CITY OF SANTA CRUZ
City Hall
809 Center Street
Santa Cruz, California 95060

Water Department

WATER COMMISSION

Regular Meeting

January 07, 2019

7:00 P.M. GENERAL BUSINESS AND MATTERS OF PUBLIC INTEREST, COUNCIL CHAMBERS

*Denotes written materials included in packet.

The City of Santa Cruz does not discriminate against persons with disabilities. Out of consideration for people with chemical sensitivities, please attend the meeting fragrance free. Upon request, the agenda can be provided in a format to accommodate special needs. Additionally, if you wish to attend this public meeting and will require assistance such as an interpreter for American Sign Language, Spanish, or other special equipment, please call Water Administration at 831-420-5200 at least five days in advance so that arrangements can be made. The Cal-Relay system number: 1-800-735-2922.

APPEALS: Any person who believes that a final action of this advisory body has been taken in error may appeal that decision to the City Council. Appeals must be in writing, setting forth the nature of the action and the basis upon which the action is considered to be in error, and addressed to the City Council in care of the City Clerk.

Other - Appeals must be received by the City Clerk within ten (10) calendar days following the date of the action from which such appeal is being taken. An appeal must be accompanied by a fifty dollar ($50) filing fee.

Call to Order

Roll Call

Statements of Disqualification - Section 607 of the City Charter states that ...All members present at any meeting must vote unless disqualified, in which case the disqualification shall be publicly declared and a record thereof made.The City of Santa Cruz has adopted a Conflict of Interest Code, and Section 8 of that Code states that no person shall make or participate in a governmental decision which he or she knows or has reason to know will have a reasonably foreseeable material financial effect distinguishable from its effect on the public generally.

Oral Communications - No action shall be taken on this item.

Announcements - No action shall be taken on this item.

Consent Agenda (Pages 1.1 - 3.4) Items on the consent agenda are considered to be routine in nature and will be acted upon in one motion. Specific items may be removed by members of the advisory body or public for separate consideration and discussion. Routine items that will be found on the consent agenda are City Council Items Affecting Water, Water Commission Minutes, Information Items, Documents for Future Meetings, and Items initiated by members for Future Agendas. If one of these categories is not listed on the Consent Agenda then those items are not available for action.

1. City Council Actions Affecting the Water Department (Pages 1.1 - 1.2)

   Accept the City Council Actions Affecting the Water Department.

2. Water Commission Minutes from December 3, 2018 (Pages 2.1 - 2.6)

   Approve the December 3, 2018 Water Commission Minutes.

3. 1st Quarter FY 2019 Financial Report (Pages 3.1 - 3.4)

   Accept the 1st Quarter FY 2019 Financial Report.

Items Removed from the Consent Agenda

General Business (Pages 4.1 - 4.7) Any document related to an agenda item for the General Business of this meeting distributed to the Water Commission less than 72 hours before this meeting is available for inspection at the Water Administration Office, 212 Locust Street, Suite A, Santa Cruz, California. These documents will also be available for review at the Water Commission meeting with the display copy at the rear of the Council Chambers.

4. Presentation of 2018 Capital Investment Projects (Pages 4.1 - 4.7)

   Accept the Presentation of 2018 Capital Investment Projects.

Subcommittee/Advisory Body Oral Reports - No action shall be taken on this item.

5. Santa Cruz Mid-County Groundwater Agency

6. Santa Margarita Groundwater Agency

Director's Oral Report - No action shall be taken on this item.

Information Items

Adjournment

WATER COMMISSION
INFORMATION REPORT

DATE: 1/2/2019

AGENDA OF: January 7, 2019

TO: Water Commission

FROM: Rosemary Menard, Water Director

SUBJECT: City Council Actions Affecting the Water Department

RECOMMENDATION: Accept the City Council actions affecting the Water Department.

BACKGROUND/DISCUSSION:

December 11, 2018

Resolution Amending the City of Santa Cruz Personnel Complement and Classification and Compensation Plans: Implementation of California State Minimum Wage Law for 2016 – All Departments

Resolution No. NS-29,472 was adopted amending the Classification and Compensation Plans and the FY 2019 Budget Personnel Complement by adjusting the salary ranges of the temporary unclassified positions of Maintenance Worker Aide I, Maintenance Worker Aide II, Office Assistant, Professional and Technical Assistant, Recreation Area Aide, Recreation I, Recreation II, Recreation III, Recreation IV and Recreation V classifications.

Resolution to Pledge Water Rate Revenues to Repay State Water Resources Control Board (SWRCB) Funding for the Newell Creek Dam Inlet-Outlet Pipeline Replacement Project as Required by SWRCB to Apply for Funding (WT)

Resolution No. NS-29,475 was adopted pledging water rate revenues to repay State Water Resources Control Board (SWRCB) funding for the Newell Creek Dam Inlet-Outlet Pipeline Replacement Project as required by the SWCRB to apply for funding and in a form approved by the City Attorney.

Water Rights Reliability Project – Professional Services Contrcat for California Environmental Quality Act Compliance (WT)

Motion carried authorizing the City Manager to execute an agreement in a form approved by the City Attorney with Dudek (Santa Cruz, CA) to provide professional services related to California Environmental Quality Act compliance for the Santa Cruz Water Rights Project.

PROPOSED MOTION: Motion to accept the City Council actions affecting the Water Department.

ATTACHMENTS: None.

Water Department

Water Commission
7:00 p.m. – December 3, 2018
Council Chambers
809 Center Street, Santa Cruz

Summary of a Water Commission Meeting

Call to Order: 7:01 PM

Roll Call

Present: L. Wilshusen (Chair), D. Engfer (Vice-Chair), D. Baskin, J. Mekis, A. Schiffrin, W. Wadlow

Absent: D. Schwarm with notification

Staff: R. Menard, Water Director; J. Becker, Finance Manager; E. Cross, Community Relations Specialist; K. Crossley, Senior Civil Engineer; N. Dennis, Principal Management Analyst; S. Easley Perez, Associate Planner II; H. Luckenbach, Deputy Director/Engineering Manager; J. Martinez McKinney, Associate Planner II; B. Pink, Environmental Projects Analyst; M. Zeman, Professional Engineering Associate; K. Pappas, HDR, Inc.; K. Fitzgerald, Administrative Assistant III

Others: 5 members of the public.

Presentation: None.

Statement of Disqualification: None.

Recognition of Commissioner Schiffrin: Commissioner Andy Schiffrin was recognized for his 25 year tenure on the Santa Cruz Water Commission. Official proclamations from the Mayor and County Supervisors were presented honoring his service to the community of the City of Santa Cruz, and several of Mr. Schiffrin's current and former colleagues and Water Department staff also commented to acknowledge Mr. Schiffrin's contribution to the Water Commission over his years of service.

Oral Communications: None

Announcements: None.

Consent Agenda

1. City Council Items Affecting Water

2. Water Commission Minutes from October 1, 2018.
3. Water Commission Meeting Schedule for 2019

Items removed from the Consent Agenda – None

Question regarding one of the City Council Items included in Consent Item #1:

Can staff explain the total cost of the Newell Creek Dam Inlet/Outlet Pipeline Replacement Project per the "Resolution to Reimburse Capital Expenditures from Future State Water Resources Control Board Financing" staff report that went to City Council on November 13th?

- The Council item related to the Newell Creek Dam Inlet/Outlet Pipeline Replacement is part of an application process for funding of the project through the Drinking Water State Revolving Loan Fund administered by the State Water Resources Control Board. The $100 million project cost included in the staff report and reimbursement resolution is an inflated estimate of the project's cost at the mid-point of construction. The current cost estimation is closer to $75 million. This estimate is for the construction of a new intake valve which was chosen over rehabilitation of the existing inlet/outlet pipeline.

Commissioners requested that typo of the duplicate "Voice Vote" portion of the November 5, 2018 Minutes on the bottom of page 2.4 be corrected.

Commissioner Schiffrin moved the Consent Agenda. Commissioner Engfer seconded.

VOICE VOTE: MOTION CARRIED
AYES: All
NOES: None
ABSTAIN: Commissioner Baskin due to absence

General Business

4. Quarterly WSAS Update

Ms. Luckenbach presented the Quarterly WSAS Update in the new format as suggested by the Commissioners.

What type of communication technology is currently used for the water meter system?

- There are two versions; cellular and radio microwaves. The cellular version is currently being pilot tested for irrigation customers and the results thus far are positive.

Can staff provide a report on the proportion of commercial and public use inside and outside the City?

- The rough split between inside city and outside city customers is approximately 2/3 of the demand by inside city customers, and the remaining 1/3 of demand by outside city customers.

Commissioners suggested including a background section within the Quarterly Report that describes and clarifies how each option being considered for each element will fill, or attempt to fill the supply gap.

Ms. Menard responded that demand reductions related to Conservation does not count toward meeting the 1.2 billion gallon demand gap, but is counted as a reduction in demand of 250 million gallons by 2035.

Commissioners commented positively on the water transfers to Soquel Creek Water District at the intertie at the O'Neil well site that commenced on December 3, 2018.

Ms. Luckenbach commented that the intertie runs based on demand and when the demand has been filled, the intertie automatically shuts off.

When will negotiations on water exchanges with Soquel Creek Water District begin?

- The results of the groundwater modeling still need to be completed to better understand the effects of in lieu and ASR. Once these results have been analyzed, discussions and negotiations with other districts can begin.

Why are recovery rates and volumes higher than injection rates and volumes for ASR between cycles 1 and 2, per Table 1 on page 4.5?

- The injection rates are typically lower than recovery rates in groundwater.

How do we know that the water that is being injected will be the same as the water that will be extracted?

- The water chemistries of injected water and native groundwater are different, so we are able to monitor what water is being withdrawn by looking at water chemistry.

What is the window of time between the construction and beginning to test an injection well site on the public land trust?

- The site that is being considered currently does not have utility connections. A well and utilities can be constructed simultaneously, but the testing phase would be delayed by at least a year if not more.

Will this delay affect the Commission's decision making timeline by 2020 on other alternatives?

- Information from pilot testing in the Beltz system can be used to some degree to inform decision making about how ASR in the Santa Margarita might work and what it might cost.

Is it necessary to conduct separate pilot studies for injection for recycled water and treated surface water?

- Yes.

Will the Santa Cruz Water Rights Project increase the available water supply?

- The City is not looking to increase its water rights, but rather greater flexibility in how the quantities we have access to with our current water rights can be used. The City is requesting technical changes at Felton and Newell Creek to allow for direct diversion instead of diversion to storage. We are also asking for an extension of the time to fully use the 3000 acre feet of water allocated under the Felton permits, and for changes to the places of use for the existing San Lorenzo River rights to allow for more flexibility in

moving the water to other potential users in the basin as part of an overall conjunctive use of surface and groundwater resources.

Where is the energy cost included in the estimated cost for each alternative?

- The dollar amount is included in the orange section of Table 3 on page 4.10 and the value of each kilowatt hour is under the green section.

Are greenhouse gas emissions a factor when evaluating power sources for the energy needed for each alternative?

- The "Social Cost of Carbon" section is meant to capture the impacts that various other aspects of the projects being evaluated might produce. However, as a result of the City's participation in purchasing power from (and being a member agency of) Monterey Bay Community Power, all power used by the Water Department is now and will continue to be carbon neutral and will not produce additional greenhouse gases.

There were no comments from the public.

5. Workshop on Water Treatment – GHWTP Condition Assessment, Seismic Assessment, Treatment Process Evaluation, Requirements for Ongoing Operations with Existing Sources and Water Quality Characteristics,

Ms. Menard introduced Water Department staffers Mr. Kevin Crossley and Mr. Matt Zeman, and Ms. Karen Pappas from HDR, Inc. for the Workshop on the Graham Hill Water Treatment Plant. The presentation provided a review of the plant's recent condition assessments, the changing characteristics of water sources, and the options the Department is evaluating to address those issues. Most of the GHWTP infrastructure and systems have reached its useful life and is in need of structural or treatment process upgrades in order to meet modern standards and provide for the ongoing operation of this key facility over the next two to three decades.

Is being able to treat previously untreatable water one of the constraints in the water supply study with Gary Fiske?

- No, that constraint has not been included in the study.

Are CECs regulated for recycled water?

- No, not directly. The treatment process requirements for advanced treated recycled water (e.g., the Pure Water Soquel project) are specifically designed to achieve certain water quality outcomes that indirectly address things like CECs in source waters. This approach is called a treatment technique rule, and the Long Term 2 Enhanced Surface Water Treatment Rule is an example of a similar regulatory approach that doesn't regulate specific chemicals or constituents, but is designed to achieve minimum requirements that ensure public health protection.

Commissioners suggested that staff continue to develop public outreach efforts on the long-term impacts of construction, and related issues such as chemical use or environmental impacts such as light and noise, on the neighboring residents surrounding the GHWTP.

What is the two plant augmented supply plan?

- The City conducted an analysis to evaluate whether investing in a second supplementary plant would be worth pursuing. Unfortunately, the two plant option turned out to have a higher cost than the planned upgrades to GHWTP.

Has the City considered building a new treatment plant to replace the GHWTP?

- This option has not been fully analyzed, in part due to an assumption that suitable alternate sites for a treatment plant are not really available.

What are the risks of temporarily shutting down one of the existing concrete tanks during construction at the GHWTP?

- Staff is continuing to analyze this issue and will have more information in a later report.

Are the treatment plant improvements a part of the master facility plan?

- Yes, the final report will include specific recommendations on treatment plant improvements.

Is there going to be a master facility plan that will come before the Commission and City Council for approval?

- A final document that will encompass all of the planned upgrades is being prepared and will be presented to the Commission for information and will serve as a master reference for future related projects.

What is the estimated cost of the three projects that are currently moving forward?

- The concrete tanks replacement project is approximately $26 million, and the tube settlers and flocculator replacements are each less than $2 million.

Are these three projects a part of the five year CIP?

- Yes. All of the projects are a part of the five year rate increases. The City is also seeking funding opportunities through WIFIA, SRF loans, and other state grants.

Will the GHWTP improvements be subject to CEQA?

- Yes. At this time, staff expects that a mitigated negative declaration or negative declaration will be adequate, although a full vetting will be required at the appropriate time.

Is the Actiflo-Carb system proprietary?

- Yes, it is a proprietary system.

How does the Actiflo-Carb system tie into the existing tube settlers and flocculators?

- It would replace the tube settlers and flocculators entirely. Staff determined that the risk of failure of these system components is too high to not replace them now.

How will the older filters be used once the facilities have been replaced by the Actiflo-Carb system?

- The older filters will continue to be utilized in conjunction with the Actiflo-Carb system.

What is the current volume of the sediment tanks?

- The sediment tanks are approximately ¾ of a million gallons and the filtered water tank is approximately 1 million gallons.

Is the Plant operating under any waivers from state regulations?

- No.

One member of the public spoke.

Subcommittee/Advisory Body Oral Reports

6. Santa Cruz Mid-County Groundwater Agency

The agency has made an agreement on its guiding principles and is in the process of selecting a technical consultant for analytical work. One board member has resigned for personal reasons and the alternate will be stepping in. New representation from the San Lorenzo Water District will be present at the next meeting.

7. Santa Margarita Groundwater Agency

None.

Director's Oral Report: Ms. Menard reported on the City Council action regarding tertiary treatment at the Wastewater Treatment Plant and that an update will be provided at a later date when more information will be available.

Adjournment Meeting adjourned at 9:55 PM.

Respectfully submitted,

Katy Fitzgerald
Staff

WATER COMMISSION
INFORMATION REPORT

DATE: 1/3/2019

AGENDA OF: 1/7/2019

TO: Water Commission

FROM: Nicole Dennis, Principal Management Analyst

SUBJECT: 1st Quarter FY 2019 Financial Report

RECOMMENDATION: Accept the 1st Quarter FY 2019 Financial Report.

BACKGROUND: On June 6, 2016, the Water Commission approved the Water Department's Long Range Financial Plan (LRFP) which created a framework to ensure financial stability and maintain the credit rating needed to debt finance major capital investments planned for the utility. The LRFP includes financial targets for debt service coverage ratio (1.5x), a combined 180 days cash on hand, $3.1 million in an Emergency Reserve, a Rate Stabilization reserve and establishes when the Department will seek debt financing in the future.

The Quarterly Financial Report has been refined over time based on feedback and to improve understanding. The data provided in Quarterly Financial Reports do require some explanation.

- The reports provide a snapshot in time. The City operates on a fiscal year basis and allows transactions to post to any period of the year until the books are formally closed after June 30th. The attached report is a snapshot of the transactions posted within the first three months of FY 2019.
- The Department's revenue amount of $8.7 million (shown as Actual YTD) is primarily water sales revenue that is based on the amount collected and accurately shows what has been paid; whereas the water sales (shown as red in the bottom chart on page 1) is based on the amount billed and more accurately shows water sold to date.
- The projected sales (shown red in the bottom chart on page 1) is based on the conservative assumption of 2.5 BGY of water sold.

DISCUSSION:
The 1st Quarter Financial Report for FY 2019 is attached. Staff has made changes to the report to further simplify the document. The changes include summarizing revenues by Water Operations – Fund 711 and Rate Stabilization Fund – Fund 713. Since water sales revenue makes up 99% percent of the revenue collected in Fund 711, it was sensible to consolidate all revenue into one line. In addition, year-end fund balance targets have been updated since the FY 2019 Pro-Forma information provided to the Commission in May of 2018. The targets reflect FY 2018 year end

numbers which have been finalized with the production of the Certified Annual Financial Report (CAFR).

The $2.5 million difference between the Adjusted Budget and the Adopted Budget is mainly due to encumbrances or planned purchases/projects in FY 2018 not completed by the end of the fiscal year. Those dollar amounts are rolled into the next year and appear in the FY 2019 Adjusted Budget.

Revenues
Despite the planned rate increases taking effect on July 1st, 2018, water sales have remained fairly consistent with sales at the beginning of last fiscal year. Two reasons for this may be the Stage 1 water restrictions in place over the summer and Pasatiempo Golf Course using more recycled water from Scotts Valley Water District for irrigation.

CIP Projects
On the CIP Projects Overview page, the graphic was improved to show how projects are moving towards completion. The report also highlights five new projects which have been added:

c701901	Water Program Administration	This is for general administrative costs from HDR Engineering for administering the CIP Program. Prior year costs were in the Engineering operating budget and starting in FY2019, actual costs will be distributed amongst the Program projects.
c701902	Newell Creek Dam Property Acquisition	Purchase of property at the toe of the Newell Creek Dam.
c701903	CPS & SLR Diversion Rehab	Phase 1 includes initial visual condition assessment and preliminary engineering for diversion intake site (dam, intake structures, and fish passage) and, if needed, development of an RFP to procure design and permitting services for near term rehabilitation. Phase 2 includes a full condition assessment of the Coast Pump Station and Diversion and associated improvements to mitigate current and future flood damage.
c701904	Newell Creek Access Rd Bridge	The footings of this bridge are eroding due to erosion from Newell Creek. This project will reinforce the footings with concrete and/or rock buttressing.
c701905	Programmable Logic Controllers (PLC) Upgrade	Will enable better integration of future CIP projects at the Graham Hill Water Treatment Plant with the PLC system.

More information on the CIP will be available during the Presentation of 2018 Capital Investment Projects on the agenda for 1-7-2019.

FISCAL IMPACT: None

PROPOSED MOTION: Accept the un-audited 1st Quarter FY 2019 Financial Report.

ATTACHMENTS: 1st Quarter FY 2019 Financial Report

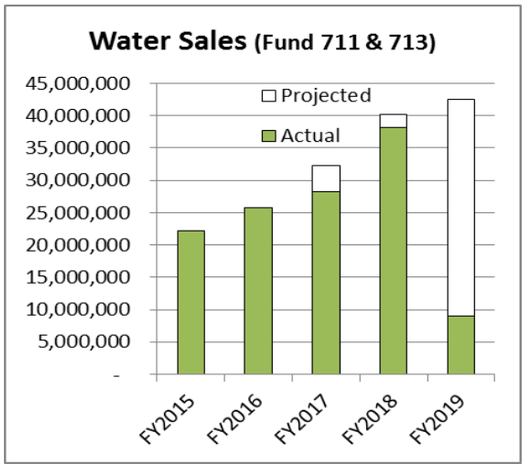
Water Department
1st Quarter FY 2019 Financial Report
Preliminary, Unaudited, as of 09/30/2018

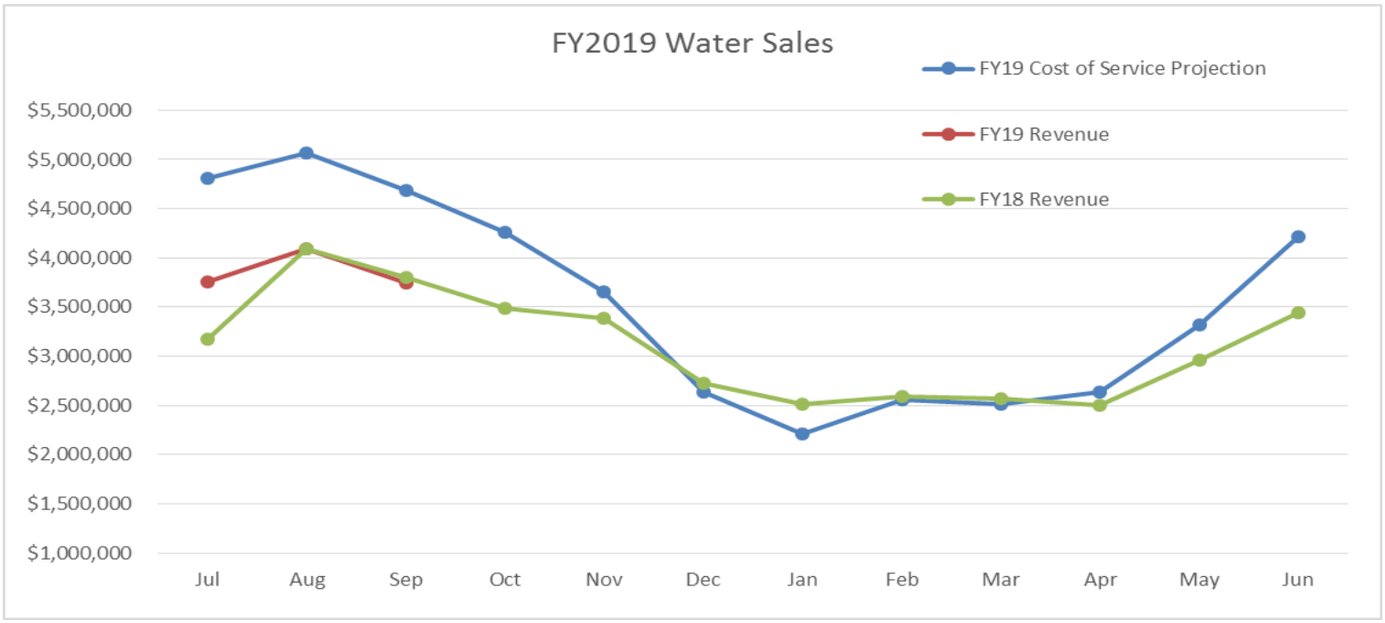
Financial Status for Enterprise Operation Fund (Fund 711) & Rate Stabilization Fund (Fund 713)

	FY 2019 Ado Budget	FY 2019 Adj Budget	Actual YTD Thru 09/30/18	YTD % of Budget
Revenues				
Fund 711 - Water Operations	43,885,642	43,885,642	8,723,299	20%
Fund 713 - Rate Stabilization	3,342,244	3,342,244	728,243	22%
Total Revenues	**47,227,886**	**47,227,886**	**9,451,542**	**20%**
Expenditures (Fund 711 Only)			-	
Personnel	14,724,425	14,724,425	3,823,654	26%
Services, Supplies, and Other	15,051,179	17,655,485	3,054,871	17%
Capital Outlay	438,000	576,534	74,474	13%
Debt Service	2,535,842	2,535,842	735,190	29%
Total Expenditures	**32,749,446**	**35,492,286**	**7,688,189**	**22%**
NET Total	14,478,440	11,735,600	1,763,353	

Fund Balances

	Balance as of 09/30/18	Target for FY end
711- Enterprise Operations	7,138,338	7,741,000
713- Rate Stabilization	6,431,105	9,020,000
715-System Devel. Charges	3,718,745	N/A
716- 90-Day Operating Reserve	7,437,734	7,741,000
717- Emergency Reserve	3,141,791	3,100,000
718- MHJB Endowment	143,940	144,000
719- Equipment Replacement	350,000	750,000





CIP Projects Overview, as of 9/30/2018

Rehab or Replacement Projects	Project #	Life of Project Total (Projected) *	Spend Thru 9/30/18 **	Project Duration	Current Status
Aerators at Loch Lomond	c701706	550,000	9,300	2017-2019	Design
Bay Street Reservoir Reconstruction	c700313	25,600,000	25,350,732	2007-2018	Post-Constr
Beltz 10 & 11 Rehab & Development	c700026	510,000	176,497	2017-2018	Construction
Carbonera Tank Access Rd	e701706	479,000	71,727	2018-2019	Design
NEW > CPS & SLR Diversion Rehab	c701903	TBD	160,868	TBD	Planning
Coast Pump Station Line Repairs	c701707	840,000	304,352	2018-2019	Design
Felton Diversion Replac. & Pump Station	c701602	1,111,900	694,624	2016-2020	Design
Newell Creek Dam Inlet/Outlet Pipeline	c701606	49,200,000	6,884,545	2016-2022	Design
Newell Creek Pipeline Rehab/Replacement	c701701	20,000,000	824,644	2016-2020	Planning
N. Coast System Rehab- Laguna Diversion	c701801	1,620,000	86,963	2018-2021	PD/Feasibility
N. Coast System Rehab- Majors Diversion	c701802	1,570,000	86,963	2018-2021	PD/Feasibility
North Coast System Rehab	c709835	27,600,000	13,946,059	2003-2023	Planning
Pressure Regulating Stations	c701703	390,000	146,768	2017-2020	Construction
San Lorenzo River Diversion & Tait Wells	c709872	2,000,000	1,954,000	2002-2018	Post-Constr
Spillway Bridge Replacement	c701807	660,000	1,009,581	2018	Construction
Tube Settler Replacement	c701708	2,875,000	456,150	2018-2019	Construction
University Tank No. 4 Rehab/Replace	c701505	3,770,000	142,261	2014 - 2020	Planning
University Tank No. 5 Replacement	c701506	4,428,000	1,331,815	2014 - 2019	Construction
Water Treatment Upgrades	c700025	1,900,000	2,018,885	TBD	Planning
WTP Concrete Tanks Replacement	c701501	28,800,000	2,623,576	2014 - 2021	Design
WTP Filter Rehabilitation and Upgrades	c701303	6,000,000	5,839,451	2013 - 2018	Post-Constr
WTP Flocculator Improvements	c701502	3,220,000	66,017	2018-2020	Planning
		183,123,900	**64,185,778**		

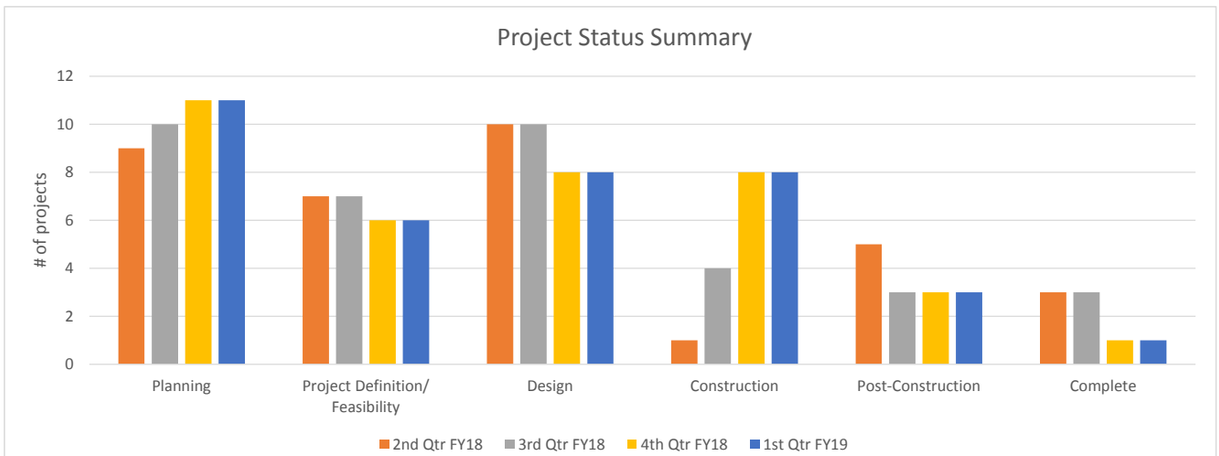
Upgrades or Improvement Projects	Project #	Life of Project Total (Projected) *	Spend Thru 9/30/18 **	Project Duration	Current Status
Advanced Metering Infrastructure (AMI)	c701603	11,100,000	159,459	2017-2023	PD/Feasibility
Brackney Landslide Risk Reduction	c701803	70,100	49,312	TBD	Planning
Coast Pump Station Flood Reduction	c701804	67,300	48,575	TBD	Planning
Loch Lomond Facilities Improvements	c701301	385,000	73,626	2013-2020	Design
NEW > Newell Creek Access Rd Bridge	c701904	150,000	18,000	TBD	Design
NEW > Newell Creek Dam Property	c701902	2,000,000	1,849,355	2018	Complete
NEW > Programmable Logic Controllers	c701905	160,000	-	TBD	Planning
Security Camera & Building Access Upgrades	c701704	645,000	176,996	2016-2019	Construction
Spoils and Stockpile Handling Facilities	c701508	350,000	227,871	2015-2019	Construction
Union/Locust Building Expansion	c701805	800,000	800,034	2017-2018	Construction
		15,727,400	3,403,227		

Water Supply Reliability & Studies	Project #	Life of Project Total (Projected) *	Spend Thru 9/30/18 **	Project Duration	Current Status
Aquifer Storage and Recovery	c701609 & -10	3,985,000	1,248,034	2016 - 2022	PD/Feasibility
Recycled Water	c701611 & -12	675,000	573,807	2016 - 2018	PD/Feasibility
River Bank Filtration	c701806	1,300,000	1,262,157	2018-2019	PD/Feasibility
Source Water Evaluation	c701608	1,200,000	513,564	2016 - 2020	Planning
NEW > Water Program Administration	c701901	TBD	2,204,182	TBD	On-going
Water Supply Augmentation Strategy	c701705	106,648,352	1,083,684	2020 - 2025	Planning
		113,808,352	6,885,427		

Water Main Replacements	Project #	Average Spend Per Year	Spend For 7/1/18 - 9/30/18	Project Duration	Current Status
Main Replacements - Engineering Section	c700002 +	1,298,289	933,998	Annual - Ongoing Programs	
Main Replacements - Customer Initiated	c700004	35,759	-		
Main Replacements - Distribution Section	c701507	369,643	-		
Main Replace.- Outside Agency Initiated	c700003	172,564	-		
		1,876,255	933,998		

* Will change as projects move through Program validation & change management process.

** Amount includes current encumbered and spent funds from the project start through 9/30/18.



WATER COMMISSION
INFORMATION REPORT

DATE: 01/02/19

AGENDA OF: January 7, 2019

TO: Water Commission

FROM: Heidi Luckenbach, Deputy Director/Engineering Manager

SUBJECT: Presentation of Capital Investment Projects

RECOMMENDATION: Accept the information and presentation of capital investment projects.

BACKGROUND/DISCUSSION: Over the next few months, the Water Commission will receive several items related to the FY 2020 operating and capital budgets. To provide context for future discussions, this item focuses on projects that have been completed or were ongoing during calendar year 2018.

Not all projects included below will be part of the staff presentation; rather staff selected projects that reflect the diversity of the Department's Capital Investment Program (CIP). The first Quarter FY2019 Financial Report, presented elsewhere on the agenda, provides the entire CIP for broader context.

REHABILITATION AND REPLACEMENT PROJECTS

Coast Pump Station Line Repair (c701707)
The Coast Pump Station (CPS) pumps raw water from the North Coast sources, San Lorenzo River, and Tait wells to the Graham Hill Water Treatment Plant. The pipeline from the CPS to the GHWTP was constructed in the 1950s and has had several leaks in the past two years. Constructed in the 1950s this steel pipeline is reasonably due for replacement. Staff initially attempted to design a cure-in-place type project but was unsuccessful at obtaining bidders. Kleinfelder, Inc. was hired in June 2018 for the design and construction-engineering support services. This project is in the design phase of a pipeline to be directionally drilled below the river. Design has been complicated by confined spaces on both sides of the river and the number of utilities beneath and adjacent to the river. Staff continues to aim for a late fall construction start date.

Felton Diversion Replacement & Pump Station (c701602)
This project originated as an assessment of the entire facility with the potential for incremental rehabilitation projects. The first improvement to the site was the replacement of the rubber bladder dam. This project has been split into the following two projects to accommodate the completion of the bladder dam, and ongoing assessment of the facility.

c701602 Felton Diversion Bladder This facility was constructed in 1974. The purpose of the bladder dam is to facilitate diversion of water from the San Lorenzo River to Loch Lomond Reservoir by inflating when adequate water is present in the San Lorenzo River to allow for bypass flows with excess pumped to the reservoir and deflating when there is either too little water, or too much water that could damage the dam.

Due to a long lead time on manufacturing the new bladder dam, the Water Department purchased it with City Council approval in January 2018. Permits were required from the Central Coast Regional Water Quality Control Board and California Department of Fish and Wildlife, as well as authorization from the U.S. Army Corps of Engineers, in consultation with the NOAA National Marine Fisheries Service. Cal West Construction was hired to perform the installation work and was completed in October.

c701906 Felton Diversion Pump Station Assessment. This project was created for ongoing assessment of the Felton Diversion facility. Funding in FYs 2020 and 2021 are for condition assessment and design; funding in FY2022 is for yet-to-be-defined projects.

Newell Creek Dam Inlet/Outlet Pipeline (c701606) with reference to
Aerators at Loch Lomond (c701706)
Newell Creek Access Road Bridge (c701904)
Newell Creek Dam Property Acquisition (c701902)
Newell Creek Pipeline Rehab/Replacement (c701701)

Newell Creek Dam Inlet/Outlet (NCD I/O): The project team has grown, maintaining AECOM as the designer, Dudek performing the environment work (CEQA and permitting), Mott MacDonald as the Construction Manager, and HDR as overall subject-matter support. The following is a brief overview of the progress and status by project task.

AECOM is working towards the 90% set of plans and specifications due in June 2019. 100% is currently on track for December 2019 with contractor solicitation beginning shortly thereafter and award for construction in March 2020. The scope of the project includes three new inlet/outlet structures within the reservoir; a 14-foot maximum tunnel containing a 48” and 10” inlet/outlet pipelines; valves and other control features at the toe of the dam.

Staff and Dudek produced the draft Environmental Impact Report and issued it for public comment in October. Two public meetings were held in early December and the public comment period closed on December 21 with less than ½ dozen comments received. The final EIR is scheduled for March 2019. Staff has also been working with Dudek to meet with permitting agencies and prepare permit applications.

Mott MacDonald was hired as the project’s Construction Manager in November 2018 under a two phase contract. Phase one covers the remainder of the design, permitting and bidding,

allowing Mott MacDonald to come up to speed and be engaged and influence issues related to constructability. Phase two will be to perform standard construction management duties for the duration of the project.

The following four projects overlap in some fashion with the NCD I/O project and are included here for reporting purposes.

Aerators: The reservoir has an aeration system to assist with maintaining optimal water quality. The current system was installed in the late 1990s and has required increasing levels of maintenance. A lake model has been in development over the past 18 months to assist staff's design of a new aeration system. It was also used to locate the new inlet/outlet structures, and will be used on an ongoing basis as a predictive tool to again obtain optimal water from within the reservoir. With bidding documents completed, the new aeration system is scheduled for installation summer 2019. It will be installed in a temporary location within the reservoir pending completion of the NCD I/O project at which time it will be relocated to a more permanent position.

Bridges: There are two bridges associated with the reservoir. The Newell Creek Road Access Bridge is located south of the reservoir and used by the City and adjacent neighbors. The footings are eroding and the City is in the process of permitting a design to reinforce the footings this summer, in advance of the NCD I/O project. The NCD Spillway Bridge is located adjacent to the dam crest. This bridge was recently replaced as the prior bridge was not strong enough to carry the weight of construction equipment, let alone potentially necessary fire-fighting equipment.

Property: The purchase of the Nelson property was finalized in 2018. This ~20-acre parcel is located at the south edge of the NCD property and was purchased as the opportunity presented itself to enhance safety and security related to the dam, reservoir and Newell Creek. Being under city ownership will also make the NCD I/O project construction less impactful to this neighbor.

Pipelines: Approximately 2,000 linear feet of the Newell Creek pipeline, located below the toe of the dam, is being designed and will be replaced as part of the NCD I/O project.

Laguna and Majors Diversions (c701801, c701802)
The Laguna and Majors diversions were constructed in 1880 and 1924 respectively and divert water from the North Coast sources to the GHWTP. This project is to identify and recommend improvements to the facilities as they relate to structural integrity, management of sediment, and safety. Black and Veatch was hired in April 2018 to perform a condition assessment and conceptual design of these two diversions located on the North Coast system. The project has been delayed by approximately 3 months due to workload. A conceptual design report is anticipated in spring 2019. However, final design and implementation of the recommended improvements is not scheduled until FY2022.

Coast Pump Station and San Lorenzo River Diversion Rehab (c701903)
Not to be confused with the San Lorenzo River Diversion and Tait Wells project (c709872) which was completed in 2017, this project includes the condition assessment and preliminary engineering for the diversion structures and pump station with ultimate development of design documents and construction of recommended improvements. Currently, HDR is conducting the condition assessment for the diversion intake system (dam, intake structures, and fish passage) and drafting the technical memorandum summarizing findings and next steps. The first phase of this project is scheduled for completion the end of calendar year 2019. The second phase, focusing on the pump station, is scheduled to begin FY2022.

University Tank No. 5 (c701506)
The 2015 engineering analysis and condition assessment of University Tank No. 5 (U5) and subsequent preliminary design concluded that replacement of the tank was warranted due to minimal cost differences between rehabilitation and replacement, the ability to re-build the tank to meet modern seismic standards, and to reduce construction related risk (i.e. cost escalation, lead paint removal, etc.). Construction of a 35,000 gallon maintenance tank was completed by Anderson Pacific Engineering Inc. in August 2018 which will allow for the U5 tank to be removed. Replacement of the 14-inch inlet/outlet pipeline is nearing completion, and Crosno Construction was hired in October 2018 to remove the existing U5 tank and construct its replacement. Construction-related activities are scheduled to begin in January 2019, removal of the existing tank in March and construction of the new tank completed by October 2019.

GHWTP Concrete Tank Evaluation & Replacement (c701501)
The condition assessment was completed in 2015. Replacement of the tanks was recommended due primarily to their age and modern seismic standards that the existing tanks do not comply with. West Yost Associates continues with the design phase. Design is expected to continue through the end of 2019 with construction scheduled to begin in early 2020. The project is approximately 1 year behind schedule due to changes made during preliminary design. Staff continues to work with Carollo Engineers to apply for a loan through the State Water Resources Control Board.

UPGRADES OR IMPROVEMENTS PROJECTS

Advanced Metering Infrastructure (c701603)
Current water meter infrastructure is beyond or approaching the end of its life expectancy and consists of a disparate set of meter reading devices and systems, resulting in under-reported billing and overly complicated acquisition of billing reads. An approach towards replacing this system is in need. In order to prevent losses of water due to undetected leaks, to provide accurate consumption data and reliable acquisition of billing reads, and to bill customers appropriately, staff is evaluating alternatives for water metering infrastructure.

CH2M Hill (now Jacobs) was hired in May 2018 to develop a Business Case Evaluation (BCE) looking at costs and benefits of broad implementation of Advanced Metering Infrastructure (AMI). In support of WSAC recommendation Element 0, increased conservation, AMI provides customers with the tools to better manage their water consumption. While AMI is currently in

use by Santa Cruz customers on a small-scale, the BCE study aims to provide an objective assessment of the costs and return on investment associated with full-scale implementation of AMI technologies and associated implementation time frames. These scenarios will then be compared with the status quo (base case) as well as with a non-AMI (contract meter reading) alternative. The BCE is on track to be completed in January of 2019.

Following project approval and development of an implementation plan, the project is currently funded for large capital investment in FY2020.

Loch Lomond ADA (c701301)
The project site (Loch Lomond Recreation Area) is located at 100 Loch Lomond Way in Felton, California in the County of Santa Cruz, approximately 10 miles north of the City of Santa Cruz. Prior projects developed accessible areas with parking, picnic areas, and restrooms at Glen Corrie and near the Park Store. The purpose of the current project is to improve accessibility to facilities in one of the most beautiful large group picnic sites in the area called Upper Loch View. This project is scheduled to be constructed in spring 2019 and includes remodeling two existing bathrooms to meet accessibility standards and constructing an ADA-compliant path between the two existing accessible parking spaces, accessible restrooms, and two accessible picnic areas. Total estimated cost is $150,000. This project is the last of the planned accessibility improvements for the Loch Lomond Recreation Area. Improvements are not planned for the remaining two picnic areas (Glen Brae and Eagle Dell) because they are far from the lake, do not provide additional recreational benefit, are not highly utilized, and are surrounded by challenging steep terrain.

Union/Locust Building Expansion
The Water Department has occupied a portion of the first floor of the 212 Locust Building since 2008. With an increase in the number of city staff and HDR program manager staff to assist with the completion of an unprecedented Capital Improvement Program, additional space was needed. A contractor was hired in August 2018 to create additional work stations, new offices, three new meeting spaces, a larger conference room and larger mail/billing room. In addition, the improvements addressed accessibility issues and made work station ergonomics and ventilation system improvements. To decrease costs, improvements were done while staff occupied the space with much shuffling occurring. The project should be completed by the end of January 2019.

WATER SUPPLY RELIABILITY and STUDIES

Aquifer Storage and Recovery (c701609 & c701610)
The commission received an extensive report in December and will receive another report in March. The Phase II pilot test program is ready to proceed once permit approval is received from the Central Coast Regional Water Quality Control Board.

Recycled Water (c701611 & c701612)
At their November 27 meeting the City Council voted unanimously in support of the following recommendation:

1. Continue to evaluate the opportunities and benefits of replacement and expansion of the existing tertiary treatment facility at the Wastewater Treatment Facility (WWTF).
2. Continue to evaluate treating wastewater to advanced treatment standards for potential groundwater replenishment and/or as surface water augmentation by sending it to Loch Lomond Reservoir.
3. Cease work on desalination for the foreseeable future, pending outcomes of work on the other supply options, understanding that if the other alternative water supply augmentation strategies being considered aren't able to meet the plan goal, then desalination would be reconsidered.

Staff is currently developing the recycled water alternatives consistent with meeting water supply objectives. There will likely be four alternatives, developed to a large extent in the Recycled Water Feasibility Planning Study (Kennedy/Jenks June 2018). In the course of the next year these alternatives will be analyzed to a level that allows for equitable comparison with the other supply alternatives being considered and, to the extent feasible and practical, complete preliminary design.

Riverbank Filtration Study (c701806)
The City currently diverts water from the San Lorenzo River by two open surface water diversion facilities: Tait Street Diversion in Santa Cruz and Felton Diversion in Felton. Both diversions represent critical elements of the water system in meeting customer demands. Because they are surface diversions, they are shut down, particularly during late fall, winter and early spring when it rains and the associated runoff creates water quality challenges.

The City also operates several wells (Tait wells) located near the Tait Street Diversion which are able to provide a consistent source of low turbidity, high quality water regardless of weather and stream flow conditions due to the natural filtration through the alluvial material. The practice of siting vertical wells like the Tait wells in close proximity to a river is commonly known as River Bank Filtration (RBF). RBF is the use of existing naturally occurring sand and gravel deposits to filter and improve the quality of a surface water supply.

To understand the potential for expanding the City's existing RBF facilities, a hydrogeological investigation and groundwater resources assessment is necessary to develop a comprehensive dataset and holistic view of RBF as a diversion alternative along the San Lorenzo River. The RBF study will employ several field data collection techniques such as geophysical surveys, GIS mapping, hollow stem sonic drilling, in-stream mini-piezometers, and test wells to build a comprehensive understanding of the San Lorenzo River alluvium, and it's potential for further development and use in the future.

In addition, the 2015 Water Supply Advisory Committee (WSAC) made a number of recommendations related to potential infrastructure improvements to increase water system reliability, including a recommendation to further evaluate RBF (sometimes referred to as Ranney Collectors, a proprietary RBF system). This evaluation will support the feasibility studies for the in lieu and aquifer storage and recovery concepts, as well as upgrades to the Graham Hill Water Treatment Plant, all part of the WSAC Work Plan.

WATER MAIN REPLACEMENTS

Main Replacements – Engineering (c700002)

Water Engineering utilizes design-bid-build contracting on an annual basis to replace aging water mains selected by age, frequency and impact of breaks, and coordination with other City Departments. Completed in 2018, the River Street Water Main Replacement project replaced almost 4,000 linear feet of early 1900's 8" and 12" diameter cast iron pipe. This was a difficult project to design and construct due to traffic, the number of conflicting underground utilities, and a challenging bidding environment. The project was completed September 2018.

Main Replacements – Distribution (c701507)

The Department's Distribution section performs main replacements annually, typically involving mains 8" or less in diameter. In 2018, water main work included: completion of the 4" water main extension in Thurber Lane including the relocation and replacement of the pressure regulating station; replacement of 2" galvanized water main in Bonnie Street between 7th Avenue and 8th Avenue with 240 feet of 4" PVC pipe; replacement of the 2" galvanized water main in Glen Canyon Road with 65 feet of 2" copper pipe; replacement of 4" cast iron water main in Linden and Rose Streets with 2,100 feet of 6" PVC pipe and 120 feet of 4" PVC pipe; completion of the 8" water main extension in Pasatiempo Drive at Moreno Drive as well as abandoning a section of the 8" AC water main; replacement of the 4" cast iron water main in Acadia Street between Seaside Street and California Street with 620 feet of 6" PVC pipe; beginning the replacement of the 1911 4" cast iron water main in Van Ness Avenue between Mission Street and California Street.

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