



## ENGINEERING COMMITTEE

### AGENDA

Committee Meeting:  
Tuesday, March 3, 2020  
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 three (3) minutes per person.

2.\* **APPROVAL OF MINUTES**

- Date of Prior Minutes – January 14, 2020

3.\* **NEW BUSINESS**

3a Discussion/ Increasing the Per Hydrant Payment for Fire Department Operation and Maintenance (O&M) (Damon Wyckoff, Director of Operations)

3b Presentation/Discussion Recommendations for Slurry Line Improvements (Sam Singh, Senior Engineering Technician)

3c Presentation/Discussion Concerning the Arnold Wastewater Treatment Facility, District 4 (Bob Godwin, Senior Engineer)

3d Presentation / Discussion of FY 2020-21 Capital Improvement Program Schedule and Priorities (Charles Palmer, District Engineer)

3e \*\* Discussion/White Pines Historical (Jesse Hampton, Plant Operations Manager)

3f \*\* Discussion/Vallecito Headworks CIP (Jesse Hampton, Plant Operations Manager)

4. **OLD BUSINESS**

Nothing to report

5. **FUTURE AGENDA ITEMS**

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6. **NEXT COMMITTEE MEETING**

Discussion: Tuesday, April 7 or 14, 2020 at 2:00 p.m.

7. **ADJOURNMENT**

\* Paperwork included in package

\*\* Information Not included in package

CCWD ENGINEERING COMMITTEE  
CALAVERAS COUNTY WATER DISTRICT  
January 14, 2020

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  
Russ Thomas

Also present:

Michael Minkler	General Manager
Charles Palmer	District Engineer
Alesia Danner	Administrative Technician
Peter Martin	Water Resource Manager
Ben Stopper	Calaveras County Supervisor, District 5
Sam Singh	Senior Engineering Technician
Rebecca Callen	Director of Administrative Services
Damon Wyckoff	Director of Operations

1. PUBLIC COMMENT:  
There was no public comment.

2. APPROVAL OF MINUTES:

The September 30, 2019 Minutes were approved as presented by a motion from Director Davidson, and seconded by Director Thomas

3. NEW BUSINESS:

3a Presentation of the Status of the District's Large Vehicle Fleet as it relates to the California Air Resources Board's (CARB) Truck and Bus Regulation (Damon Wyckoff, Director of Operations)

Mr. Wyckoff presented a discussion on the District's large vehicle fleet focusing on those vehicles not meeting the CARB requirements. A list of vehicle replacements and costs per year effecting said replacements was provided. Several vehicles will be registered as low mileage vehicles.

Director Davidson asked staff to follow up with the State to determine how many vehicles total could be registered as low mileage vehicles within the District to help reduce the amount of costs associated with the purchase of new vehicles. The District will be in compliance by fiscal year end 2023

3b Presentation of the Status of District Potable Water Storage Tanks and Rehabilitation Needs (Damon Wyckoff, Director of Operations)

Mr. Wyckoff presented a discussion on the District's current needs for rehabilitation or replacement of several potable water storage tanks. The District follows a 5-year inspection and cleaning procedure. The tanks are inspected using both internal water divers and external visual inspections of the tanks. The tanks which the current inspection divers will no longer enter take priority for replacement.

Director Thomas asked staff to research additional dive companies to get cost and quality comparatives for the tank inspections.

3c Discussion of the Draft Calaveras County Paving Program 2020 thru 2024 (Jared Gravette, Inspector)

Mr. Gravette provided a brief discussion on the Calaveras County Draft Paving Program and its effects on the District's future projects and work efforts. The objective is to blend the District and Public Works 2-year CIP projects together to work simultaneously for uniform paving efforts

3d Presentation / Discussion Regarding Review of La Contenta Wastewater Service Area, Districts 1 & 5 (Bob Godwin, Senior Civil Engineer)

Mr. Godwin presented a slideshow presentation on the La Contenta Wastewater Service Area providing the; overview of size, projected growth rates, current capacities, improvement recommendations and the overall reliability and capacity concerns of the wastewater facility.

Follow up items are: Clarification on why the West Point permit fee is much higher than other facilities, how much additional disposal capacity can the District expect on the treatment side and how much would be our capacity?

3e Presentation / Discussion of Assessment District (AD) 604 Background Information and Current Status (Charles Palmer, District Engineer)

Mr. Palmer provided a discussion on the background history of Assessment District (AD604) and the current capacity fees being charged with the focus mostly on the sewer assessments and the limited reserve capacity currently at the District's facility.

Director Thomas inquired what are the working components for determining the

capacity fees and who should pay for it. A recommendation was made for a capacity fee study to commence for the areas of Jenny Lind and Copper Cove water systems and the La Contenta and Copper Cove Sewer Systems.

4. OLD BUSINESS:

There was nothing to report.

5. FUTURE AGENDA ITEMS:

Tuscany Hills rerouting entrance through CCWD property  
Copper Cove Exposed Pipeline

6. NEXT MEETING

Tentatively Scheduled: Tuesday, February 4, 2020 @ 2:00 p.m.

7. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 3:54 p.m.

Respectfully submitted,

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Alesia Danner  
Administrative Technician

# Agenda Item

DATE: March 3rd, 2020

TO: Engineering Committee  
Michael Minkler, General Manager

FROM: Damon Wyckoff, Director of Operations

SUBJECT: Increasing the Per Hydrant Payment for Fire Department Operation and Maintenance (O&M)

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## **SUMMARY:**

In an effort to provide reliable fire flow, local fire departments perform minor O&M tasks annually on District fire hydrants. While the costs associated with this work effort have increased over time, payment to the Departments has not.

Every Year the Fire Departments within District Service areas individually inspect each District Fire Hydrant. For a current cost of \$20 per hydrant, Fire Crews check the clearance around each hydrant, lube the stem and outlet port threads, partially open the stem and flush any discolored water, note whether reflectors exist in the roadway near the hydrant, and paint the hydrants (yellow) as needed. Work orders are then created for hydrants that are inoperable or in need of maintenance (missing cap, hard to open/close, leaking ports/weep holes, etc.) and District Crews then work to repair inoperable hydrants and place them back into service.

While it is recognized this arrangement is mutually beneficial; District Crews can focus their efforts on their many other District responsibilities while the Fire Departments can provide operational experience to less knowledgeable staff and ensure that all hydrants are inspected and tested, the increased costs (mainly fuel) associated with the work have proven tough to absorb for the Fire Departments.

A means to provide reimbursement for fire hydrant O&M was first created by resolution (98-19) in 1998. In 2005 the payment to the Fire Departments for O&M was increased unanimously by resolution from \$5 per hydrant to \$20 per hydrant. The Fire Departments have asked that the cost per hydrant now be increased to \$25 per hydrant.

Conversations between the District and the Fire Departments regarding increasing the costs associated with hydrant O&M have also led to requests for additional information

from the District. CCWD would like the Fire Departments to now record the static pressure, GPS coordinates, and nearest address of each hydrant as well.

In contemplation of the requests for additional information made by the District and the fact that costs associated with the Fire Department's hydrant O&M has increased, CCWD Staff feel a request to increase the O&M cost per hydrant reasonable. District Staff recommend the cost be increased year one from \$20 per hydrant to \$23 per hydrant with a \$1 increase each year thereafter until the O&M cost per hydrant reaches \$25. The cost increase would begin July 1<sup>st</sup> 2020 and would be incorporated in the 2020/21 Fiscal Year operating budget and the operating budget for each fiscal year thereafter.

### **FINANCIAL CONSIDERATIONS:**

The District Currently budgets \$24,000 annually for O&M related to 1,200 fire hydrants (Copperopolis, West Point, and The Rancho Calaveras areas – The District is currently not being billed for the Ebbett's Pass hydrant checks). A \$3 cost increase per hydrant would equate to a \$3,600 increase year one and a \$1,200 per year increase thereafter for two years.

Collectively, the District currently has 2,265 fire hydrants (Jenny Lind – 605, Wallace – 20, Ebbetts Pass – 1025, Copperopolis – 500, West Point – 115). Were the District to fund the Fire Department's O&M of the additional 1,065 District hydrants, the additional cost would equate to \$21K at \$20 per hydrant, an additional \$24,495 at \$23 per hydrant, and an additional \$1,065 each year thereafter for a total additional cost of \$26,625 at \$25 per hydrant. Were CCWD to have to fund the annual O&M associated with the 1,065 additional fire hydrants the budget for this work would have to more than double.

*Attachments:*

CCWD Fire Hydrant Inspection Sheet

Date	ID #	Clearance	Lube Stem	Open Stem	Gaskets	Lube Threads	Flush	Paint	Reflector	Attention Still Needed	Notes

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Date	ID #	Clearance	Lube Stem	Open Stem	Gaskets	Lube Threads	Flush	Paint	Reflector	Attention Still Needed	Notes

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Date	ID #	Clearance	Lube Stem	Open Stem	Gaskets	Lube Threads	Flush	Paint	Reflector	Attention Still Needed	Notes

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Date	ID #	Clearance	Lube Stem	Open Stem	Gaskets	Lube Threads	Flush	Paint	Reflector	Attention Still Needed	Notes

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_ Signature: \_\_\_\_\_

CCWD Fire Hydrant Inspection Sheet

Date	ID #	Clearance	Lube Stem	Open Stem	Gaskets	Lube Threads	Flush	Paint	Reflector	Static PSI	GPS	Address	Notes	Works? y/n
Print Name: _____											Signature: _____			
Print Name: _____											Signature: _____			
Print Name: _____											Signature: _____			
Print Name: _____											Signature: _____			
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# Agenda Item

DATE: March 3, 2020

TO: Engineering Committee  
Michael Minkler, General Manager

FROM: Sam Singh, Senior Engineering Technician  
Charles Palmer, District Engineer

SUBJECT: Discussion / Presentation Recommendations for Slurryline Improvements

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## **SUMMARY:**

This memo presents initial recommendations for slurry line improvements. The District acquired a raw water supply and cement slurry pipeline (cumulatively called the “slurryline”) with the intent to potentially use it to meet irrigation needs in central Calaveras County. The District has 1,000-acre feet per year in water rights diverted from North Fork Stanislaus River Project via the Utica Flume that can be used to serve the area serviceable by the slurryline. There are 165 parcels adjoining the slurryline, with parcel sizes ranging from 0.25 acres to 330 acres. Considering the length of the irrigation season and safe operating limits of the slurryline, delivery of 300 ac-ft per year may be a more reasonable target initially until the hydraulic control valves can be optimized; actual capacity is uncertain without further testing. Extra storage located at the receiving parcels could maximize use of the pipeline and water supply to convey water to storage during the winter for subsequent use in the summer irrigation season.

The 96,000 LF of slurryline crosses through varied terrain of the Calaveras County dropping over 2,000’ in elevation making it hard to maintain pressures in certain areas at safe operating limits for both operational staff and 50+ year old pipeline itself. In order to understand the needs better a hydraulic model was created using Infowater hydraulic model software and data available at the time. The hydraulic grade line developed showed the high-pressure points throughout the slurryline can exceed 400 to 800 psi in a free flowing condition without pressure control valves. These high-pressure conditions are a potential risk to the safe working of the slurryline and operations staff. The long term solution recommended by staff would be to eventually install as many as eight (8) pressure regulating (PR) stations along the alignment. Along with high pressure, entrapped air and vacuum conditions can damage the pipeline, too. Combination air release and vacuum valves are recommended to be installed at several high spots along the alignment to protect the pipeline.

In the past year, the District operations staff has done extensive amount of work to verify the operating conditions of slurryline and found it satisfactory in most of its initial testing conditions. A tie-in was created between the 6" water line and 7" slurry line at the pre-existing vault north-west of the Cataract quarry to make supply water accessible to Cement Plant in San Andreas. Also, one (1) pressure regulating station PR Station has been installed on the waterline, bringing the pressures down from 400 psi to 230 psi range by Pennsylvania Gulch Road. The recommended next step in testing of slurryline is to install another pressure regulating station, one air/vacuum valve, and additional isolation valves in order to run additional pressure and flow tests on the slurryline. The test point would be at French Gulch upstream of Ross Reservoir. After these test are completed staff will bring this item back to the Engineering Committee with additional information and final recommendations.

**FINANCIAL CONSIDERATIONS:**

The estimated cost associated with improvements to the slurryline for installation of pressure regulating stations, air/vacuum valves, and isolation valves is provided below.

8 PR x \$50,000 per unit	\$ 400,000
10 ARV x \$3500 per unit	\$ 35,000
25 GV X \$550 per unit	<u>\$ 37,500</u>
Total	\$ 472,500

# Agenda Item

DATE: March 3, 2020

TO: Engineering Committee  
Michael Minkler, General Manager

FROM: Bob Godwin, P.E., Senior Civil Engineer 

RE: Engineering Committee Presentation Concerning the Arnold Wastewater Treatment Facility, District 4

## SUMMARY

This agenda item, a staff presentation for the Engineering Committee, concerns the Arnold Wastewater Treatment Facility (AWWTF). The presentation will cover the following topics:

- Overview of the Arnold service area, collections system, and AWWTF.
- AWWTF historical influent flowrates, peaking factors, treatment and disposal design criteria.
- Discharge violations which occurred in 2016-2017 and response corrective actions.
- Staff's asset assessment and propose rehabilitation project list for 2020-2021 fiscal year including:
  - Operation building foundation drainage;
  - secondary clarifier mechanism;
  - influent magnetic flow meter; and
  - effluent pressure filter tanks and filter media.
- Recommendations and capacity summary from the *May 2005 Arnold Sewer Master Plan* with values updated to reflect February 2020 conditions.
- Replacement of 2015 AWWTF permit (Waste Discharge Requirements) due to non-applicability of the State Water Resources Control Board's General Order related to daily influent volume.
- Status update of Condor Earth's efforts to evaluate existing AWWTF infiltration disposal capacity and subsurface conditions evaluation.
- Capital improvements (planning, design and construction) which may be included in the 2020-2021 fiscal year budget including:
  - Infiltration galleries to increase disposal capacity;
  - secondary clarifier for redundancy and expanded treatment capacity; and
  - aerobic digester to increase biosolids stabilization, treatment capacity, and to reduce frequency of solids dewatering.

## FINANCIAL CONSIDERATIONS

None at this time. However, staff seeks direction regarding the rehabilitation and capital improvements project presented and proposed to be included in the 2020-2021 fiscal year budget.

# Agenda Item

DATE: March 3, 2020

TO: Engineering Committee  
Michael Minkler, General Manager

FROM: Charles Palmer, District Engineer

SUBJECT: Presentation/Discussion of Proposed FY 2020-21 Capital Improvement Program Schedule and Priorities

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## **SUMMARY:**

A presentation will be made of the District's proposed Capital Improvement Program which is reviewed and amended each fiscal year in advance of preparing the annual budget. The proposed CIP includes both water and wastewater segments and targets critical project priorities:

- Worker Safety
- Reliability and Redundancy
- Growth / Future Expansion
- Hazard Mitigation (Wildfire, Flood, etc.)
- Renovation and Replacement
- Water Resources/Water Supply
- Permit / Regulatory Compliance

The CIP is funded by Capital Renovation and Replacement (Capital R&R) revenues, expansion fees, grants and other sources. Through the Capital R&R program – which annually generates about \$3 million for water and \$1 million for wastewater projects – the District is making a commitment and systematic reinvestment in its water and wastewater facilities to maintain service reliability, preserve functionality and comply with increasingly more stringent regulatory requirements. For both water and wastewater segments the program costs significantly exceed available cash on hand and cash flow balances and therefore securing grants and/or loans will be critical to moving some major projects forward. Staff will work to identify grants, loans and other funding opportunities as may become available to help fund projects.

## **FINANCIAL CONSIDERATIONS:**

The Capital Improvement Projects slated for FY 2020-21 will be incorporated into the FY 2020-21 annual budget, which will be before the Board in June for adoption. Multi-year projects may fully obligate funds for 2-3 years until project completion.