

**CALAVERAS COUNTY WATER DISTRICT  
ENGINEERING COMMITTEE**

**AGENDA**

Committee Meeting:  
Tuesday, February 14, 2017  
2:00 PM (Board Room)

Calaveras County Water District  
120 Toma Court / P.O. Box 846  
San Andreas, California 95249

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Administration Office at (209) 754-3028. Notification in advance of the meeting will enable CCWD to make reasonable arrangements to ensure accessibility for this meeting. Any documents that are made available to the Committee before or at the meeting, not privileged or otherwise protected from disclosure, and related to agenda items, will be made available at CCWD for public review.

**ORDER OF BUSINESS**

**CALL TO ORDER / PLEDGE OF ALLEGIANCE**

**1. PUBLIC COMMENT**

At this time, members of the public may address the Committee on any non-agendized items. The public is encouraged to work through staff to place items on the agenda for consideration by the Committee. Comments are limited to five (5) minutes per person.

**2.\* APPROVAL OF MINUTES**

- October 4, 2016 Minutes

**3.\* NEW BUSINESS**

3a. Presentation/Discussion FY2017/18 Calaveras County Water District (CCWD)  
Five (5) Year Capital Improvement Project (CIP) Program  
(Charles Palmer, District Engineer)

**4. OLD BUSINESS**

Nothing to report

**5. FUTURE AGENDA ITEMS**

**6. NEXT MEETING**

Date to be determined

**7. ADJOURNMENT**

*\*Paperwork included in package*



ENGINEERING COMMITTEE  
CALAVERAS COUNTY WATER DISTRICT  
October 4, 2016

The Engineering Committee of CALAVERAS COUNTY WATER DISTRICT met at the CCWD offices in San Andreas, California, at approximately 2:00 p.m.

The following Directors/Committee Members were present:

Jeff Davidson  
Terry Strange

Also present:

Dave Eggerton	General Manager
Teresa Tanaka	Director of Operations
Jeff Meyer	Director of Administrative Services
Joel Metzger	Customer Service Manager
Charles Palmer	District Engineer
Tami Bennett-Kirby	Senior Administrative Technician
John Gomes	Information Systems Administrator
Mike Bortolletto	Equarius
Michael Gordon	Equarius
Vicky Mills	Ratepayer

1. PUBLIC COMMENT: Vicky Mills expressed her thanks to the committee for the lack of dust coming off of Holiday Mine Road where the Douglas Flat WWTP is located, and commented on the roads in the Copperopolis area. The Poker Flat Homeowners Association would like to discuss the quality of the road patching that has been occurring in the area.

2. APPROVAL OF MINUTES:

The August 9, 2016 Minutes were approved as presented by a motion from Director Strange, seconded by Director Davidson.

3. NEW BUSINESS

3a. Review / Discussion of Proposed Automatic Meter Reading (AMR) and Automatic Meter Infrastructure (AMI) Program for the West Point Water System and the District's Other Water Service Areas.

Jeff Meyer discussed the option, available for several years and first brought before the Committee back in 2008-09, for the District to have automatic meter reading and whether it would be financially and technologically feasible for the District. There are a number of challenges, including cost, when looking at the District's different service areas.

- West Point/Wilseyville has approximately 576 customers spread out over different locations and topography. In West Point/Wilseyville the meter readers are beginning to experience residents not wanting them to come on the property.
- Ebbetts Pass area has pine trees, hills, etc. which makes it a little more difficult to do a 'fixed read'.
- Copperopolis and Jenny Lind service areas are great areas for 'fixed-network'. ('Fixed-network' means you're hooked in to the system and the meter information is automatically read back at the District office.)
- Safety concern with the meter readers physically being out in the field to collect readings. Most of the property they go to is not flat; sometimes they're climbing up hills or down hills to access the meters. The meters are not always right next to the road and easily accessible. Additionally, sometimes meters are in backyards to which the meter readers cannot gain access at all.
- Wear and tear on the District vehicles from all of the stop-and-starts traveling to each meter and the need for re-reads if the meter readings appear to be in error.

Technology has changed over the years and is much more reliable; there is now a better ability with better equipment to be able to work around some of the topographical challenges that the District faces. There are also potential permanent water conservation requirements ahead that some in the State Water Resource Control Board are pushing to be mandated. For the District this means it needs to have a better way of tracking both water consumption and water use. Currently the meter readers in the field have hand-held reads; they have to go to each location, lift up the lid and read the meter, all of which takes time. They do this for each meter every other month approximately 60 days apart, sometimes within a three-day window. The Utilities department tracks its water production on a daily basis and produces monthly production numbers. Our consumptive numbers are on a different timetable altogether; they are read on a two-month read that goes from mid-month to mid-month and there's really no way to 'synch up' our production numbers with our end-user (consumer) numbers. Presently meters are a way to track our usage of water but we can't compare that data with our production of water. If the District had a fixed-network/AMI system where it could get consistent daily information from the end-point, it could match that up with the production numbers. This would result in the ability to show how much water is produced and how much water is consumed. The difference would indicate part of the leak detection process to see if there are other, unaccounted for uses; as the District looks into the long-term it wants to be able to identify unaccounted for water and fix it. Several years ago the District did something similar in the West Point area with the Prop. 84 grant money from USDA and was able to reduce water production by 25% (pre-drought).

Jeff recommended now as an opportune time to consider upgrading to an automatic system. The existing hand-held meter readers have about 8 years of use and they need to be replaced; they are no longer supported and are beginning to cause problems for the District. Currently the meter readers in the field manually enter the meter readings and upload that information into the system and they are starting to experience some software issues with the uploading. In 2008-09 the cost was approximately \$2.5 million dollars for a District-wide system. While it appears from a fiscal perspective that

a District-wide fixed-network system, where the information comes directly into the District office, would be too expensive to contemplate, now could be a good time to look into a combination mobile-read / fixed-network with integration of our hand-helds. Hand-helds cost about \$10,000 apiece along with some potential software costs. The District would want to be able to integrate any meter reads with any hand-helds and software to what type of software it wants in the future.

There are times where the meter readers feel their personal safety may be at risk. If the District were to go with a mobile read network, all the employees would need to do is drive down the street and the meter reading system would kick in automatically and pick up meters within 1,000 feet. What used to take a day or so to cover 500 meters for a couple of employees could take less than one day for one person and provide more information from the meters than just that one end-point number. The meter readers would also then have the time to assist with meter change-outs and line breaks.

Jeff advised he plans to get a collaborative group together between IT, Utilities, Customer Service and Finance to start looking at the different options available to the District. Some of the existing meters are up to 40 years old and not conducive to modification to handle mobile-network or fixed-network reads so they'll need to be looked at to see if they require replacement; sometimes all that's necessary is just to replace the register. Approximately 10% of the District's meters have been installed within the past couple of years. Meters are often changed out if they cease to be able to be read or if the meter reader can no longer see through the meter's glass. Teresa Tanaka advised that normally a meter's life span is about 20 years after which time they should be changed out. High volume water use can also cause the meter to wear out more quickly.

Jeff also suggested completing a Propagation Study in which the group would give information to various meter companies and have them take a look at how our meters are set up in our different service areas and then advise what would be the best system for us and what equipment would be needed. Peter Martin, Water Resources Manager, has been researching grants for the District to be able to augment some of its R&R money for this type of project, which could be integrated into the 5-year CIP program. By looking at this option now, the group would have enough information to come back to the Board at the 5-year CIP update in February or March. A pilot program was suggested just in the West Point/Wilseyville area because of the relatively small number of meters involved, and additionally because it's the area in which the meter readers are most concerned about their own safety.

Teresa spoke briefly then introduced Mike Bortolletto, Solution Specialist and Michael Gordon, National Sales Manager with Equarius, the company from which the District purchases its meters, who gave a PowerPoint presentation on the benefits of an automatic meter reading system.

#### 4. OLD BUSINESS

None

5. STAFF COMMENTS:

None

6. DIRECTOR COMMENTS:

None

7. FUTURE AGENDA ITEMS:

None

8. SETTING OF NEXT MEETING

- November 1st, 2016 at 2:00 p.m.

9. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 3:00 p.m.

Respectfully submitted,

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Tami Bennett-Kirby  
Senior Administrative Technician



# Agenda Item

DATE: February 14, 2017

TO: Engineering Committee  
Dave Eggerton, General Manager

FROM: Charles Palmer, P.E., District Engineer

RE: Presentation / Discussion, FY17/18 Calaveras County Water District (CCWD), Five (5) Year Capital Improvement Project (CIP) Program

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## SUMMARY

A presentation will be made to the Committee for discussion of the 5-year CIP program, which is reviewed each fiscal year and currently in planning for FY17/18. At Committee level, it is an opportunity for review and confirmation of CIP program priorities, list of projects, estimated costs and proposed schedules. The CIP program includes both water and wastewater segments and addresses critical priorities such as follows:

### Common Water/Wastewater:

- Address Operational Issues/Assist Operational Staff
- Improving Worker Safety Conditions / OSHA Compliance
- Maintain Electrical, Standby Power, and SCADA Systems.
- Maintain Gravel / Paved Access Roads to CCWD Facilities
- Master Planning for Growth / Future Expansion Projects
- Pursue Grant Funding Consistent with District's Goals

### Water Facilities

- Address Water Resources Issues, Supply Shortfalls and Conservation Goals
- Provide Reliability and Redundancy
- Implement Hazard Mitigation Projects (Drought, Fire, Flood, etc.)
- Renovate / Replace Pipelines, Pumps, PRV's and Other Aging / Failing Facilities
- Paint & Repair Steel Water Storage Tanks and Other Corrosion

### Wastewater Facilities:

- Maintain Treatment, Storage and Disposal Facilities / Correct Deficiencies
- Regulatory Compliance / Permit Updates
- Prevent Sewer Spills and Overflows
- Reduce Infiltration and Inflow of Storm and Ground Water into Collection System
- Renovate / Replace Sewer Collection System, Force Mains, Lift Stations/Pumps, and Other Aging / Failing Facilities

A list of water and wastewater projects and implementation schedules for the proposed 5-year CIP program are shown in attached Figures 1 and 2, respectively.

The projects included in the 5-year CIP program represent the highest priority capital projects based on the professional analysis and expert opinion of the District's engineering and operations staff, considering such factors as public health and safety, state and federal regulatory requirements, age and condition of existing infrastructure, and access to grant funds. The CIP program is funded by renovation and replacement (R&R) funds, expansion/capacity fees, grants and other funding sources. The R&R program is the largest component of the CIP program. Through the R&R program, CCWD is making a systematic reinvestment in pipes, pumps and other water and wastewater facilities to maintain service reliability and otherwise preserve the functionality of the District's infrastructure.

The 5-year CIP program may be amended during planning each fiscal year to update the list of projects, revise costs, confirm funding sources, and adjust schedules. As experienced in recent years with the effects of drought, wildfires, and winter storms, the list of projects may be amended by the Board over the course of the year as necessary to address emergencies as they arise. Also, CCWD staff will continue to make efforts to obtain State and Federal grants, which are vital in moving projects forward that may be constrained by financial resources and otherwise limit the number and scale of projects in the CIP program.

## **FINANCIAL CONSIDERATIONS**

None at this time. The estimated costs of the proposed 5-year CIP program for both water and wastewater segments will be presented at the Committee meeting. A proposed 5-year CIP program will be presented to the Board for discussion in March prior to adopting a final program for the next fiscal year FY17/18.

### Attachments:

Figure 1. – Water Projects / Proposed 5-Year CIP Program

Figure 2. – Wastewater Projects / Proposed 5-Year CIP Program

PROJECT PHASES		YEAR																							
		FY 17-18				FY 18-19				FY 19-20				FY 20-21				FY 21-22							
		2017				2018				2019				2020				2021				2022			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																
<b>WATER PROJECTS LIST</b>																									
Big Trees	Redwood Tanks (Cal-OES/FEMA)																								
Ebbetts Pass	Reach 3A Pipeline (USDA)																								
Jenny Lind	Master Plan																								
Copper Cove	Master Plan																								
West Point	Master Plan																								
Forest Meadows	Larkspur Tank / Repair & Paint																								
Jenny Lind	Clearwell #2 / Repair & Paint																								
Wallace	Gound & Elevated Tanks / Repair & Paint																								
Jenny Lind	Pretreatment (Cal-OES/FEMA)																								
West Point	Wilson Dam																								
Ebbetts Pass	Techite Pipeline																								
Ebbetts Pass	Reach 1 Pipeline																								
Ebbetts Pass	Sawmill Tank / Repair & Paint																								
Copper Cove	Clearwell & Tank B / Repair & Paint																								
Ebbetts Pass	Hunters Clearwell / Repair & Paint																								
Sheep Ranch	New Water Plant & Clearwell																								
West Point	Backup Water Filter																								
Sheep Ranch	White Pines/Blagen Mill Pond																								
Various	Tanks / Repairs & Painting																								
Various	Pump Stations / Renovations																								
Various	Road Repairs																								
Various	Pipeline Replace Program, Meters/Mapping																								

**FIGURE 1 - WATER PROJECTS / PROPOSED 5-YEAR CIP PROGRAM**

<b>PROJECT PHASES</b>		<b>YEAR</b>																							
		<b>FY 17-18</b>				<b>FY 18-19</b>				<b>FY 19-20</b>				<b>FY 20-21</b>				<b>FY 21-22</b>							
		<b>2017</b>				<b>2018</b>				<b>2019</b>				<b>2020</b>				<b>2021</b>				<b>2022</b>			
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4																
<b>WASTEWATER PROJECTS LIST</b>																									
La Contenta	Master Plan																								
Copper Cove	Master Plan																								
Copper Cove	Report Waste Discharge / Permit																								
Wallace	Report Waste Discharge / Permit																								
Wallace	Plant Renovations/SCADA/Electrical																								
Vallecito	Title 22 / TSTAN Project																								
Vallecito	I&I / Equalization Improvements																								
Copper Cove	Pond 6 Enlargement / Expansion																								
West Point	Wilseyville Consolidation																								
Poker Flat	Lift Station 8, 12 & 13 Bypass																								
La Contenta	Secondary Clarifier, Upgrades																								
Arnold	Secondary Clarifier, Replacement																								
Various	Lift Stations (LS15,LS18,LS2,WP,etc.)																								
Various	Pipeline/Forcemain Replacements																								
Various	Road Repairs																								

**FIGURE 2 - WASTEWATER PROJECTS / PROPOSED 5-YEAR CIP PROGRAM**