ENGINEERING COMMITTEE

AGENDA

Committee Meeting:
Tuesday, March 5, 2019
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: December 4, 2018

3.* **NEW BUSINESS**
   3a Presentation / Discussion of County of Calaveras Public Works Road Encroachments, Requests for Paving Notifications for District Patch Paves (Damon Wycoff, Director of Operations)

   3b Presentation / Discussion of District's Geographic Information System (GIS) Needs and Implementation (Sam Singh, Engineering Technician)

   3c Presentation / Discussion of Update on Ebbetts Pass Reach 1 Water Pipeline Project (Charles Palmer, District Engineer)

4. **OLD BUSINESS**
   4a Presentation / Discussion of Update on Meter Sizing for Residential Fire Sprinklers (Charles Palmer, District Engineer)

5. **FUTURE AGENDA ITEMS**

6. **NEXT COMMITTEE MEETING**
   Tentative: Tuesday, April 2, 2019 at 2:00 p.m.

7. **ADJOURNMENT**

*Paperwork included in package

CCWD ENGINEERING COMMITTEE
CALAVERAS COUNTY WATER DISTRICT
December 4, 2018

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:

Charles Palmer	District Engineer
Damon Wycoff	Director of Operations
Jesse Hampton	Plant Operations Manager
Robbie Creamer	Engineering Analyst
Peter Martin	Water Resources Manager
Robert Creamer	Engineering Analyst
Jeffrey Meyer	Interim General Manager
Alesia Danner	Administrative Technician

1. PUBLIC COMMENT:
There was no public comment.

2. APPROVAL OF MINUTES:

The October 2, 2018 Minutes were approved as presented by a motion from Director Thomas, and seconded by Director Davidson.

3. NEW BUSINESS:

3a Wholesale Water Service Agreement with Snowshoe Springs Mutual Water Company (Charles Palmer, District Engineer / Robert Creamer, Engineering Analyst)

Mr. Palmer discussed the details of the Wholesale Water Service Agreement with Snowshoe Springs Mutual Water Company. Long term upgrades will need to be completed to handle the overall demand for both future standard water and fire flow requirements. Discussion followed.

Director Thomas made a recommendation to take to the board for full approval, seconded by Director Davidson.

3b Discussion of Memorandum of Understanding between Calaveras Unified School District and Calaveras County Water District re: Proposed Force Main between Jenny Lind Elementary School and La Contenta Sewer (Robert Creamer / Engineering Analyst)

Mr. Creamer discussed the details of the Memorandum of Understanding between Calaveras Unified School District and Calaveras County Water District. An illustration of the planned force main corridor was provided. Discussion followed.

Mr. Palmer provided brief details on the outreach program that Calaveras Unified School District/Jenny Lind Elementary School would be providing to the public.

Director Thomas made a recommendation to take to the board for full approval, seconded by Director Davidson.

3c Discussion of Meter Sizing for Residential Fire Sprinkler Systems, (Charles Palmer, District Engineer)

Mr. Palmer provided a discussion on Meter Sizing for Residential Sprinkler Systems. Samples of meters were presented showing the different sizes and explanation of capacity flows per each meter.

Mr. Wycoff provided a discussion on meter upgrading to radio read that could serve both the fire requirements and residential needs.

Director Davidson advised staff to follow up to determine if multiple classes of residential units would be a benefit for capacity fee calculations and do a comparison study between Rancho Subdivision and Gold Creek based on the lot size, sf of house, etc. for both residential and commercial meters, include master meters, commercial 1" vs residential 1". He would also like staff to re-evaluate calculation methods for capacity fee rates, add new class "Residential Connection with Fire Sprinkler", and update district wide design standard to include fire sprinkler requirements.

Director Thomas advised staff to contact developers for input on fire sprinkler meter size options to determine what will work best for CCWD customers that will meet both customer and fire sprinkler needs.

4. OLD BUSINESS:
There was nothing to report.

5. FUTURE AGENDA ITEMS:

Director Davidson advised staff to keep capacity fee calculations/sprinkler /meter sizing requirements on the Engineering Committee Agenda.

6. NEXT MEETING

Tentative, Tuesday, January 8, 2019 @ 2:00 p.m.

7. ADJOURNMENT

There being no further business, the meeting adjourned at approximately 3:26 p.m.

Respectfully submitted,

_____

Alesia Danner
Administrative Technician

Agenda Item

DATE: March 5, 2019

TO: Engineering Committee
Michael Minkler, General Manager

FROM: Damon Wyckoff, Director of Operations

SUBJECT: County of Calaveras Public Works Road Encroachments, Requests for Paving Notifications for District Patch Paves

---

SUMMARY:

The District is working to comply with the current requests of Calaveras County Public Works Department (Public Works) when it comes to completion of patch paves resulting from service line and mainline leak repairs. For County road encroachments, Public Works has asked that compaction tests be completed by the District on all patches prior to final paving. The District will also notify Public Works post compaction test completion and prior to final patch paving to facilitate their oversite of the work effort. Additionally, it is anticipated that Public Works will change paving specifications for County roads in the near future requiring a larger "T" section of roadway be cutout and re-paved during the patch paving effort than currently occurs, which if implemented will significantly increases our costs. Overall, the District will work closely with Public Works to conduct compaction tests on repair sites in County roadways prior to the placement of patch paving.

FINANCIAL CONSIDERATIONS:

The requirement for compaction tests for each patch pave is expected to increase District road repair costs annually. The compaction tests require special equipment and certification to perform and would be most likely performed by a qualified geotechnical firm under a professional services contract at the District's cost. Additionally, proposed changes to Public Works specifications regarding the size and dimensions of the "T" section for the patch paving stand to increase the District's overall annual paving / sealing / asphalt repair costs.

Agenda Item

DATE: March 5, 2019

TO: Engineering Committee
Michael Minkler, General Manager

FROM: Sam Singh, Engineering Technician

SUBJECT: Presentation of the District GIS needs and implementation

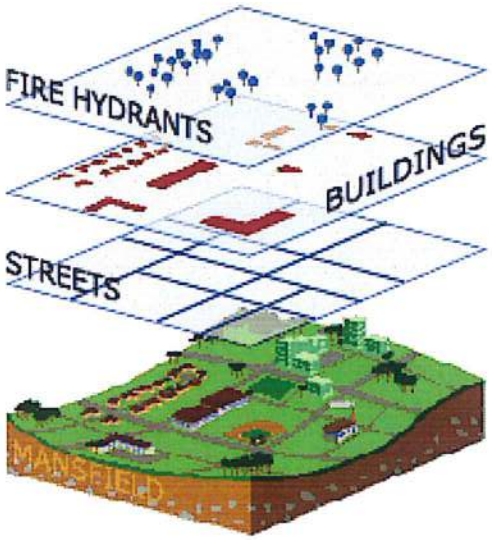
---

SUMMARY:

There will be a presentation on the Geographic Information System (GIS) based on ESRI ArcMap, its need and benefits to the District over our current system utilizing AutoCAD for our asset mapping and representation of water and wastewater facilities.

What is GIS?
GIS is a system designed to capture, store, manipulate, analyze and manage all types of geospatial data and information data and present it in map format providing patterns, trends that are easier to understand with geographical references.

Why does the District need it?
The District's assets are spread throughout Calaveras County over an area of approx. 1,000 square miles. Having GIS provides the District with the ability to have all the data (geospatial, tabular, as-builts etc) in a single software using separate layers to represent different groups of assets and/or information. Once developed this geospatial information and mapping can be readily distributed among staff, public, inter agency co-ordination programs dependent upon their requirements.



How does District plan to do so?
The District already has an excellent start with GIS, the initial tasks of purchasing software and initial training of staff have been accomplished. Next task is to put the tools to beneficial use of various departments within the District.

Following steps will be taken to continue the transition to new GIS

- Migrate AutoCAD system maps to GIS
- Create databases (features including pipelines, valves, pump stations, etc.)
- Populate databases from District data, archives, and other sources
- Publish maps via electronic format and deploy for staff use
- Utilize ESRI applications for field data collection & correcting/improve quality
- Create feedback loops with field staff to improve process and efficiency

Few fields where District can benefit from having GIS in place

- Computerized Maintenance Management Program
- Public/Customer Notification Platform
- Capital Improvement Planning
- Improve Customer Service and Billing
- Management and Organization of Automated Radio Read Metering Program

Since the District has been using GIS for the past several months to locate and monitor leaks in Jenny Lind service area, it was able to point out the worst areas and the types of breaks that were happening. This has led the management to start a service lateral replacement project in Kirby St and Gabor St of Jenny Lind.

FINANCIAL CONSIDERATIONS:

At this moment we have the basic software necessary to do the migration process from AutoCAD to ESRI ArcMap. But as the database grows and we start to implement and deploy these changes into the field more need for hardware (tablets/laptops) and software (apps for tablets) will be necessary. Technical staffing needs will have to be fulfilled to keep the system running smoothly and up to date.

Agenda Item

DATE: March 5, 2019

TO: Engineering Committee
Michael Minkler, General Manager

FROM: Charles Palmer, District Engineer

SUBJECT: Presentation / Discussion of Update on Ebbetts Pass Reach 1 Water Pipeline Project

---

SUMMARY

A public bid opening for construction of the Ebbetts Pass Reach 1 Water Pipeline Project was held on Tuesday, February 26, 2019 at 2:00 PM. The District received six (6) bids as listed below. The District staff proposes to bring the project to the Board for approval of the construction contract on March 13 or 27, 2019 with the intent of starting construction in May 2019 and completing the project by summer of 2020.

APPARENT LOW BIDDER	BIDDER NAME	TOTAL AMOUNT
1	Mozingo Construction	$6,744,390
2	Teichart Construction	$6,986,703
3	Mountain Cascade	$7,508,810
4	Terracon Constructors	$7,533,574
5	Sierra Mtn. Construction	$8,765,050
6	Ford Construction	$9,780,950

The District will be gearing up staff and entering into several professional services agreements in order to support construction management and inspection efforts. It is yet undecided how staff will be re-assigned to cover the Reach 1 project and other priorities. The District is considering retaining KASL to assist with construction management. Also, the District will retain a biologist and archaeologist to carry out pre-construction surveys and other mitigation, monitoring and reporting requirements in accordance with the adopted environmental document.

FINANCIAL CONSIDERATIONS

The Reach 1 project was assigned a preliminary construction cost estimate of $5 million in 2018. In the FY18-19 budget the District allowed $1,500,000 and projected $3,012,803 for FY19-20, or a total of $4,512,803. In consideration of the bids and necessary professional services for construction management and inspection, the District staff proposes a budget increase to $7.5 million for FY18-19 through FY19/20. Given this significant change, it will be timely to re-assess the District's capital improvement program priorities and costs going into the FY2019/2020 budget process.

Agenda Item

DATE: March 5, 2019

TO: Engineering Committee
Michael Minkler, General Manager

FROM: Charles Palmer, District Engineer

SUBJECT: Presentation / Discussion Update on Meter Sizing for Residential Fire Sprinklers

---

SUMMARY

This topic was previously presented and discussed at the Engineering Committee meeting on December 4, 2018. In summary, the representatives of the local building industry have asked the District to increase the standard residential meter size from 5/8" to 1" to supply residential fire sprinklers in new construction of single-family homes. The Committee members have expressed a desire to expedite a favorable interim solution to facilitate the residential fire sprinklers. Any change in standard meter size would require the District to amend its policies.

As of January 1, 2011, the California Building Standards Code required all new construction of single family homes to have residential fire sprinklers. The conforming standard – National Fire Protection Association (NFPA), Standard 13D – requires a minimum of two sprinkler nozzles operating at 13-gpm each plus a 5-gpm residual domestic demand or a total 31-gpm fire flow via the meter. The maximum suggested flow by the American Water Works Association (AWWA) for 5/8", 3/4", and 1" meters is shown below. Historically, a 5/8" meter serving a single family home was adequate to supply all domestic indoor (e.g. toilets, showers, faucets) and outdoor (e.g. landscape irrigation) uses, but with a maximum rated flow of 20-gpm it is not capable of supplying residential fire sprinklers. Accordingly, many water agencies in California have responded by allowing larger meters to supply the fire sprinklers.

Meter Size	Maximum Flow	Meter Equivalents	Technology
5/8"	20-gpm	1.0 esfu	Conventional/Mechanical
3/4"	30-gpm	1.5 esfu	Conventional/Mechanical
3/4"	31 to 35-gpm	1.5 esfu	Ultrasonic/Magnetic
1"	50-gpm	2.5 esfu	Conventional/Mechanical

The District's existing customers are primarily single family residential served by 5/8" meters with a very limited number of 3/4" and 1" meters. The number and meter size for residential and non-residential customers is summarized below.

Meter Size	Residential	Non-Residential	Total
5/8"	12,501	740	13,241
3/4"	2	9	11
1"	8	103	111
1-1/2"	1	33	34

We do not anticipate any changes in base residential demands since fire sprinklers usually have no water demands. Therefore, for a classification of new construction of a single family homes with fire sprinklers, the District staff advises that the capacity fee for a 3/4" residential meter could be set at the same amount as a 5/8" meter. Since capacity fees are not subject to Prop.218, this option could be presented to the Board for immediate consideration. The applicant would still pay all costs for furnishing and installing the larger meter.

The recently adopted five-year water rate plan, completed in accordance with Prop.218 and recent court rulings, used the standard 5/8" water meter as one "meter equivalent," a parameter used in calculating the water base rates for progressively larger meter sizes. Any change in the size of the standard meter (5/8") will affect the adopted rate plan and put the District at risk of having rates that are not proportional, equable and defensible under Prop.218. Therefore, District staff recommends that the adopted rate plan be maintained until we start preparing for the next rate plan in two years.

FINANCIAL CONSIDERATIONS

None at this time.