes pressurized between the pipe wall and the tunnel or encasement. Approximate pressure measurements may be requested prior to and/or during the inspection to ensure the pipeline is operating within expected conditions.

Appendix B: PipeDiver Inspection Considerations

FUTURE PROJECT ONLY

Insertion and Extraction

The PipeDiver tool is typically inserted through a minimum 12-inch (300mm) access port, however a 16-inch (350mm) access is recommended if installing a new tap. For insertion, a brief shutdown and depressurization of the pipeline will be required to allow a flanged access to be removed and the PipeDiver tool inserted. Once the tool is placed in the pipe the flange is replaced and the pipeline is returned to operation. From the time the access point is depressurized, the process typically takes 2 hours. Depending on the pipeline configuration, equipment may be installed to hold the PipeDiver tool in place during the refill and re-pressurization process. Once optimal flow conditions are met, the tool will be released to perform the inspection.

There are various methods by which the PipeDiver tool can be extracted from the pipeline. Typically, a net is installed into the pipeline during a brief shutdown and depressurization that will stop the

PipeDiver tool at the end of an inspection. Once in the net a second depressurization is required to remove the tool and net from the pipeline through a minimum 12-inch access.

Alternative methods for insertion and extraction, such as utilizing pressurized insertion and extraction tubes or retrieval from a reservoir using a remotely operated vehicle (ROV), are possible and can be evaluated by the PipeDiver technical experts for feasibility.

FUTURE PROJECT ONLY

Tracking PipeDiver

Prior to the inspection, tracking sensors will be installed along the pipeline to track the position of the PipeDiver tool. The tracking sensors function best when they are installed as close as possible to the water column in the pipeline and are attached to metal surfaces of pipeline appurtenances, such as air release valves, flanges, valves, or any other contact point on the pipeline. At these locations, Pure Technologies staff will adhere the tracking sensors to the pipeline using a fast-drying epoxy. Computers that are synchronized with the PipeDiver will be attached to the tracking sensors to calculate the location and velocity of the PipeDiver as it approaches and passes the tracking location. Tracking teams will set up at tracking sensors before the deploying the PipeDiver and will leap-frog to subsequent tracking locations as the PipeDiver traverses the pipeline on its way to the extraction point. A tracking plan and details for installing tracking sensors will be included in the Project Planning Document submitted to Three Valleys MWD prior to the inspection.

Flow Requirements

The PipeDiver requires a fluid velocity of 1.5 feet per second for optimum data quality, traversing slopes and allowing the tracking teams to relocate to the next tracking location. The maximum fluid velocity before data quality is impacted is 3 feet per second. The PipeDiver usually travels at approximately 90% of average fluid velocity. Three Valleys MWD staff will control the flow rate to confirm the requisite velocity during tool deployment as requested in the Project Planning Document. Pure Technologies will also evaluate pumping rates and cycle times to determine if supplemental water will be required to complete the inspection. Flow changes during the inspection may be needed to assist the tools in navigating obstacles in the pipeline or for contingency measures.

Pipeline Pressure

A maximum pressure for a PipeDiver inspection is 250 psi (500 psi for Large Diameter PipeDiver platform). For pipelines with river crossings, the resultant hydrostatic head should be taken into consideration. Three Valleys MWD staff will operate the system to maintain pipeline pressures as necessary to accommodate the needs of its customers. A review of the pipeline will be performed as part of the planning process to identify potential areas where the pressure may exceed the maximum pressure. Approximate pressure measurements may be requested prior to and/or during the inspection to ensure the pipeline is operating within expected conditions.

Appendix C: Robotics Inspection Considerations

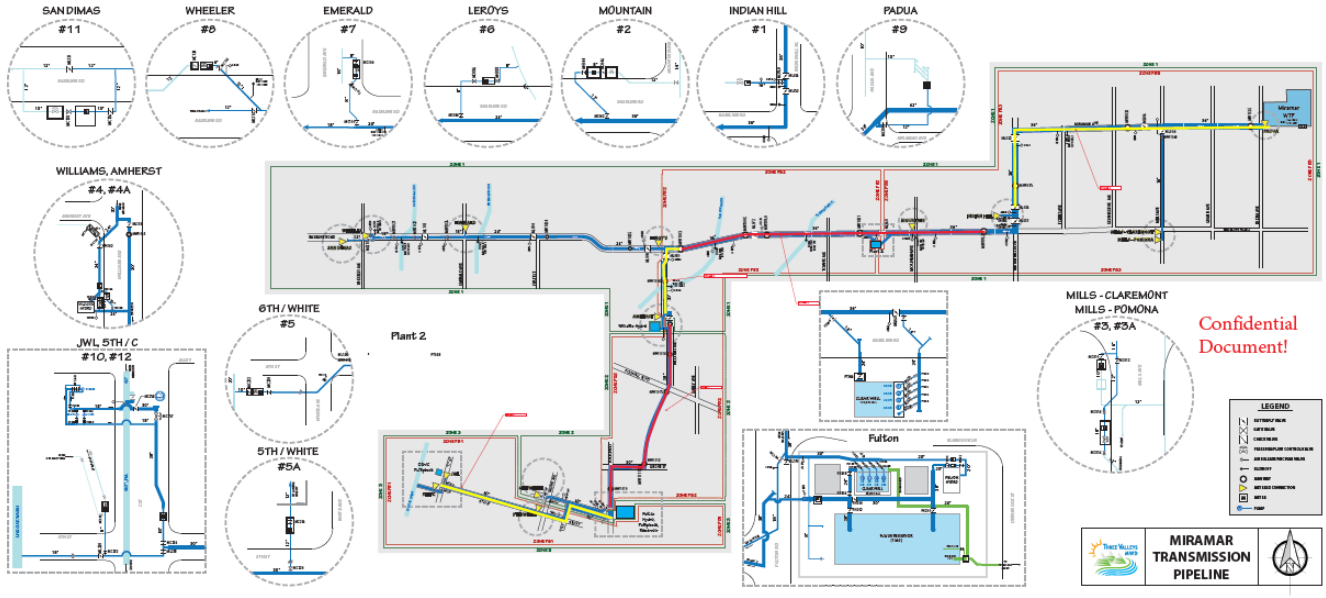
FUTURE PROJET ONLY

Insertion and Extraction

The PureRobotics tool is typically inserted through a minimum 18-inch access port. For insertion, shutdown and depressurization of the pipeline will be required to allow a flanged access to be removed and the Robotics tool inserted. Typically insertion times are between 1 and 2 hours and the inspection generally takes 2 hours after insertion.

Appendix D: Inspection Outline

Without Plan and profile drawings a rough inspection plan can not be provided based. All distances are estimates based on the scale of the diagram provided (image below). Based on this diagram the following runs would be required to perform leak detection and PipeWall inspection of the pipeline.



SmartBall

Run 1: Insert at Manway 1035 and extract at AR120

Run 2: Insert at Manway 1003 and extract at 5th/C pumpback (exact location to be determined)

*Note that tracking points are not identified and will be included in planning document or when plan and profile drawings are provided.

FUTURE PROJECT ONLY

PipeDiver

Run 1: Insert at Manway 1035 and extract at MW1003

Run 2: Insert at Manway 1015 and extract at MW1010

*Note that tracking points are not identified and will be included in planning document or when plan and profile drawings are provided.

Robotics

Location 1: New Manway required to inspect 30in pipe along 5th street

Location 2: Insert at MW1006 and inspect to ML1080 and MH142

Location 3: Insert at MW1025 and inspection to ML090 and ML094

Location 4: Insert at MW1023 and inspection to ML094 and ML108

Location 5: Insert at MW1021 and inspection to ML108 and ML116

Appendix E: Tech Sheets

SmartBall®

FREE-SWIMMING PLATFORM FOR INLINE LEAK AND GAS POCKET DETECTION AND PIPELINE MAPPING

Operating Environment

Pipe Materials	PCCP, RCP, AC, PVC, HDPE, Steel, Ductile Iron, Cast Iron, GRP, and other
Maximum Pressure	500 psi (34.4 bar), higher available upon request
Minimum Recommended Pressure Differential	15 psi (1.0 bar) *Consult with the SmartBall Technical Team for pipe diameters 72 inches (1800 mm) and larger*
Leak Sensitivity	Between 0.03 gallons/minute (0.11 l/min) at 90 psi (6.2 bar) and 0.35 gallons/minute (1.32 l/min) at 15 psi (1.0 bar) *Pipeline pressure, leak volume, and leak shape affect acoustic leak detection capability*
Pipeline Diameters	12 inches (300 mm) and greater for unlined metallic water pipes 6 inches (150 mm) and greater for all other pipe material and wastewater pipes
Maximum Flow Velocity	6 feet/second (1.8 m/s) *Maximum when mapping is 3 feet/second (0.9 m/s)*
Minimum Flow Velocity	0.5 foot/second (0.15 m/s) in flat terrain *For vertical shafts, consult with the SmartBall Technical Team* *Mapping requires a consistent flow rate*
Maximum Deployment Time	24 hours
Maximum Fluid Temperature	158° F / 70°C
Maximum Degree of Bends from Insertion Point	Unlimited

Insertion Requirements

Minimum Tap Diameter	4 inches (100 mm)
Minimum External Clearance from Insertion Tap	4 feet (1.2 m) for insertion claw method; 2.5 feet (0.76 m) for plunger method
Insertion Devide	Insertion claw, plunger, and hydrant

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Insertion Requirements Continued

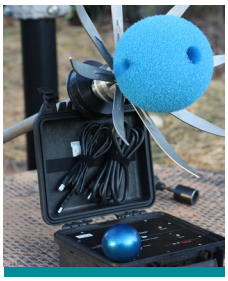
Insertion Methods	Gate valves, check valves, open ports, swab launchers, reservoirs, and hydrants *Alternative insertion methods may be possible*

Extraction Requirements

Minimum Tap Diameter	4 inches (100 mm), with a minimum of 3.75 ID *Must be vertical off the pipeline* *Alternative extraction methods may be possible*
Minimum External Clearance from Extraction Tap	13.2 feet (4.02 m)
Extraction Device	SmartBall extraction net, hydrant *Other pipeline specific options available upon request*
Maximum Flow for Net Use	3.2 feet/second (1 m/s) to 6 feet/second (1.8 m/s) depending on pipe diameter *Max flow range may vary if large diameter / high flow extraction is used*

Specifications

SmartBall Tool Components	Pinger, temperature sensor, pressure sensor, magnotometer, acoustic hydrophone, acceleromator, dual gyroscope, and battery
SmartBall Tool Size	SmartBall core – 2.8 inches (7.1 cm) Foam shell – 7 inches (17.8 cm); size is adjustable
Mapping Accuracy	Generates X|Y line for GIS delivrable
Shipping Requirements	All SmartBall leak detection kits can be shipped on a standard pallet
Tracking	Tracked by remote trackers or sensors
Disinfection	All materials that enter the pipeline are thoroughly disinfected based on local water authority standards prior to inspection.



SmartBall Kit

SmartBall Core

Insertion Claw

Live Insertion

SmartBall Tracking

Extraction Net

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May 3, 2022

Client: Three Valleys MWD
1021 E. Miramar Avenue, Claremont, CA 91711
Attn: Kevin Panzer
kpanzer@tvmwd.com, 909.225.8507
Project: Three Valleys Leak Detection Survey – Claremont, CA

Submitted By:
Jared Malone
419.250.9170
Jared.Malone@gprsinc.com

GPRS appreciates the opportunity to provide this proposal. I encourage you to visit our website (www.gprsinc.com) and contact any of the numerous references listed. Our insurance certificate and W-9 can also be downloaded here. Please feel free to contact me if you have any questions, or if you need additional information.

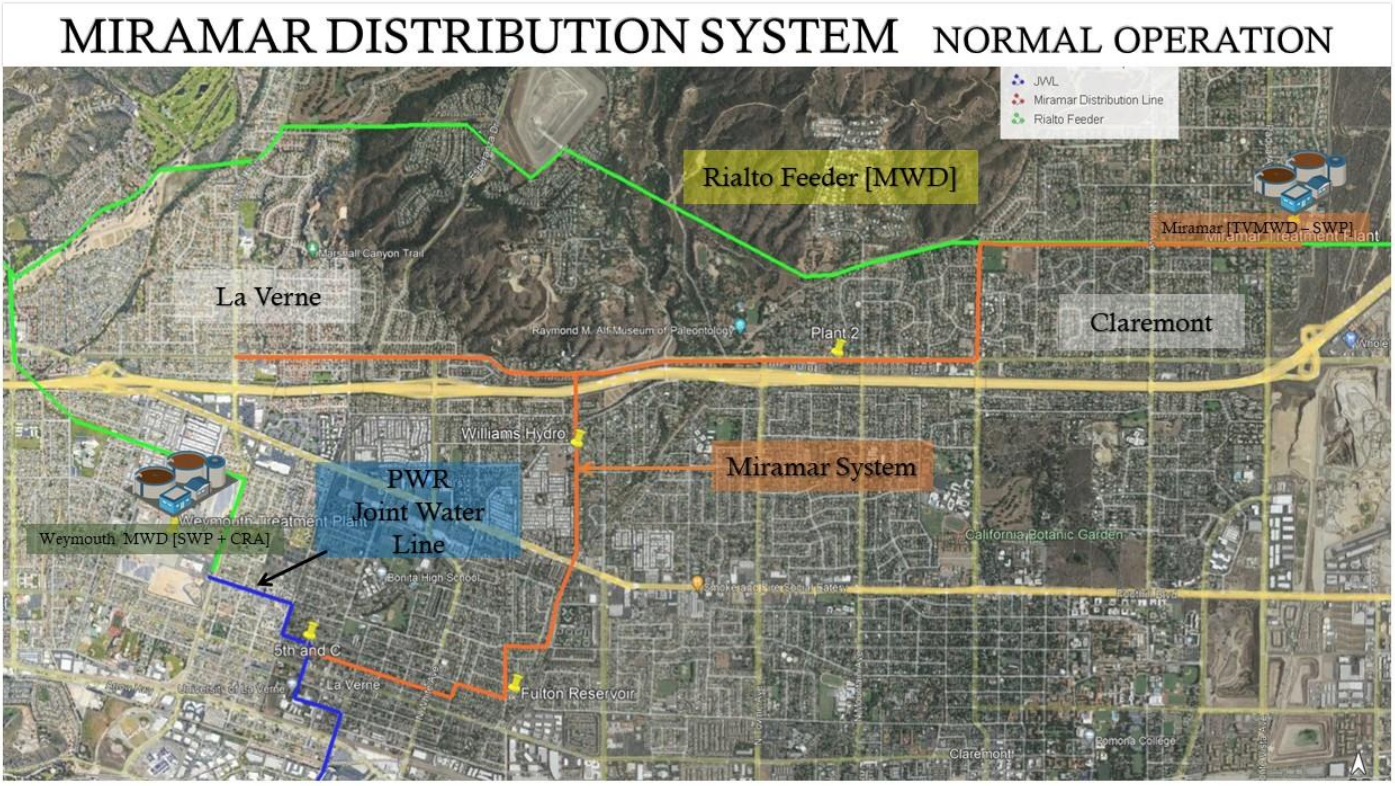
LEAK DETECTION

We understand the scope of work to be to locate potential leaks throughout the water distribution system as shown on the map shown on Page 2 estimated at 8 miles. The system consists of pipe ranging from 24", 30", and 36" precast concrete lined steel pipe. Estimated water loss is between 20 – 60 ac-ft per month. There are multiple contact points throughout the system. Contact points will be listened to using noise amplification equipment throughout the entire system in order to identify general areas with potential leaks. The leak will then be located using a combination of a correlator and ground microphones. Our ability to accurately locate the leak will depend on a variety of factors such as depth, pipe material, soil type, water pressure, and noise interference from traffic, machinery, etc. Any potential leaks can be detailed in a formal report (see Project Costs table).

EQUIPMENT

- **Electronic Microphone.** The leak noise amplification system consists of a control unit, a microphone, and headphones, and is used to listen for a leak signal on a water system contact points (valves, hydrants, etc.) to identify a general location of a potential water leak. This same system will also be used with a ground microphone to further pinpoint the leak location from the surface. Its effectiveness depends on a variety of factors such as pipe size and material, water pressure, leak size, soil type, and noise interference from traffic, machinery, etc.
- **Leak Noise Correlator.** The leak correlator consists of sensors that are placed on water system contact points, and the sound signals between these points will then be processed by mathematical algorithms to provide an approximate distance of the leak between the two points. The accuracy of the potential leak location depends on the ability of the pipe to be located along with the accurate input of pipe attributes such as pipe size and material (size and material information provided by the client).
- **Underground Scanning GPR Antenna.** The antenna frequencies range from 250 MHz-450 MHz is mounted in a stroller frame which rolls over the surface. The surface needs to be reasonably smooth and unobstructed in order to obtain readable scans. Obstructions such as curbs, landscaping, and vegetation will limit the feasibility of GPR. The data is displayed on a screen and marked in the field in real time. The total depth achieved can be as much as 8' or more with this antenna but can vary widely depending on the types of materials being scanned through. Some soil types such as clay may limit maximum depths to 3' or less. As depth increases, targets must be larger in order to be detected and non-metallic targets can be especially difficult to locate. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Electromagnetic Pipe Locator.** The EM locator can passively detect the signals from live AC power or radio signals travelling along some conductive utilities. It can also be used in conjunction with a transmitter to connect directly to accessible, metallic pipes, risers, or tracer wires. A current is sent through the pipe or tracer wire at a specific frequency and the resulting signal can then be detected by the receiver. A utility's ability to be located depends on a variety of factors including access to the utility, conductivity, grounding, interference from other utilities, and many others. Depths provided should always be treated as estimates as their accuracy can be affected by multiple factors. For more information, please visit: Link
- **Traceable Rodder.** The rodder has a copper wire encased in fiberglass. The line is pushed through accessible pipes before placing a current on the wire and the signal is then traced from the surface. The maximum traceable depth is 10' depending on the soil conditions and the maximum distance is 200'. The line can be pushed through a pipe with direct access such as a sewer line at a cleanout or a storm drain catch basin. It may not be able to be pushed through deeper pipes within manholes. Electrical conduits will not be accessed by GPRS. The signal cannot be located through metallic pipes. For more information, please visit: Link
- **GPS.** This handheld GPS unit offers accuracy down to 4 inches, however, the accuracy achieved will depend on the satellite environment at the time of collection and should not be considered to be survey-grade. Features can be collected as points, lines, or areas and then exported as a KML/KMZ or overlaid on a CAD drawing. For more information, please visit: Link

MAP OF SCAN AREA



GPRS

GPRSINC.COM

PROJECT COSTS

SERVICE	DESCRIPTION	PRICE
LEAK DETECTION/FIELD MARKINGS	Locate potential leaks throughout the water distribution system as shown on the map shown on Page 2 estimated at 8 miles.	Included
MOBILIZATION		Included
FORMAL REPORT	Detailed report of findings with photos, example data, and a site sketch (if applicable) in addition to the basic summary report that is included with every job. See example: Link	Included
TOTAL (Prevailing Wage)		***$9,550**
OPTIONAL SERVICES (INITIAL IF DESIRED)		

* This price assumes that we will be given access to perform the work during normal, weekday business hours (8am-5pm).
* As-builts and any other applicable drawings should be made available to GPRS prior to the project if possible.
* A thorough utility search can only be completed if GPRS is given access to all utility structures, interior and exterior. This service is never a replacement for the use of the state One Call system (811).
* All of our technicians have OSHA-10 safety training or greater. Site-specific safety training is not included in this quote. Please notify us if this project requires additional safety training.
* These rates assume that there are no certified payroll requirements. GPRS has not been notified of any PLA, DIR, or Certified Payroll requirements. If GPRS receives notice that any of these conditions exist, there will be additional costs

This proposal is subject to the General Terms and Conditions for Services of Ground Penetrating Radar Systems, LLC posted at Link (the "Terms and Conditions") and is hereby incorporated by reference into and made a part of this proposal. Customer acknowledges it has read and agrees to be bound by such Terms and Conditions. In the event of any conflict between the terms of this proposal and the Terms and Conditions, the Terms and Conditions will prevail. Customer also acknowledges that Ground Penetrating Radar Systems, LLC may, from time to time and at its discretion, modify the Terms and Conditions and Customer agrees to be bound by such Terms and Conditions as modified.

PROPOSAL-SPECIFIC TERMS & CONDITIONS

1. Customer agrees to meet and perform all requirements described in this document and has fully read and understands all items listed within this document.
2. It is the customer's responsibility to prepare the site for scanning, including clearly identifying areas to be scanned, securing access to all areas required for scanning, and keeping these areas clear and free of obstructions. Delays caused by customer's failure to do so may result in an increased price.
3. GPRS does not conduct an investigation, analysis, or interpretation of soil composition, soil/concrete conditions, or geophysical, geological, engineering, or land surveying information. Customer acknowledges it understands that we are merely reporting retrieved data and that we do NOT provide geophysical, geological, engineering, or land surveying services. Customer should contact a professional in those fields if such services are needed.
4. If for some reason the technician arrives on site and the work is cancelled there will be a charge of $500.00 per requested technician.

ACCEPTED AND AGREED:

Billing Company Name: _____

Billing Address: _____

Company Phone/Email: _____ PO#: _____ Job#: _____

Print Name: _____ Signature _____ Date: _____

BUDGET AMENDMENT

To: Finance Department **Fiscal Year:** 22/23

From: Water Resources (Department) **Date:** 10/5/22

Subject: Set aside funding for Miramar Transmission Line leak detection project

Please process this request and distribute the budget amendment as follows:

Expenditure Amendment

Ref No.	Line Item Description	Account Number	FY Budget ($)			Reserve Funds ($)		
			Existing	Change (+/-)	Revised	Existing	Change (+/-)	Balance
1	Miramar Trans Line Leak Detection Proj		0	190,000	190,000			0
2	Opportunity Reserves				0	2,350,000	(190,000)	2,160,000
3					0			0
4					0			0
5					0			0
6					0			0
7					0			0
8					0			0
9					0			0
10					0			0
	NET CHANGE:			$190,000			($190,000)	

Attach staff report, motion, committee and/or board minutes associated with this budget amendment

	YES	NO	
Committee Review:	☐	☐	Date:
Board Approval:	☐	☐	Date:

Chief Finance Officer Signature — Date:

General Manager Signature — Date:

Amendment Procedure

1. If required by District policy, General Manager requests Board approval of budget amendment. Request to amend budget must be included in the staff report.
2. Upon Board approval, the Finance Department secures all necessary signatures to complete the Budget Amendment form. The staff report and board minutes, if any, should be attached to the form.
3. Finance Department maintains all appropriate documentation and processes the budget entry.
4. A fiscal year file will also be kept to hold all budget amendment forms for auditor review.

Finance Dept Use Only

Date Received	
Board Report Date	
Motion #	
Date Posted	
Posted By	