PALMDALE WATER DISTRICT

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September 12, 2013

Agenda for a Meeting
of the Facilities Committee of the Palmdale Water District
Committee Members: Robert Alvarado-Chair, Gordon Dexter
to be held at the District's office at 2029 East Avenue Q, Palmdale

Monday, September 16, 2013

5:15 p.m.

NOTE: To comply with the Americans with Disabilities Act, to participate in any Board meeting please contact Dawn Deans at 661-947-4111 x1003 at least 48 hours prior to a Board meeting to inform us of your needs and to determine if accommodation is feasible.

Agenda item materials, as well as materials related to agenda items submitted after distribution of the agenda packets, are available for public review at the District's office located at 2029 East Avenue Q, Palmdale. Please call Dawn Deans at 661-947-4111 x1003 for public review of materials.

PUBLIC COMMENT GUIDELINES: The prescribed time limit per speaker is three-minutes. Please refrain from public displays or outbursts such as unsolicited applause, comments, or cheering. Any disruptive activities that substantially interfere with the ability of the District to carry out its meeting will not be permitted and offenders will be requested to leave the meeting.

Each item on the agenda shall be deemed to include any appropriate motion, resolution, or ordinance to take action on any item.

1) Roll Call.

2) Adoption of Agenda.

3) Public Comments.

4) Action Items: (The public shall have an opportunity to comment on any action item as each item is considered by the Committee prior to action being taken.)

4.1) Consideration and possible action on approval of minutes of regular meeting held August 19, 2013.

4.2) Consideration and possible action on District participation in the Municipal Water Quality Investigations Technical Advisory Committee. ($23,250.00 – Budgeted – Operations Manager Thompson II)

4.3) Discussion and review of deferred maintenance. (Facilities Manager Moore)

5) Information Items.

5.1) Update on Facilities Committee goals and District projects. (Chair Alvarado)

5.2) Update on pending water quality regulations. (Operations Manager Thompson II)

5.3) Update on security improvements to facilities located at 20th Street East and Avenue Q. (Information Technology Manager Stanton/Facilities Manager Moore)

5.4) Other.

6) Board members' requests for future agenda items.

7) Adjournment.

DENNIS D. LaMOREAUX,
General Manager

DDL/dd

PALMDALE WATER DISTRICT

BOARD MEMORANDUM

DATE:	September 12, 2013	**September 16, 2013**
TO:	FACILITIES COMMITTEE	**Committee Meeting**
FROM:	Mr. Peter Thompson II, Operations Manager	
VIA:	Mr. Dennis D. LaMoreaux, General Manager	
RE:	***AGENDA ITEM NO. 4.2 – CONSIDERATION AND POSSIBLE ACTION ON DISTRICT PARTICIPATION IN THE MUNICIPAL WATER QUALITY INVESTIGATIONS TECHNICAL ADVISORY COMMITTEE.***	

Recommendation:

Staff recommends the Committee approve continued District participation on the Municipal Water Quality Investigations Technical Advisory Committee (MWQI TAC).

Alternative Options:

The alternative is to not participate on the MWQI TAC.

Impact of Taking No Action:

The District would not be a participant on the MWQI TAC.

Background:

Participation on the MWQI TAC provides the following benefits and will allow District staff to take advantage of the opportunity to drive water quality investigations that impact our primary source of water supply:

1. It places the District and its staff at the front line for observing and reacting to adverse water quality changes.

2. It gives the District and its staff a voice in determining what, how, and where water quality investigations are performed on sources feeding the aqueduct that provides over 90% of the District's raw surface water.

3. It provides the District and its staff the opportunity to discuss and share strategies with other water purveyors about common water quality challenges and how best to address them at the source and in the treatment process.

Current staff has had minimal exposure to involvement in the MWQI TAC. If membership is approved, staff will endeavor to maximize the benefit of this membership and evaluate its value versus cost.

Strategic Plan Element:

This work is part of Strategic Element No. 1.0 Regulatory Compliance.

Budget:

This is under Budget Item No. 1-00-50-50-000.

It is my understanding that the District will be responsible to pay for a share of the project that is proportional to the District's Table A allotment, which is 0.75%. The max cost of this project annually is $3,100,000.00 making the maximum contribution for the District at $23,250.00.

Supporting Documents:

- State of California Natural Resources Agency Department of Water Resources Municipal Water Quality Investigations Agreement Between the State of California Department of Water Resources, State Water Project Contractors Authority and Participating State Water Project Contractors – SWPAO No. 13300

STATE OF CALIFORNIA
NATURAL RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
MUNICIPAL WATER QUALITY INVESTIGATIONS
AGREEMENT

BETWEEN THE STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES,
STATE WATER PROJECT CONTRACTORS AUTHORITY AND
PARTICIPATING STATE WATER PROJECT CONTRACTORS
SWPAO NO. 13300

THIS AGREEMENT is made this ___ day of _____, 2013, pursuant to the provisions of the California Water Resources Development Bond Act, the State Central Valley Project Act, and other applicable laws of the State of California, between the State of California, acting by and through the Department of Water Resources (DWR), the State Water Project Contractors Authority (Authority) and participating urban State Water Project (SWP) contractors located in the State of California (Urban SWP Contractors).

RECITALS

WHEREAS, DWR and the Urban SWP Contractors have entered into and subsequently amended long-term water supply contracts, herein referred to as the Water Supply Contracts, providing that DWR will supply certain quantities of water to the Urban SWP Contractors and providing that the Urban SWP Contractors shall make certain payments to DWR, and setting forth the terms and conditions of such supply and such payment;

WHEREAS, DWR conducts various studies and activities to protect and improve the quality of SWP drinking water supplies;

WHEREAS, DWR's Municipal Water Quality Investigations (MWQI) Program endeavors to evaluate, report and forecast water quality conditions and identify and evaluate the sources of contaminants that affect the municipal drinking water supplies of the Urban SWP Contractors;

WHEREAS, DWR must have a source of funding to repay the costs of the MWQI Program;

WHEREAS, the Urban SWP Contractors believe the MWQI Program is necessary to provide this important water quality information in a timely way to insure the best available source water is conveyed by the SWP, to efficiently operate their drinking water treatment facilities and to plan for and design cost effective drinking water treatment facilities to meet future drinking water quality standards;

WHEREAS, the Urban SWP Contractors desire an expansion of water quality monitoring in and upstream of the SWP System in the interest of establishing a comprehensive drinking water quality monitoring and forecasting program;

WHEREAS, DWR and the Urban SWP Contractors are endeavoring to increase the value that DWR provides to the contractors;

WHEREAS, the Authority, a public entity, is a Joint Powers Authority created in 2003 to assist DWR with improving SWP efficiency and reliability and is a signatory to this Agreement;

WHEREAS, this Agreement will allow the Authority to provide supplemental water-quality related services to the MWQI Program;

WHEREAS, the Authority has formed an MWQI Specific Project Committee (SPC) made up of many Authority members that are Urban SWP Contractors and are participants in the MWQI Program;

WHEREAS, the MWQI SPC will perform supplemental water quality-related services to the MWQI Program with the intent to offer sufficient flexibility to complete required activities;

WHEREAS, Urban SWP Contractors are willing to enter into this Agreement to pay their share of the MWQI Program costs and accordingly the Urban SWP Contractors will be included in decisions related to the budget, scope, schedule, and activities of the MWQI Program;

AGREEMENT

NOW THEREFORE, it is mutually agreed that the following terms, conditions, and procedures hereby apply to the implementation and funding of the MWQI Program:

1. **Definitions**. When used in this Agreement, the following definitions shall apply:

   (a) **"Bond Act"** means the California Water Resources Development Bond Act, comprising Chapter 8, commencing at Section 12930, of Part 6 of Division 6 of the Water Code, as enacted in Chapter 1762 of the Statutes of 1959.

   (b) **"Municipal Water Quality Investigations Program"** or **"MWQI Program"** means a program to determine and evaluate the sources of contaminants in the SWP system and evaluate their impacts on municipal drinking water supplies to Urban SWP Contractors. The Program will entail all work done by or under the direction of DWR and work done under the direction of the Authority's MWQI SPC.

   (c) **"MWQI SPC Charge"** means the charge to be collected by the Authority each fiscal year through invoices from the Authority to those Participating Contractors that have agreed in their MWQI Specific Project Agreement to pay a portion of the total MWQI Program costs into the MWQI Account for MWQI Program work that is performed by the MWQI SPC during the Program Year.

   (d) **"MWQI Specific Project Agreement"** An agreement entered into by Urban SWP Contractors to permit the MWQI SPC to perform supplemental water quality related services as identified in Appendix 1 of the MWQI Work Plan in addition to the work performed by DWR.

   (e) **"MWQI Specific Project Committee (SPC)"** consists of members of the Authority that have signed the MWQI Specific Project Agreement.

   (f) **"MWQI Statements of Charges (SOC) Charge"** means the charge, based on projected costs, to be collected each calendar year by DWR through the Statements of Charges for MWQI Program work that is performed by DWR during the Program Year.

   (g) **"MWQI Work Plan"** means a plan for work to be performed by DWR and the MWQI SPC during a given Program Year.

(h) **"Participating Contractor"** means an Urban SWP Contractor that has executed this Agreement.

(i) **"Program Year"** means the period July 1 through June 30 of the following year.

(j) **"Project Management Plans"** means using the DWR accepted Project Management Body of Knowledge, or PMBOK standard for managing individual projects. This standard offers a general guide of using the basic processes of initiating, planning, executing, monitoring and controlling, and closing a project to better manage most special projects most of the time.

(k) **"Statements of Charges (SOC)"** means the annual charges distributed to each Water Supply Contractor on July 1 of each year as defined in Article 29 of the Water Supply Contract.

(l) "**SWP**" means the State Water Project.

(m) **"SWP Project Interest Rate"** means the weighted average of the interest rates paid by the State on bonds issued under the Bond Act without regard to any premiums received on the sale thereof. Until bonds are issued and sold under the Bond Act, the project interest rate shall be four percent (4%) per annum, and after said bonds have been issued said rate shall be computed as a decimal fraction to five places.

(n) "**Water Supply Contract**" means a long-term contract between the State of California and each Urban SWP Contractor for a water supply from the SWP of the type contained in DWR's Bulletin 141 dated November 1965.

(o) **"Water Supply Contractor"** means a public agency that has a current Water Supply Contract.

2. **MWQI Technical Advisory Committee (TAC).** The MWQI Technical Advisory Committee (TAC) shall be convened by DWR and shall consist of representatives from the Participating Contractors, DWR staff, and invited guests. The MWQI TAC will meet as needed to review, refine, and recommend changes to the Work Plan to DWR.

3. **Work Plan Development.**

(a) DWR shall develop a proposed MWQI Work Plan and budget by March 30 of each year for the upcoming Program Year for presentation to, and to receive recommendations from, the MWQI TAC and for the concurrence of the MWQI SPC for work performed under the MWQI SPC Account.

DWR will hold monthly meetings/conference calls with the MWQI TAC and provide a report on the status and progress of the Work Plan with quarterly updates on expenditures. The final Work Plan shall be developed by June 15.

(b) In developing the Work Plan each year, all comments and suggestions from the Participating Contractors will be processed through the MWQI SPC. The MWQI SPC will submit a unified set of comments to DWR.

(c) The MWQI Work Plan shall, at a minimum, include:

(1) A description of the work to be accomplished, with projects broken down into individual program components as detailed in the project management plans;

(2) Descriptions of planned field and laboratory work;

(3) Specifications for deliverables related to individual program components; and

(4) Budget for each program component, along with a total budget.

4. **MWQI Work Plan Implementation.**

(a) The Program shall be conducted in accordance with the Work Plan.

(b) Adjustments to the MWQI Program may be made at any time in a Program Year through a decision of DWR with the concurrence of the MWQI TAC, and with the concurrence of the MWQI SPC for work performed under the MWQI SPC Account.

(c) Reasonable program changes may be made as needed by DWR in response to conditions or opportunities that may arise. These changes will be submitted to the MWQI TAC and MWQI SPC at their next scheduled meeting.

5. **Program Deliverables.** At a minimum, DWR will provide the MWQI TAC the Program Deliverables listed below, subject to modification by decision of DWR, and with the concurrence of the MWQI TAC:

(a) Monthly status reports the last week of the month or at the next scheduled MWQI TAC meeting. Quarterly, the status reports will include an assessment of recent MWQI Program expenditures in relation to the program budget.

(b) All MWQI data collected will be made available through the Water Data Library or the California Data Exchange Center. All MWQI final reports will be posted on the MWQI website. DWR will analyze, or contract with a consultant to analyze, water quality data every five years as part of the submittal of the State Water Project Watershed Sanitary Survey.

(c) Special study reports shall be completed in a timely manner given staffing and financial constraints.

6. **MWQI SOC Charge.**

(a) DWR shall recover its costs for the MWQI Program through the MWQI SOC Charge. The MWQI SOC Charge shall recover costs incurred by DWR for the MWQI Program consistent with the annual MWQI Work Plan during the term of this Agreement. Each Participating Contractor's share of the annual MWQI SOC Charge for the term of the Agreement will be calculated each year based upon the annual MWQI SOC Charge multiplied by their proportionate share of the M&I Table A amount, as shown in Table 1.

(b) To facilitate billing on a calendar year basis, each Participating Contractor's share of the MWQI SOC Charge will be computed and included in the Participating Contractor's annual SOC under the Transportation Minimum OMP&R component, and, except as otherwise expressly provided in this Agreement, shall be collected under the same terms and conditions as charges are collected under that Water Supply Contract. The MWQI SOC Charge shall initially be based on projections of costs determined pursuant to development of the annual MWQI Work Plan. The MWQI SOC Charge shall then be subject to re-determination each year by DWR so that the charges may accurately reflect the increases or decreases in costs as compared to the projections of costs and all other factors that are determinative of such charges. Adjustments to the annual charges resulting from a re-determination shall be reflected in each Participating Contractor's share of the MWQI SOC Charge in the following calendar year with interest at the current SWP Project Interest Rate.

(c) The MWQI SOC Charge plus the MWQI SPC Charge will not exceed $3,100,000 for any Program Year.

7. **Performance.** Implementation of the MWQI Program will require staff involvement of various organizational units within DWR. DWR will take steps to ensure sufficient staffing and coordination occurs consistent with the adopted MWQI Work Plan. From time to time due to other assigned duties, individual

staff assigned to the MWQI Program may devote less than 100 percent of their effort to identified tasks in the MWQI Work Plan. DWR will not bill Participating Contractors for staff efforts not included in the MWQI Work Plan.

8. **MWQI SPC Account.** Work to be completed by the MWQI SPC is identified in Appendix 1 of the MWQI Work Plan. Appendix 1 is developed by DWR and the MWQI TAC and submitted to the MWQI SPC for approval prior to any work being performed. Appendix 1 shall, at a minimum, include: a description of all professional services to be rendered; all equipment, supplies or services to be purchased; a description of the work to be accomplished, broken down into individual Work Plan components; descriptions of planned field and laboratory work; specifications for deliverables related to individual work elements; and, budgets for each work element, along with a total budget. The MWQI SPC Account costs for supplemental water quality related services will be collected through the MWQI SPC Charge. Payments from Contra Costa Water District (CCWD) for its participation in the MWQI Program activities may be used to offset the MWQI SPC Charge as necessary. The MWQI SPC Charge shall not exceed $400,000 annually. The MWQI SPC will obtain the necessary goods and services using funds from the MWQI SPC Account to accomplish its share of the MWQI Work Plan.

9. **MWQI SPC Charge.** Each year as necessary, the Authority shall invoice Participating Contractors to collect funds for the MWQI Account. Each Participating Contractor's share of the annual MWQI SPC Charge for the term of the Agreement will be calculated each year based on the annual MWQI SPC Charge multiplied by their proportionate share of the M&I Table A amount as shown in Table 2. The MWQI Account shall be used to implement the MWQI SPC activities identified in the annual MWQI Work Plan. The MWQI SPC Charge shall initially be based on projections of costs determined pursuant to development of the MWQI Work Plan. The MWQI SPC Charge shall then be subject to re-determination each year by the MWQI SPC so that the charges may accurately reflect the increases or decreases in costs as compared to the projections of costs and all other factors that are determinative of such charges. Adjustments to the annual charges resulting from a re-determination shall be reflected in each Participating Contractor's share of the MWQI SPC Charge in the following calendar year with interest at the current SWP Project Interest Rate.

10. **Disposition of Property and Equipment.** Any property or equipment obtained by the Authority through the MWQI Account may, at the discretion of the MWQI SPC, be given to DWR "as is." DWR, at its sole discretion, may choose to accept such property or equipment. Upon acceptance, such property or equipment shall become the property of the State of California, and neither the Authority nor any Water Supply Contractor shall have any further responsibility or liability for such property or equipment. The Authority does not and shall not provide any express or implied warranties for any property or equipment given to

and accepted by DWR. However, to the extent permitted, the Authority will transfer to DWR any warranties provided by the manufacturer or other third parties for such property or equipment.

11. **Services Provided by the MWQI SPC on State Property.** With the approval of DWR for specific activities, the Authority on the recommendation or approval of the MWQI SPC may provide for services to be completed on State property as part of the Work Plan in Appendix 1. The Authority shall hold the State harmless for any litigation resulting from any claims that may arise from the participating vendor, contracted by the Authority, providing the services.

12. **Water Supply Contract.** Except as specified in this Agreement, the provisions of the Participating Contractor's Water Supply Contract shall be applicable to this Agreement.

13. **State Law.** This Agreement is made under and shall be construed in accordance with the laws of the State of California.

14. **MWQI Staff Out-of-State Travel.** If requested by the MWQI SPC, MWQI staff may be required to attend out of state scientific conferences to ensure that the MWQI Program provides the best available water quality information to the MWQI SPC and ensures that scientific studies are designed in the most innovative, cost-effective manner possible to meet future drinking water quality standards. Travel expenses will come out of DWR's MWQI Program Budget.

15. **Adjustment of Table 2 Proportionate Factors.** Table 2 Proportionate Use Factors are based upon the best information available of Participating Contractors that will be paying into the MWQI SPC Charge at the time this Agreement is executed. These Proportionate Use Factors may be adjusted if a Participating Contractor requests not to pay into the MWQI Account and the request is approved by the MWQI SPC. The total of the Participating Contractors Table A Amount in Table 2 shall not be less than 2,500,000 acre-feet. Any Participating Contractor not paying into the MWQI SPC Account through the MWQI SPC Charge will still be subject to Paragraph 16, the Final Program Accounting.

16. **Final Program Accounting.**

    (a) At the end of the Agreement, DWR and the Authority will work together to summarize all Participating Contractor's MWQI SOC Charges, MWQI SPC Charges and those MWQI Account costs paid for by the payments from CCWD and all actual MWQI Program costs incurred during the term of this Agreement. This Final Program Accounting will determine if each Participating Contractor has paid its proportionate share of the total actual MWQI Program costs through its payments to both the MWQI SOC Charge and the MWQI SPC Charge during the term of the Agreement. Each Participating Contractor's proportionate share of the total MWQI

Program costs will be in the same proportion as its M&I Table A Amount shown in Table 1 bears to the total of all Participating Contractor's M&I Table A Amounts shown in Table 1.

(b) If a new MWQI Agreement, similar to this MWQI Agreement, is implemented effective January 1, 2017, DWR will account for each Participating Contractor's Final Program Accounting over and under payment to the MWQI SOC Charge in the 2018 MWQI SOC Charge. If a new MWQI Agreement, similar to this MWQI Agreement is not implemented, DWR will invoice each Participating Contractor for its Final Program Accounting over or under payment in the 2018 SOC.

(c) If a new MWQI Agreement, similar to this MWQI Agreement is implemented effective January 1, 2017, the Authority will provide for each Participating Contractor's Final Program Accounting over and under payment to the MWQI SPC Charges for the Program Year 2017 - 2018 MWQI SPC Charge. If a new MWQI Agreement, similar to this MWQI Agreement is not implemented, the Authority will issue either a check or invoice to each Participating Contractor for its Final Program Accounting over or under payment by July 1, 2017. Payments for the second half of Program Year 2016 - 2017 will also be refunded July 1, 2017.

17. **Term of Agreement**. This Agreement shall take effect on January 1, 2014, only if this MWQI Agreement is executed by the Participating Contractors that together have M&I Table A Amounts totaling at least 2,300,000 acre-feet. This Agreement shall terminate on December 31, 2016, except for payments or credits found through re-determination pursuant to Paragraph 16 of this Agreement. This Agreement may be terminated by any party with a twelve months written notice. Written notice of termination shall be delivered by certified mail with receipt for delivery returned to the sender. If any party provides notice of termination, the Authority and DWR will renegotiate the budget for the time remaining in the twelve month period. DWR shall perform such work as is necessary for the orderly completion of work scheduled for the twelve month period. The cost of such work shall not exceed the budget for that twelve month period. If the Participating Contractors decide to continue to fund the MWQI Program starting January 1, 2017, the MWQI SPC will provide DWR with a Letter of Intent no later than April 1, 2016, of that intent. This will allow DWR time to prepare the preliminary estimates for the 2017 SOC.

18. **Agreement Execution**. This Agreement may be executed in counterpart, each will be deemed to be an original and all of which together will be deemed to be the same document. Each entity certifies that the person signing below on the respective entity's behalf has the authority to bind that entity to the covenants made in this Agreement.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date first above written.

APPROVED AS TO LEGAL FORM
AND SUFFICIENCY

Cathy Crothers
Chief Counsel

Date _____

STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

Dean F. Messer, Chief
Division of Environmental Services

Date _____

ALAMEDA COUNTY FLOOD CONTROL AND
WATER CONSERVATION DISTRICT, ZONE 7

G.F. Duerig
General Manager

Date _____

ALAMEDA COUNTY WATER DISTRICT

Walt Wadlow
General Manager

Date _____

ANTELOPE VALLEY-EAST KERN
WATER AGENCY

Dan Flory
General Manager

Date _____

CASTAIC LAKE WATER AGENCY

Dan Masnada
General Manager

Date _____

CENTRAL COAST WATER AUTHORITY

William Brennan
Executive Director

Date _____

CRESTLINE-LAKE ARROWHEAD
WATER AGENCY

Roxanne Holmes
General Manager

Date _____

KERN COUNTY WATER AGENCY

James Beck
General Manager

Date _____

THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Devendra Upadhyay, Group Manager
Water Resource Management

Date _____

MOJAVE WATER AGENCY

Kirby Brill
General Manager

Date _____

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Phillip Miller
Deputy Director of Public Works

Date _____

PALMDALE WATER DISTRICT

Dennis LaMoreaux
General Manager

Date _____

SAN BERNARDINO VALLEY MUNICIPAL WATER DISTRICT

Douglas Headrick
General Manager

Date _____

SAN GORGONIO PASS WATER AGENCY

Jeff Davis, P.E.
General Manager and Chief Engineer

Date _____

SAN LUIS OBISPO COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

Paavo Ogren
Public Works Director

Date _____

SANTA CLARA VALLEY WATER DISTRICT

Beau Goldie
Chief Executive Officer

Date _____

SOLANO COUNTY WATER AGENCY

David Okita
General Manager

Date: _____

STATE WATER PROJECT CONTRACTORS AUTHORITY

Mary Lou Cotton
General Manager
Date

_____

STATEMENT OF CHARGES ALLOCATION FACTORS
TABLE 1

	M&I Table A	Proportionate Share
ALAMEDA CO FC&WCD - ZONE 7	80,619	0.02801382
ALAMEDA COUNTY WD	42,000	0.01459433
ANTELOPE VALLEY-EAST KERN WA	144,844	0.05033098
CASTAIC LAKE WA	95,200	0.03308048
CENTRAL COAST WATER AUTH.	45,486	0.01580566
CRESTLINE-LAKE ARROWHEAD WA	5,800	0.00201541
KERN COUNTY WATER AGENCY	119,600	0.04155909
METROPOLITAN WD OF SC	1,911,500	0.66421575
MOJAVE WATER AGENCY	89,800	0.03120407
NAPA COUNTY FC&WCD	29,025	0.01008572
PALMDALE WD	21,300	0.00740141
SAN BERNARDINO VALLEY MWD	102,600	0.03565186
SAN GORGONIO PASS WA	17,300	0.00601147
SAN LUIS OBISPO CO. FC&WCD	25,000	0.00868710
SANTA CLARA VALLEY WD	100,000	0.03474840
SOLANO COUNTY WA	47,756	0.01659445
TOTAL	2,877,830	1.00

MWQI SPECIFIC PROJECT COMMITTEE CHARGE FACTORS
TABLE 2

	M&I Table A	Proportionate Share
ALAMEDA CO FC&WCD - ZONE 7	80,619	0.02825931
ALAMEDA COUNTY WD	42,000	0.01472222
ANTELOPE VALLEY-EAST KERN WA	144,844	0.05077204
CASTAIC LAKE WA	95,200	0.03337037
CENTRAL COAST WATER AUTH.	45,486	0.01594417
CRESTLINE-LAKE ARROWHEAD WA	5,800	0.00203307
KERN COUNTY WATER AGENCY	119,600	0.04192328
METROPOLITAN WD OF SC	1,911,500	0.67003642
MOJAVE WATER AGENCY	89,800	0.03147752
NAPA COUNTY FC&WCD	29,025	0.01017411
PALMDALE WD	21,300	0.00746627
SAN BERNARDINO VALLEY MWD	102,600	0.03596429
SAN GORGONIO PASS WA	17,300	0.00606415
SANTA CLARA VALLEY WD	100,000	0.03505291
SOLANO COUNTY WA	47,756	0.01673987
TOTAL	2,852,830	1.00

AGENDA ITEM NO. 4.3

PALMDALE WATER DISTRICT
BOARD MEMORANDUM

DATE:	September 12, 2013	**September 16, 2013**
TO:	FACILITIES COMMITTEE	**Committee Meeting**
FROM:	Mr. Tim Moore, Facilities Manager	
VIA:	Mr. Dennis D. LaMoreaux, General Manager	
RE:	*AGENDA ITEM NO. 4.3– DISCUSSION AND REVIEW OF DEFERRED MAINTENANCE*	

Attached is a report on deferred maintenance. The report will be reviewed in detail at the meeting.

Supporting Documents:

- Deferred Maintenance Report

Cost Associated With Deferred Maintenance

What is deferred maintenance?

To understand deferred maintenance, we need to define maintenance. Maintenance is the act of keeping an asset in acceptable, useful condition and includes preventive, predictive and reactive maintenance.

Deferred maintenance can best be described as maintenance that has not been performed when it should have been or was scheduled to be and has been postponed to a future time.

Deferred maintenance is usually the result of lack of funding although the lack of manpower, parts availability, planned upgrades or renovation and production requirements can also necessitate deferral.

What have we been deferring at PWD?

1. Building Maintenance:
    a. Buildings currently do not have a replacement schedule and remain in service until obsolete or no longer useable.
    b. Buildings currently do not have regular maintenance schedules for such things as painting, fire door inspections, roofs, floor coverings, etc.
    c. Repair activities are limited to repairs necessary to prevent major damage or significant security or safety risk exposure.
2. Machinery (Pumps & Motors) & Wells:
    a. Pumps, motors and wells currently do not have a replacement schedule.
    b. Pumps, motors and wells have limited maintenance schedules but only the minimum preventive maintenance items such as lubrication are being performed at this time.
    c. Well rehabilitation schedules have been delayed due to budget constraints.
    d. Other repair activities are typically in response to pending or actual failures such as motor bearing failure, excessive noise, pump failure or significant loss of production.
3. Vehicles, Heavy Equipment and Portable Equipment:
    a. Vehicle and equipment have replacement schedules but replacements have been postponed due to budget restrictions.
    b. Most vehicle and equipment preventive maintenance schedules are being met.

c. Other repair activities are performed in response to failures preventing the safe use of the asset.

4. Distribution System:
    a. Mainline replacements have been deferred due to budget restrictions.
    b. Valve exercising program is in jeopardy due to lack of staffing and is a regulatory requirement.
    c. Mainline flushing to maintain water quality is also in jeopardy due to lack of staffing and is also a regulatory requirement.
    d. Air-vac rebuilding program is falling behind schedule, again due to lack of staffing and is a proven program that reduces leaks caused by pressure fluctuations in our distribution system. Fluctuations of as little as 4 PSI have in the past caused a dramatic increase in leaks. Since implementing this program we have seen fluctuations of 17 PSI with no noticeable increase in leaks!

At what cost?

When we defer maintenance activities we save time and money today but what will it cost us tomorrow? From our personal experiences we know that if we don't replace the brakes on our car when due we will end up with a much larger bill for replacing the rotors that were damaged. If we continue to ignore the loud grinding noise and keep driving the car until the brakes fail and we hit another vehicle, our minor repair has now increased in cost exponentially into a major liability!

This exponential increase is demonstrated by the "Inverse-Square Rule for Deferred Maintenance" by David Todd Gleason. His research indicates that the penalty for deferred maintenance that results in a breakdown is a minimum of 15:1 and often exceeds 40:1! In his experience, the breakdown cost can be estimated as the square of the part cost or 15 times the total original repair cost.

We can use our above example to prove this rule. A $65.00 set of brake pads would have prevented the brake system failure and resulting accident. If we square $65.00 we get $4225.00 as the cost to repair the brake system and the resulting accident damage. Anyone who has had to repair a vehicle after an accident will realize that this is a minimum cost! If we take the $65.00 dollar brake pads and 2-1/2 hours of labor for the installation at $95.00 per hour, we have a repair cost of $302.50. Multiply $302.50 by 15 and we get a minimum breakdown cost of $4537.50. If we multiply by 40 we get an even more realistic potential cost of $12,100.00!

As our example and the "Inverse-Square Rule for Deferred Maintenance" demonstrate, the cost of deferring maintenance can be quite significant!

Case Studies:

1. Palmdale Water District Truck 26: Truck 26 is a 2001 Ford F150 that was scheduled for replacement in 2011 at which time it had 151,293 miles on the odometer. Replacement was postponed due to budget constraints and the truck was moved to another user where it would see less annual miles.
   From September of 2011 to current, truck 26 has been driven 2,052 miles and been in for repairs 5 times for various repairs including Supplemental Restraint System (air bag system) failure, upholstery and transmission failure. The cost for these repairs (parts and labor) in 1 year total $14,957.51! Amazingly, this figure is equal to the current replacement cost for this truck! In other words, we have spent enough in repairs since replacement was deferred to purchase a new truck and we still have a truck that needs to be replaced!
   In the year since this report was originally compiled, truck 26 has been driven 1465 miles and has been in the Shop 3 times with repairs totaling $3,323.00. Truck 26 currently has a check engine lamp illuminated and we are scheduling it for repairs.
   Shop staff completed a major refit of dump truck 4 in early 2013 in response to continued breakdowns. In 2012 this truck was in the Shop 19 times for repairs and maintenance at a cost of $11,823.12. In 2013 the required maintenance and repairs have dropped dramatically. In the past 8 months the truck has been in the Shop 5 times at a cost of $1,591.22. While this refit cost totaled almost $43,000.00, if we amortize the cost over 10 years and estimate continued repair and maintenance costs at an average of $4,000.00 per year for a total of $8,300.00 per year, we are still anticipating a yearly savings in maintenance and repairs of $3,700.00, further demonstrating the value of proactive maintenance activities.
   Due to increased maintenance and repairs to all vehicles and heavy equipment we then need to rely on leasing equipment to continue our maintenance in the field. The average cost for leasing heavy equipment on a monthly basis is about $3500.00.
2. District Office HVAC Unit 8: In May of 2010 this HVAC unit experienced a failure of the compressor unit which was traced to a faulty contactor unit, about a $20.00 part. In investigating the failure it was discovered that industry recommendations are to replace contactors during annual service to the HVAC units. We could not identify when the last time the contactor had been replaced but all indications were that it had not been in recent history.
   The compressor was replaced along with the contactor and the contaminated refrigerant and oil were removed from the unit and replaced with new. This unit remained in service until August of this year when the compressor again failed. This time, the failure was traced to a loss of refrigerant oil caused by a leak in the condenser unit. The suspected cause of the leak is a small amount of residual oil

from the original failure which had formed acids from the electrical arcing that had occurred inside the compressor and the acid corroded the condenser allowing oil and refrigerant to escape.
The cost to repair this unit was approaching the cost for a new unit and the time involved in repairs would have been several weeks so being August in Palmdale, a new unit was procured and installed at a cost of $8347.90.
The failure to replace a $20.00 contactor resulted in repairs totaling $10,072.90!
Shop staff has increased the service frequencies for all District HVAC units. We have had several issues with inadequate cooling at the Water Treatment Plant that were determined to be related to changes in building occupancy and resulting heat loading exceeding original HVAC design rather than maintenance issues. We also experienced a failure of the HVAC system in the construction office requiring replacement of the compressor/condenser unit at a cost of $4873.20.

3. Sumac Avenue Mainline: The mainline on Sumac from Q-3 to Q-7, a distance of 1120 feet, was installed in 1957 with an expected life of 50 years and should have been scheduled for replacement in 2007. From 2008 to present this section has experienced a total of 159 leaks requiring emergency repair. Prior to 2008 the number of leaks ranged from approximately 2-6 per year!
   The cost to repair 159 leaks including clamps, labor and paving is approximately $200,185.00 which does not include all of the incidentals such as A-base and temporary blacktop or disposal of removed water saturated material. This equates to a cost of $178.74 per foot to maintain this line versus an approximate cost of $106.00 per foot for replacement. The upside is that after all of these repair costs we still have a mainline that we can continue to repair instead of a new line that will require minimal maintenance for the next 50 years! In addition we get to field complaints from our ratepayers about the condition of the road from all of the patches and the constant mess from water and mud from the leaks and repairs and the appearance of a contradiction between our stance on conservation and the wasted water from the leaks!
   The consequence of deferring pipeline replacement results in increased overtime, property and injury liabilities, along with water loss and maintenance issues that affect every department.
4. 30th Street East from Palmdale Boulevard to McAdam Park: Due to the deferral of this project an additional expense of $27,816.00 was necessary for paving 3 feet on either side of the trench line to repair damage to the original surface caused by the ground saturation and lack of compaction causing the roadbed to breakdown.
5. Avenue Q from 10th Street East to 15th Street East: Due to the deferral of this project an additional expense of $54,720.00 was necessary for paving 3 feet on

either side of the trench line to repair damage to the original surface caused by the ground saturation and lack of compaction causing the roadbed to breakdown.

While these examples may be extraordinary, they are very indicative of the exponential nature of the cost and risk involved in deferring maintenance.

What can be done?

While the easy answer is to increase the maintenance and replacement budgets, it is only part of the solution since it was only part of the original reason that maintenance was deferred. An adequate, trained and experienced workforce necessary to complete deferred projects along with continued maintenance work is vital to reduce costs and not defer additional projects. With the loss of experienced personnel due retirements and employees electing alternative opportunities, our remaining staff is struggling to keep up with demands which is detrimental to job satisfaction and we are likely to experience additional challenges in the near future.

We need to continue to prioritize our backlog of projects to identify currently critical and potentially critical needs. We then need to allocate adequate manpower and other resources to satisfy those critical needs as well as projects that if delayed will become critical in the next year in addition to satisfying our ongoing maintenance needs.

After these critical needs are satisfied, we will be able to begin working through the remaining backlog of maintenance that will likely lead to breakdowns or increased costs if further delayed as well as continue with our ongoing maintenance.

We also need to revisit those replacements that have been deferred and create replacement schedules and fund replacements for all critical assets. While these costs will be significant, as our examples show the actual and potential costs and risk of loss are much greater and should be offset through reduced future repair cost.