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

Water Department

WATER COMMISSION

Regular Meeting

August 27, 2018

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 - 3.6) 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

   Accept the City Council items affecting the Water Department.

2. Water Commission Minutes from June 4, 2018

   Approve the June 4, 2018 Water Commission Minutes

3. Informational Items from the Public

   Receive informational items submitted from the public.

Items Removed from the Consent Agenda

General Business (Pages 4.1 - 5.41) 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. Water Transfer Pilot Project with Soquel Creek Water District: Water Quality Assessment Results and Status Update

   Receive information on the results of Phase 1 Bench Scale Testing on Water Quality parameters from mixing surface water and groundwater supplies of the Black & Veatch Pipe Loop Study.

5. Santa Cruz Water Program Update

   Receive information on the progress of the Santa Cruz Water Program and planned activities for Fiscal Year 2019.

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

6. Santa Cruz Mid County Groundwater Agency

7. Santa Margarita Groundwater Agency

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

Adjournment

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WATER COMMISSION
INFORMATION REPORT

DATE: 8/22/2018

AGENDA OF: August 27, 2018

TO: Water Commission

FROM: Rosemary Menard, Water Director

SUBJECT: City Council Actions Affecting the Water Department

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

BACKGROUND/DISCUSSION:

June 12, 2018

University Tank No.5 Permanent Replacement Project – Approval of Plans and Specifications and Authorization to Advertise for Bids and Award Contract (WT)

Motion carried to approve the Plans, Specifications and Contract Documents for the Replacement of University Tank No.5, and authorize staff to advertise for bids and award the contract in a form to be approved by the City Attorney. The City Manager is hereby authorized and directed to execute the contract as authorized by Resolution No. NS-27,563.

CIP Funding Support Contract Amendment No. 1 with Carollo Engineering (WT)

Motion carried authorizing the City Manager to execute Contract Amendment No. 1 in the amount of $163,000 with Carollo Engineering for additional CIP funding support in a form to be approved by the City Attorney

FY 2019 Budget Adoption (includes recommendation from Water Commission) (FN)

Resolution No. NS-29,410 was adopted adopting the Fiscal Year (FY) 2019 Budget, effective July 1, 2018, and directing the City Manager to make the necessary General Fund offsets to:

- Restore $56,755 of the 3-year CORE contracts
- Fund one-time $45,000 set aside

Motion carried to accept the Water Commission's recommendations, fund the Tier 1 Capital Investment Projects that were contingent on Measure S passing, and authorize the City Manager to approve actions necessary, including borrowing internally to pay down up to $8 million of CalPERS unfunded obligations.

Revolving Line of Credit Agreement (WT)

Resolution No. NS-29,411 authorizing the Water Department to enter an agreement with Bank of America for a Revolving Line of Credit to assist in the short-term financing of Capital Investment Program.

June 26, 2018

City's Classification and Compensation Plans FY19 Budget Personnel Complement (HR)

Resolution No. NS-29,414 was adopted amending the Classification and Compensation Plans and the FY19 Budget Personnel Complement by implementing the approved FY 2019 Budget Personnel/ Position Changes in several departments.

Newell Creek Dam Spillway Bridge Replacement Project – Authorization to Advertise for Bids and Award of Contract (WT)

Motion carried to approve the Plans and Specifications for the Newell Creek Dam Spillway Bridge Replacement Project, and authorize staff to advertise for bids and award the contract. The City Manager is hereby authorized and directed to execute the contract as authorized by resolution No. NS-27,563 in a form to be approved by the City Attorney.

Resolution No. NS-29,416 was adopted appropriating funds and amending the FY2018 CIP budget in the amount of $660,000 from the Water Operations Fund (711) to fund the replacement of the Newell Creek Dam Spillway Bridge.

Coast Pump Station Pipeline Replacement Design and Construction – Award of Contract (WT)

Motion carried to accept the proposal of Kleinfelder, Inc. (San Diego, CA) for design and construction support services in the amount of $175,972 for the Coast Pump Station Pipeline Replacement Project and to authorize the City Manager to execute an agreement, in a form to be approved by the City Attorney, and reject all other proposals.

Resolution to Apply for United States Environmental Protection Agency Loan for Graham Hill Water Treatment Plant Project (WT)

Resolution No. NS-29,417 was adopted authorizing the Water Department to apply for United States Environmental Protection Agency (EPA) Water Infrastructure Finance and Innovation Act (WIFIA) loan for $73 million for the planned facility rehabilitation and replacement work at the Graham Hill Water Treatment Plant Project (GHWTP).

FY 2018 Transfer Between Water Enterprise Funds and Funding for FY 2018 Projects (WT)

Resolution No. NS-29,418 was adopted to transfer funds between the Water Enterprise Funds for FY 2018 and provide additional funding for FY 2018 Projects.

August 14, 2018

Ratify Award of Contract to Cen-Con for Union Locust Building Improvements – Budget Adjustment (WT)

Motion carried to ratify the award of construction contract of the Union Locust Building Improvements to Cen-Con, Inc. (Santa Cruz, CA). Resolution No.NS-29,426 was adopted appropriating $365,000 from Water Enterprises Operations Fund 711 to fund the construction work.

Ratify Purchase for Furniture for the Union Locust Building Improvements Project from Staples Business Advantage (WT)

Motion carried to ratify the purchase of furniture for the Union Locust Building Improvements project from Staples Advantage in the amount of $144,254.

Approval of Contract Amendment No. 3-NCD Spillway Bridge with MNS Engineers for Construction Management Services – Budget Adjustment (WT)

Motion carried to approve Contract Amendment No. 3-NCD Spillway Bridge with MNS Engineering, Inc. Resolution No. NS-29,427 was adopted appropriating funds from Water Enterprise Fund 711 and amending the Water Department's FY 2019 CIP budget in the amount of $358,000.

Program Management Services with HDR Engineering Inc. Contract Amendment No. 2019-01 (WT)

Motion carried authorizing the City Manager to execute Contract Amendment No. 2019-01 with HDR Engineering Inc. for Service Order No. 4 in the amount of $7,699,106 in a form approved by the City Attorney.

10237 Newell Creek Road, Ben Lomond – Property Purchase (WT)

Resolution No. NS-29,428 was adopted authorizing and directing the City Manager to execute any and all documents necessary for the purchase of property (APN 076-251-40), in a form approved by the City Attorney.

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

ATTACHMENTS: None.

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Water Commission
7:00 p.m. – June 4, 2018
Council Chambers
809 Center Street, Santa Cruz

Water Department

Summary of a Water Commission Meeting

Call to Order: 7:01 PM

Roll Call

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

Absent: L. Wilshusen (Chair) with notification

Staff: R. Menard, Water Director; H. Luckenbach, Deputy Director/Engineering Manager; N. Dennis, Principal Management Analyst; T. Goddard, Conservation Manager; J. Becker, Finance Manager; B. Pink, Environmental Projects Analyst; D. Culver, Acting CFO; K. Fitzgerald, Administrative Assistant III

Others: 7 members of the public.

Presentation: None.

Statement of Disqualification: None.

Oral Communications: Scott McGilvray spoke as a member of the public.

Announcements: None

Consent Agenda

1. City Council Items Affecting Water
2. Water Commission Minutes from May 7, 2018

Commissioner Schwarm moved the consent agenda. Commissioner Mekis seconded.

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

Items moved from the Consent Agenda

General Business

3. Recommendation to Council to approve the FY 2019 Recommended Operating and CIP Budgets

The FY 2019 Recommended Operations and CIP Budgets were presented by Nicole Dennis, Principal Management Analyst. Ms. Dennis' presentation addressed the Commissioners' questions, comments from the May 7, 2018 Commission meeting. The presentation included updated Analytics and comparative rate structure increases, and a printed version of the Operating Budget and updated Pro Forma. The Pro Forma portion of the presentation was introduced by N. Dennis, Principal Management Analyst and presented by Jeremy Becker, Finance Manager.

When did the North Coast AG 10/1/16 rate of $3.58 listed on page 3.27 go into effect?

- The five-year rate schedule for Outside City Users shown on page 3.27 was adopted by City Council on August 16, 2016. The $3.58 per ccf Consumption Charge for North Coast Agricultural users went into effect as of October 1, 2016, and has increased on July 1, 2017 and July 1, 2018, and is now $4.15 per ccf. The October 1, 2016 Infrastructure Reinvestment Fee for North Coast Agricultural users was $3.05 per ccf as of October 1. 2016 and increased on July 1, 2017 and July 1, 2018, and is now $3.58 per ccf.

Commissioners requested that staff add a footnote on page 3.23 to indicate the year to year changes in 2014 for Engineering and Distribution and 2019 increases in Conservation, Engineering, and Resources Management.

Commissioners requested staff to update the wording on the Water Rates Impact chart on page 3.25.

Ms. Dennis introduced Mr. Becker for the discussion of the Pro Forma.

Why does the Rate Stabilization Revenue funding cease after 2022 even though it was approved by the City Council?

- Rate increases have not been approved by the City Council past June 30, 2021 and the Rate Stabilization Reserve Surcharge is not included because it is estimated that the $10 million goal for the Rate Stabilization Reserve Fund will be met before that time.

  The Rate Stabilization fee of $1/ccf was specifically designed to build up that fund to $10 million through the application of the $1 per ccf surcharge, which went into effect on July 1, 2017. Once the $10 million fund balance is reached, the Long Range Financial Plan (Plan) includes a provision that the question of continuing the surcharge be brought back to Council for discussion as described in the excerpt of the plan included below:

> **6.5.3 ALLOCATIONS OF REVENUES THAT ARE HIGHER THAN EXPECTED**
>
> A reasonable question is what to do if revenue stability does not turn out to be an issue because consumption is either stable at 2.5 billion gallons per year or is greater than 2.5 billion gallons. The Department proposes the following conditional approach to addressing this situation if it occurs:

If….

- The minimum debt service coverage ratio target of 1.5 is being consistently met, and
- Reserves are fully funded, and
- "pay-as-you-go" capital is being funded at an average over the previous 3 years of at least 25%;

Then either…

- Additional planned rate increases will be adjusted to the level needed to produce required revenues without any excess,[1] or
- The water department will ask the city council for additional direction regarding adjusting the amount of funding in the emergency reserve and the rate stabilization reserve to be an established percent of the operating budget (rather than a fixed dollar amount), accelerating capital reinvestment in system infrastructure, or increasing the proportion of capital that is being paid for with "pay-as-you-go" funding.

Is the $8 million dollar difference in the Volumetric Revenue of the Pro Forma between FY 2018 and FY 2019 due to the implementation of the water rate increases?

- The Volumetric Revenue amount listed under Rate Revenues in the FY 2019 column is a projection given the rate increases. Volumetric Revenue is currently tracking at 5%-6% below the projected revenue amount for FY 2018 so that lower revenue realization combined with projected revenues for FY 2019 is why that dollar difference appears large.

On page 3.20, how is the $1.6 million System Development fund, listed under Total Revenues for 2019, Resources by Fund, included in the Pro-Forma?

- The Pro Forma has been created as a financial planning tool for projecting revenues and expenses that related to rate revenues and the operating and capital expenditures they fund or support. System Development revenues come specifically from connection fees from new growth and development charges.

  Section 16.14.040 (c) of the Municipal Code includes the following provisions for the use of System Development Charges collected by the Water Department:

  (c) Use of Charge Revenues. System development charge revenues shall be placed in a separate and special account and such revenues, along with any interest earnings on that account, shall be used exclusively for the following purposes:

[1] The public notices required under Proposition 218 are required to identify (and justify based on the cost of service) the maximum amount that will be charged for a service. A utility has the option of charging less than the maximum amount published in the required notices. The obverse, however, is not true, which is the major reason for building into a more heavily volumetric rate structure a mechanism to mitigate for lower than anticipated revenues due to lower than forecasted water sales.

(1) To pay for the city's future construction of system expansion and improvements to be financed by system development charge revenues;

(2) To reimburse developers who have installed system development financed water facilities which are larger than needed for the certain development and are subject to the terms of a reimbursement agreement; or

(3) To pay for water conservation programs approved by the city council which have the net effect of increasing the amount of water supply available for allocation to new or additional demand.

As the Water Service Area is largely built out, the annual amount of money typically generated from System Development Charges has not been significant enough for many years to fund major capital improvements. In recent history, funds from the System Development account have been used extensively to fund water conservation rebate programs, which results in funds related to growth paying for water conservation activities that offset demands related to growth. Also, System Development Fees are not annual revenues so they cannot be used as part of the Debt Service Coverage Ratio calculation.

How is the Revolving Line of Credit (RLC) draw added into cash balances?

- The Pro Forma shows information about funds accessed from the RLC in two places:
    1. In the first line under Capital Expenditures, in FY 2020 an $18,250,000 repayment of short-term borrowing from the RLC is shown. That short-term borrowing would be converted to long-term debt as part of the planned FY 2020 debt issuance.
    2. In the Second Line under the Total Cash Balances, cash draws in the amount of $18,250,000 from the RLC are shown in FY 2018 and FY 2019.

  Funds from the two draws from the RLC are showing up in the Net Revenues line of the Pro Forma.

Commissioners requested that Department staff add a footnote to the Pro Forma to indicate that revenues from 2022 onward have been listed based on what is required to maintain the debt service coverage ratio in order to avoid assumptions about rate increases that have not been approved by Council.

What are the percentage increases for each year after the 2022 column in the Pro Forma?

- The Department has projected an average of 8% for each year. One of the challenges the Department will face when the next Cost of Service study is conducted will be figuring out how to best balance the rate increases with tools like the RLC. Now that the Department is working collaboratively with HDR, Inc., we hope to be able to gain better insight and information that will allow us to anticipate future financial impacts when determining potential rate increases.

Ms. Menard introduced and discussed the letter from the Water Commission to the City Council. The letter was developed collaboratively between Water Department staff and Chair

and Vice-Chairs of the Water Commission and is intended to be a record of the review processes for finances that occur throughout the fiscal year. The final draft of the letter will be signed by the Chair of the Commission and will be submitted as a package with the attachments listed on page 5 under the Finance Department's budget item for the June 12, 2018 City Council meeting.

Commissioners recommended that the draft letter to City Council include additional language stating "publicly noticed Water Commission meetings" on page 1 in the second paragraph to note the availability of information to the public during the winter and spring of 2018. Commissioners also commented that the voice of the letter appears to alternate between the Department and the Commission and requested that it be reviewed to assure that the voice of the Commission was being represented. The Department was complimented on its efforts to present a thorough and transparent budget to the Council. Commissioners also recommended including a note on page 3.30 that Fund 715 is being excluded from the financials.

Ms. Menard commented that the goal of the letter addressed to City Council is to highlight the financial materials to the City Council that have been presented for review and discussion by the Water Commission throughout the year.

A member of the public spoke on the effects of the North Coast AG water rates on water customers in the agricultural farming industry.

Commissioner Schiffrin moved the Recommendation to City Council to Approve the FY 2019 Recommended Operating and CIP Budgets with the additions that the letter to Council be reviewed by the Chairperson to accurately reflect the voice of the Commission and that a report is received by the next Commission meeting on August 27, 2018 regarding the North Coast Agricultural water rates*. Commissioner Mekis seconded.

*(Due to potential litigation, the requested report will not be available at the August 27, 2018 Water Commission meeting.)

VOICE VOTE: MOTION CARRIED
AYES: All
NOES: None
ABSTAIN: None

4. Decision Framework Discussion.

The presentation on the Decision Framework Discussion was given by Heidi Luckenbach.

The presentation provided an overview of the current Decision Framework Discussion for the Water Supply Augmentation Strategy based on the recommendations from WSAC and the work by the Water Commission ad hoc subcommittee.

How does the staff report relate to the presentation on the Decision Making Framework?

- The presentation contains more information than the staff report and is intended to provide more detail on the Decision Making Framework.

What is meant by the use of the word "trigger" in the presentation?

- In this context, the term "trigger" is intended to mean a signal that an action needs to be taken as a result of technical or analytical work not meeting initial parameters. For example, a trigger could result in needing to take an action to revise a work scope or the assumptions underlying some of the work being done. If the result obtained from some of the technical or analytical work was some kind of fatal flaw for the water supply option being studied, for example, a technical or analytical result indicating that a key performance metric for a water supply alternative can't be met based on the result of technical analysis, the trigger could result in a discussion with the Water Commission and development of a recommendation from the Water Commission to the City Council to change the basic approach being taken in implementing the recommendations of the Water Supply Advisory Committee.

Would City Council permission be required to create a portfolio of solutions in the decision making process?

- Probably not. The WSAC's direction was to generate a project or portfolio of projects that would "solve" the water supply reliability problem. The challenge to be met in making any proposal for a project or portfolio of projects is that the analyses and decision-making work have to be both transparent and accessible (understandable) to everyone involved so that everyone can feel confident that both the spirit and letter of the WSAC's recommendations were followed.

On page 4.3, it states that "WSAC weighted some criteria greater others. E.g., cost is greater than redundancy." Can staff clarify how criteria for a potential project are ranked in order of importance per WSAC guidelines?

- This was only an example and does not represent how WSAC rates criteria for each potential project. The criteria will depend on the particular project that is being contemplated. The intent is to use these processes, such as ranking criteria, in decisions to be discussed in the upcoming meetings toward the end of the calendar year.

Commissioners requested that Staff continue to develop and review WSAC criteria and decision points to bring back to the Commission for further discussion.

A member of the public spoke regarding fish flow evaluations and addressed water storage issues within the County of Santa Cruz.

5. Quarterly Water Supply Augmentation Strategy (WSAS) Update

The presentation on the Quarterly Water Supply Augmentation Strategy (WSAS) Update was given by Heidi Luckenbach, Deputy Director/Engineering Manager.

Is the delay on the Mid-County Groundwater Basin modeling going to impact any decision made by the Commission on the ASR Phase 1 work?

- The Department does not anticipate that the delay will impact any decision made by the Commission.

When will more information be presented to the Commission on Advanced Treated Recycled Water referenced on page 5.6?

- Department staff is developing an implementation plan for additional support for the WSAS work plan with HDR, Inc. and is planning on presenting more information to the Commission by October or November of this year.

Has the Department conducted an analysis on potential impacts of recycled water to the current quantity of water flow that is available for recycling and whether recycled water can be sustainable over time?

- Yes, this analysis has been completed and the results of it informed the quantity of water included in the Memorandum of Agreement (MOU) the City negotiated with Soquel Creek Water District. That MOU indicated the volume of wastewater available to Soquel Creek based on a capped quantity of water that would meet their needs.

How is the Department's analysis of Advanced Treated Recycled Water impacted when other water districts undertake their own recycled water studies and could this lead to a potential partnering between districts?

- The analyses supporting the conclusion that there is enough water to support both a potential Soquel project and a City project is included in the Recycled Water Feasibility Planning Study report. Advanced Treated Recycled Water has also been analyzed from both a cost and a space constraint perspective in conjunction with Soquel Creek Water District.

What is the Regional Water Quality Control Board's (RWQCB) indication on the subsurface intake sites for desalination?

- Determining the feasibility of subsurface intake requires additional work. The Desalination Feasibility Update report outlines this work and will be brought to the Commission, hopefully later this year.

Why are the water loss percentages similar for the Mid-County Groundwater and Santa Margarita Groundwater Basins?

- Estimates of water loss from "groundwater storage" projects (i.e., in lieu and ASR) were made as part of the preliminary planning work done during the WSAC process. Technical work in both the Santa Cruz Mid-County and the Santa Margarita groundwater basins done over the last couple of years has provided some additional information about aquifer conditions that could influence loss rates. However, until pilot testing is done, loss rates will continue to be estimated.

What is the current loss rate for the water system?

- The current water loss estimates, based on the 100 miles of water main that have been surveyed, are between approximately 200-215 million gallons a year. Effectively, one out of every ten gallons of water that is produced by the City is lost due to either not being read through meters, causing a loss in revenue or leaks in distribution mains, which create the physical loss.

When can staff present the Phase 1 Bench Top testing results for the In Lieu Water transfers referenced on page 5.3?

- The results will be available by the end of June and will be a topic on the August 27th Water Commission agenda.

Why are the water loss profiles different for ASR and in lieu water transfers?

- With an ASR project, water is injected and extracted at the same location and losses are associated with the aquifer's permeability and ability to retain the water injected.

  With in lieu water transfers, treated water from the City would be delivered to the receiving water agency's actual customers and will cause increased aquifer storage as a result of both natural recharge and reduced use of the aquifer due to in lieu water deliveries that will offset pumping.

  Unless the City is able to take the water from the aquifer locations where the reduced pumping occurs, it is highly likely that the amount the City could recover from in lieu deliveries will differ from ASR because the benefits to the aquifer from in lieu may not necessarily align with where the additional withdrawals for drought storage to meet the City's needs occur. That is, losses to the aquifer may be greater with in lieu. This doesn't necessarily mean that in lieu isn't worth pursuing, but it does introduce a complexity that doesn't occur when calculating losses from ASR, for example.

  There are natural losses associated with in lieu projects because natural recharge may not be occurring within the same aquifers from which the pumping occurs, when pumping is needed. For example, the city could provide in lieu water to a neighboring agency to rest their wells, allowing natural recharge to occur. When the wells are used, say during drought, they may draw from areas not necessarily related to the location of natural recharge, though the aquifer as a whole benefits from the natural recharge.

Subcommittee/Advisory Body Oral Reports

6. Santa Cruz Mid-County Groundwater Agency

- Ms. Menard commented that on May 17th a meeting was held with the MGA board that consisted of mainly business items. She also noted that the Advisory Committee and the Mid-County Groundwater Agency Board will hold a joint meeting on Thursday, July 19 at 7:00 pm at the Simpkins Family Swim Center. The meeting agenda will focus on a presentation and discussion of the work underway by Mid-County Groundwater Agency member agencies to evaluate various supplemental supply alternatives and the WSAC plan. The Groundwater Sustainability Planning Advisory Committee met on May 23rd and discussed additional perimeters for the groundwater sustainability indicators, subsidence and groundwater levels and incorporating those indicators into groundwater modeling work. The location for the GSR advisory committee meetings will change in June and will be at the Simpkins Family Swim Center and continue on the fourth Wednesday of each month.

- Ms. Menard commented that there will be an MGA stakeholder meeting on June 14th at the First Congregational Church in Soquel.

7. Santa Margarita Groundwater Agency

- Commissioner Engfer commented that the Agency will be having the next meeting on June 28th. The committee has chosen a facilitator who will work with the Board through

the remainder of the calendar year to conduct a joint goal setting effort. June will be the last bimonthly meeting potentially. The groundwater modeling consultant, Hydro Focus based in Davis, CA has been hired to analyze the current models for the Santa Margarita Basin and determine if any are updates or other changes that need to be made. In addition, the first draft of the budget for the upcoming year has been presented and action to adopt the budget will occur at the June meeting. The Department of Water Resources recently reclassified the Santa Margarita Groundwater Basin as being a low priority basin but the data used in changing its classification from medium to low priority was not correct. This error is now being corrected.

Director's Oral Report:

- Ms. Menard introduced a draft of the Work Plan for the remainder of 2018 to the Water Commission. The intention of the draft Work Plan is to provide a time frame of the items that will be agendized for discussion, including the Graham Hill Water Treatment Plant upgrades that will be presented in December.

Informational Items from the Public

Adjournment Meeting adjourned at 9:17 PM.

Respectfully submitted,

Katy Fitzgerald
Staff

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August 13, 2018

Water Commission
c/o Rosemary Menard, Water Director
City of Santa Cruz Water Department
212 Locust Street
Santa Cruz, CA 95060

Santa Cruz City Council
809 Center Street, Room 10
Santa Cruz, CA 95060

Re: Protest of ADU Sewer Connection Fee and ADU Water Development Fee; 1325 Laurel Street, Santa Cruz; APN: 006-311-03

Dear Water Commissioners and Members of the City Council:

I am writing on behalf of Donna Mekis, the owner of the residential property at 1325 Laurel Street, in the City of Santa Cruz (the "Property").

The original of this letter is being personally-delivered to the Water Department, along with a check for $9,177.00, which is the total amount of utilities fees and charges being imposed on the ADU that Ms. Mekis is constructing at the Property ("the Project" or "the ADU") pursuant to the July 5, 2018 Water Service Information Form addressed to Ms. Mekis's contractor, LeBlanc Construction. A copy of the July 5, 2018 Water Service Information Form is attached hereto and incorporated herein.

Pursuant to Government Code section 66020 *et seq.*, I am submitting this letter in protest of the $900 ADU Sewer Connection Fee ("Sewer Fee") and the $7,279 ADU Water Development Fee ("Water Fee"), as listed in the July 5, 2018 Water Service Information Form, which the City of Santa Cruz Water Department is imposing as a condition of the City's final inspection of and/or issuance of an occupancy permit for Ms. Mekis's ADU.

The Project is a single ADU, which is comprised of the conversion of an existing garage plus the addition of a second story over the existing garage footprint. The City has previously determined that no new City water connections or sewer connections are necessary, and the ADU's water and sewer facilities are tied into the water main and meter of the main house and the sewer lateral of the main house. Construction of the project is nearly completed, and Ms. Mekis is close to requesting final inspections and a certificate of occupancy.

The Water Fee is subject to and violates State ADU laws (including but not limited to SB 1069), which preempt any conflicting City ADU rules or regulations, and both the Water Fee and the Sewer Fee are subject to and preempted by the state Mitigation Fee Act, Government Code section 66000 *et seq.*

The City's imposition of the Water Fee violates Government Code section 65852.2(f), which provides that local agencies cannot charge water or sewer connection fees or capacity charges against ADUs because ADUs are not to be considered a new residential use. In pertinent part, section 65852.2(f) states as follows:

> Accessory dwelling units shall not be considered by a local agency, special district or water corporation to be a new residential use for the purposes of calculating connection fees or capacity charges for utilities, including water and sewer service.

The $7,279 Water Fee and the $900 Sewer Fee listed on the Water Service Information Form include connection fees and/or capacity charges that the City is imposing on a new ADU, and thus, the City's imposition of these fees on the Project violates section 65852.2(f)(2). Our understanding is that the City's main authority for imposing the Water Fees on Ms. Mekis's ADU is City Code section 16.14.040, which applies to "System Development Charges". Our position is that the City's System Development Charge is the same as, or is a type of, "capacity charge", as that term is used in Government Code section 65852.2. Some evidence for this is City Council Resolution No. NS-29,180, which equates "capacity charge" and "System Development Charge" in the fifth Whereas clause.

In addition, under Government Code section 65852.2(f)(2)(b), even though the Project is not an ADU described in subdivision (3) (i.e., one that is contained within the existing space of a single-family residence or accessory structure), the City cannot impose a connection fee or capacity charge against this Project because the City did not require, and the Project does not include, new or separate water or sewer connections between the ADU and the City water and sewer mains.

To the extent that the Water Fee and the Sewer Fee reflect the City's estimated connection costs, the City's imposition of these fees on the Project violates Government Code section 65852.2(f)(2)(b) because they are not proportionate to the burden imposed on the water system by adding a connection (that is, the construction cost of adding the connections), because there are no new connections. For the same reason, the City's imposition of connection fees or charges on the Project also violates Government Code section 66013, which prohibits water or sewer connection or capacity fees or charges that "exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed…."

For all of these reasons, we demand that the City immediately refund $8,179.00 in Water Fees and Sewer Fees that the City has illegally assessed against Donna Mekis's ADU Project.

We believe this protest letter satisfies all administrative exhaustion requirements that would be necessary to bring an enforcement action pursuant to Government Code section 66020(d)(2), which preempts any City rules re reconsideration and/or administrative appeal, and Ms. Mekis reserves all rights to maintain that position. However, to the extent the City believes that Ms.

Mekis must exhaust any administrative remedies by requesting reconsideration by any City official or agency, or by filing an administrative appeal with any City official or agency, then please consider this letter as constituting such a request and/or appeal.

Yours truly,

Miles J. Dolinger

Encls.

CC (BY EMAIL ONLY):

Clients
Anthony Condotti, City Attorney
Alex Khoury, Assistant Planning Director

WATER FOR SANTA CRUZ COUNTY

Ms. Rosemary Menard
Santa Cruz Water Department Director
Santa Cruz, CA 95060
Via email

August 22, 2018

Re: Sustainable water supply for North Santa Cruz county

Dear Rosemary,

Water for Santa Cruz continues to work on the details of transferring water to SqCWD customers from North Coast streams that are used by Santa Cruz under pre-1914 water rights. This letter describes an average rainfall year, 2016, and investigates the water that could be harvested over a 15 year period of time, assuming in our model this average year is repeated 15 times. 2016 has been chosen because it was an average rainfall year, 30 inches, even though the N. Coast water taken during the year was only 537 Million gallons, which is less than the 671 million gallon average predicted by Santa Cruz's 2015 Urban Water Management plan update.

In this study WFSCC considered the monthly water that could have been sent to SqCWD, determining that amount by taking the least of:

1. N. Coast monthly pumping (2016)
2. SqCWD demand (2017) for that month
3. Intertie capacity (1.4 mgd x days per month).

The monthly totals were then used to total an amount of water that could have been sent to SqCWD from N. Coast sources over the entire year.

Base table, month by month analysis of water available and usable from N. Coast streams to serve customer demand in SqCWD

	Month			All Units are in millions of gallons									
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Yr. Totals
SqCWD demand, 2017	73	61	70	73	97	107	116	110	107	103	76	74	1,067
N. Coast streams, 2016	33	61	67	59	47	60	51	50	38	22	21	28	537
1.4mgd max.	43	39	43	40	43	42	43	43	42	43	42	43	506
Lesser of SC supply vs. SCWD demand, or 1.4mgd	33	39	43	40	43	42	43	43	38	22	21	28	435
			Jan - May		198		If spend 18 million			Jan - May		198	
			70% June - Dec		166		to increase intertie			70% June - Dec		189	
			Annual total		364					Annual total		387	

5 different options of Water supply for the next 15 years were tracked and tallied. The 5 options are:

1. Water transfer pilot project ….100 million gallons per year
2. Water transfers increased to the maximum 1.4 million gallons per day Jan. – May.
3. Water transfers Jan – May, plus 70% of summer N. Coast water
4. Pure Water Soquel, 500 million gallons per year, beginning 2024
5. Year round water transfers from N. coast PLUS 500 million gallons from San Lorenzo river

The 15 year cumulative water totals for each option that could be transferred to SqCWD to allow the wells there to rest and the aquifer to recover would then be as follows:

-Option 1. 1.6 billion gallons
-Option 2. 3.17 billion gallons
-Option 3. 5.49 billion gallons
-Option 4. 5.00 billion gallons
-Option 5. 10.6 billion gallons

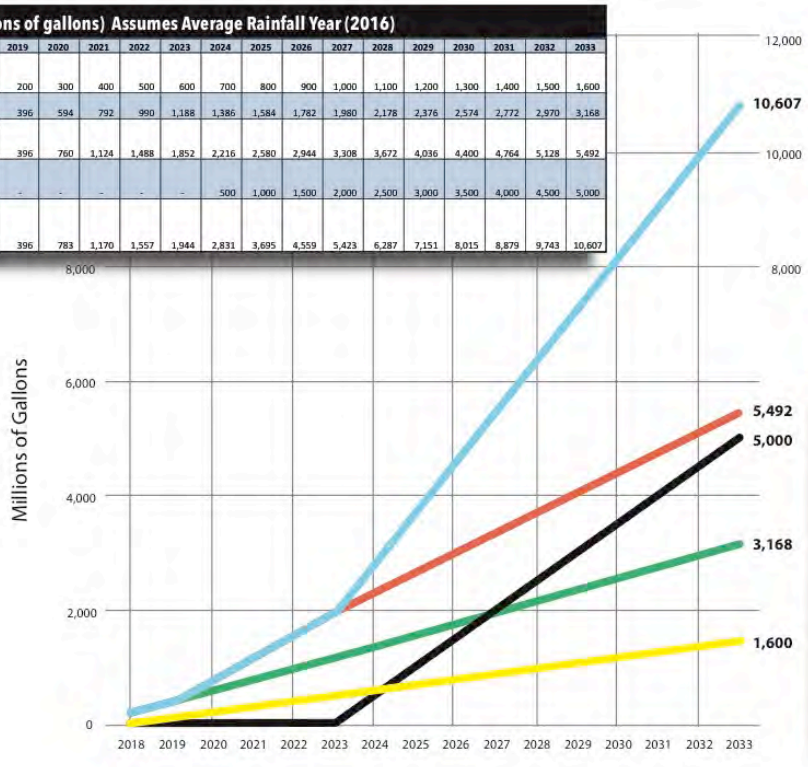
Here is the table and graphic that illustrate the 15 year cumulative effect, out to 2033 .

WATER FOR SANTA CRUZ COUNTY

Santa Cruz 15-Year Water Supply Options

Cumulative Harvest (millions of gallons) Assumes Average Rainfall Year (2016)

	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Option 1: Transfer N. Coast to SqCWD Jan.-May only. Pilot project. Cost = $0.00	100	200	300	400	500	600	700	800	900	1,000	1,100	1,200	1,300	1,400	1,500	1,600
Option 2: Transfer N. Coast to SqCWD Jan.-May only. Cost = $0.00	198	396	594	792	990	1,188	1,386	1,584	1,782	1,980	2,178	2,376	2,574	2,772	2,970	3,168
Option 3: Add 70% N. Coast June – Dec. begin 2020.Cost = $18 million (increase intertie capacity)	198	396	760	1,124	1,488	1,852	2,216	2,580	2,944	3,308	3,672	4,036	4,400	4,764	5,128	5,492
Option 4: Pure Water Soquel. Begin 2024. Cost = $135 million – $183 million	-	-	-	-	-	-	500	1,000	1,500	2,000	2,500	3,000	3,500	4,000	4,500	5,000
Option 5: Option 3 plus 500 mg., permit change, implement 2024, Cost = $18 million (increase intertie capacity)	198	396	783	1,170	1,557	1,944	2,831	3,695	4,559	5,423	6,287	7,151	8,015	8,879	9,743	10,607



Option1: Transfer N. Coast to SqCWD Jan. – May only. Pilot project. Cost = $0.00

Option 2: Transfer N. Coast to SqCWD Jan. – May only. Cost = $0.00

Option 3: Add 70% N. Coast June – Dec. begin 2020. Cost = $18 million (increase intertie capacity)

Option 4: PureWater Soquel. Begin 2024. Cost = $135 million – $183 million

Option 5: Option 3 plus 500 mg., permit change, implement 2024, cost = $18 million (increase intertie capacity)

Annual Winter Harvest

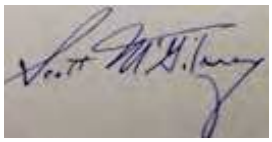
Options	Millions of gallons
1	100
2	198
3	364
4	500
5	864

revised 08.17.18

John Aird and I would very much appreciate the opportunity to meet with you again to review the assumptions made and results obtained in this modeling to make sure that we're not missing something crucial in this analysis and that its findings seem reasonable and legitimate based on the information used.

Please let us know when it might be possible for us to squeeze onto your schedule to go over this with you in the very near future as we think this information could be very valuable for the deliberations underway in the ongoing process of developing water supply solutions for the region.

Sincerely yours,



Scott McGilvray
For Water for Santa Cruz.

Cc: John Ricker
John Aird
Linda Wilshusen SC Water commission chair
Doug Engfer, SC Water commission vice-chair

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WATER COMMISSION
INFORMATION REPORT

DATE: 8/21/2018

AGENDA OF: August 27, 2018

TO: Water Commission

FROM: Kevin Crossley, Senior Engineer

SUBJECT: Water Transfer Pilot Project with Soquel Creek Water District: Water Quality Assessment Results and Status Update

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RECOMMENDATION: Receive information on the results of Phase 1 Bench Scale Testing on Water Quality parameters from mixing surface water and groundwater supplies of the Black & Veatch Pipe Loop Study.

BACKGROUND:
In August 2016, the City of Santa Cruz (City) and Soquel Creek Water District (District) entered into a five-year agreement for the "Cooperative Water Transfer Pilot Project for Groundwater Recharge and Water Resource Management" (Pilot Project) in which the City agreed to sell available water to the District during times when the City has available supply, approximately between November and March each year. The District's purchase of City water through the Pilot Project is intended to allow the District to rest its wells to reduce pumping stresses on over-drafted aquifers and begin to assess the effects of reduced pumping of the basin on the shared groundwater basin and how surface water delivered through an in-lieu recharge strategy could play a role in resolving the critical overdraft in the Santa Cruz Mid-County Groundwater Basin.

Exploring the feasibility of an in-lieu recharge program with local groundwater-based utilities is a key component of the City's Water Supply Augmentation Strategy (WSAS) developed by the Water Supply Advisory Committee. The City and District are using the Pilot Project to help inform the potential future development of a longer-term agreement. To that end, information related to system water quality, physical system operations, and responsiveness to groundwater levels will be collected over the term of the Pilot Project.

Water quality is a critical consideration when source waters are changed within a water distribution system. An example of water quality impacts is the City of Fresno's discolored water due to corrosion of galvanized pipe after switching to a new source. The Fresno example along with the well-known experiences in the City of Flint, Michigan reinforce the need to proceed

cautiously and conservatively prior to initiating the City's transfer of water to the District under the Pilot Project.

The City and District have been working proactively to analyze potential water quality impacts of the planned water transfers to ensure a reliable water supply and maximum protection of public health. In June 2016, the District, in cooperation with the City, contracted with Black & Veatch to complete a desktop Intertie Blending Analysis to assess the compatibility of the City's water with the District's distribution piping. The study did not identify any fatal flaws but did identify the potential for the District to experience discolored water due to the release of accumulated metals (pipe scale). City and District staff agreed that additional testing and analysis was merited in order to better understand the potential water quality changes associated with integrating City water into the District's system and to determine the need for corrosion control strategies such as raising the pH of the City's water at the point of delivery to the District's distribution system or adding orthophosphate (a corrosion inhibitor) to the District's distribution system prior to and during use of City water.

DISCUSSION:
In August 2017, the City, in cooperation with the District, contracted for additional services with Black & Veatch to complete a more detailed Water Quality Assessment to build on the information developed in the Intertie Blending Analysis. The scope of this assessment included two parts: bench scale laboratory corrosion testing and if necessary, based on the findings of the first part, testing for pipe loop corrosion. The bench scale corrosion testing included: metal wire testing to assess the corrosivity to new or aged galvanized iron pipe; metal coupon testing using both new pipe and harvested pipe from the District's distribution system to gain information with regards to the aggressiveness of the current water source and potential treatment conditions, as well as their impact on metals release and corrosion of pipe surfaces; and scale testing on pipe harvested from the District's system to examine the composition of metals within the scale and other defining characteristics.

Upon completion of the bench scale testing, Black & Veatch did not recommend proceeding to the pipe loop corrosion testing based on testing results that did not show a need to adjust water chemistry either at the intertie or within the District's system. Based on these findings, the City and District staff are actively pursuing initiating water transfers for Water Year 2019 per the Pilot Agreement if conditions are met for the City to deliver water and for the District to accept water.

The Pilot Project agreement provides the terms and conditions for providing water to the District. In determining available water supply, the agreement indicates that the City may take into account any or all of the following: the City has not declared or is operating under any mandatory water curtailment stage; Loch Lomond is full and spilling or projected to spill by April 1; flows for aquatic resources are being met; Beltz wells are off; the operations are in compliance with CEQA; on a monthly basis, the volume of water delivered shall be less than or equal the amount diverted from Liddell Springs and/or Majors Creek; the hydraulic capacity of the intertie not be exceeded. (A full listing of terms and conditions can be found in the Pilot Project agreement.)

In addition, for the District to accept City water approval is necessary from the State Water Resources Control Board, Division of Drinking Water (DDW). City staff participated in a meeting with the District, Black & Veatch, and DDW in June 2018 to present the results of the Water Quality assessment and discuss DDW's approval process. DDW requirements will include public outreach and enhanced distribution system water quality monitoring. Staff anticipates DDW approval could be received by October 2018.

The findings of the bench scale study will be presented at the Water Commission meeting and are detailed in the attached August 1, 2018 Bench Scale Testing Technical Memorandum: Water Quality Assessment – City of Santa Cruz Water Department & Soquel Creek Water District. In addition, staff will provide a status update of the water transfer project.

FISCAL IMPACT: None. Note, however, that the City and District are equally sharing all costs.

PROPOSED MOTION: Receive information on the results of the Bench Scale Water Quality Assessment from mixing surface water and groundwater supplies performed by Black & Veatch.

ATTACHMENTS: Bench Scale Testing Technical Memorandum: Water Quality Assessment – City of Santa Cruz Water Department and Soquel Creek Water District (August 1, 2018) found online at http://www.cityofsantacruz.com/home/showdocument?id=72995.

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WATER COMMISSION
INFORMATION REPORT

DATE: 8/23/2018

AGENDA OF: August 27, 2018

TO: Water Commission

FROM: Kevin Crossley, Senior Engineer

SUBJECT: Santa Cruz Water Program Update

RECOMMENDATION: Receive information on progress of the Santa Cruz Water Program and planned activities for Fiscal Year 2019.

BACKGROUND: In December 2017, the Water Department initiated a multi-year contract with HDR Inc. for program management services. As program manager, HDR will augment Water Department staff to execute the planning, design, and construction of its Capital Investment Program (CIP), the Santa Cruz Water Program (Program). The water system's diversion, transmission, and treatment infrastructure is approaching the end of its service life and will require major upgrades or replacement over the next decade. In that same timeframe, the Department is on track to select and construct a supplemental water supply project as directed by the Water Supply Advisory Committee. The confluence of aging infrastructure and the need for new supply results in a 10-year CIP of approximately $350 million in today's dollars, representing a tripling of the Department's recent CIP output on an annual basis.

The Department has very capable, but relatively small engineering and operations groups who would be insufficient in size to deliver this magnitude of capital work. A program management approach provides access to the right expertise at the right time to assist with the highly varied technical and managerial requirements and needs of delivering a complex, diverse infrastructure program.

DISCUSSION:
Over the last 6 months, progress has been made in a number of areas. Highlights include completion of the program mobilization phase, transitioning into integrated city staff/consultant project delivery teams, and beginning the planning and preliminary engineering work on the Graham Hill Water Treatment Plant Upgrades Project. At the Water Commission meeting, staff will present additional information of progress made since the February 2018 commission update as well as the work planned for the next year. Presentations slides are provided as Attachment 1.

Attachment 2 is an excerpt from the Program monthly progress report and is included in this packet to highlight the types of tools that have been implemented as part of the Program such as risk management, cash flow forecasting, and internal communications.

A summary of key program activities includes:

- Program Mobilization consisting of a number of critical activities and milestones that form the foundation for longer-term program success including assessment of current IT, financial, engineering, and operations systems and practices for delivery of projects; development of a Program charter which summarizes the scope, goals, and definition of success; assessment of future staffing needs; development of a standardized project delivery model; set-up of a web-based document collaboration site and document management system; development of a program management plan detailing the processes and procedures to be used across all capital projects.

- Design management assistance to the Newell Creek Dam Inlet/Outlet Replacement and Coast Pump Station 20-inch Line Replacement project teams. HDR's assistance has helped to ensure the Newell Creek Dam project has remained on schedule. A technical review and comments were provided for structural, electrical, and instrumentation disciplines on the Inlet/Outlet Project 50% design documents. Design Management Guidelines were finalized and issued.

- A comprehensive condition assessment and facility master plan document for the Graham Hill Water Treatment Plant. The update is currently 50% complete.

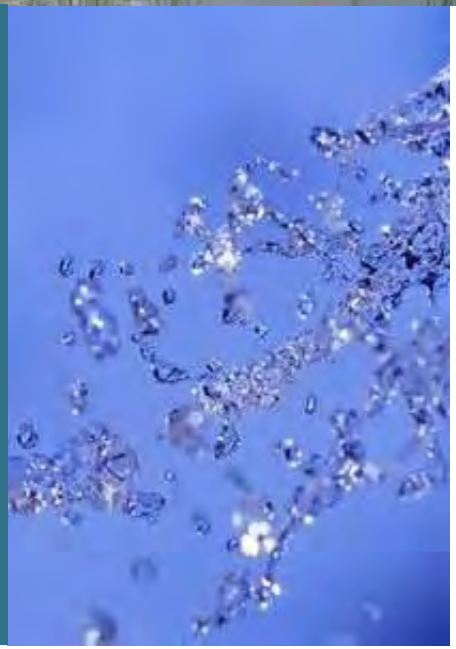
In addition to summarizing the work accomplished to date, the staff presentation will present key pieces of the Fiscal Year 2019 Annual Work Plan. The Annual Work Plan (Attachment 3) is a summary of the projects, resources, and planned activities over the next year, a summary program schedule and the program management fee. The Annual Work Plan and associated contract amendment, which includes the detailed scope and fee, were both approved by City Council on August 14, 2018. The work planned for FY 2019 represents a significant scaling up in work for the Water Department capital program and staff has worked very carefully with HDR to develop the plan to meet overall implementation schedules while at the same time not overburdening existing staff.

FISCAL IMPACT: None.

PROPOSED MOTION: Receive information on the progress of the Santa Cruz Water Program and planned activities for Fiscal Year 2019.

Attachments:
1) August 27, 2018 Presentation
2) Excerpt-Santa Cruz Water Program-July Monthly Progress Report
3) Fiscal Year 2019-Annual Work Plan

5.3



Santa Cruz Water Program

Water Commission Update

August 27, 2018

CITY OF SANTA CRUZ

Santa Cruz Water Program

Objective

Provide update on the Santa Cruz Water Program including major progress to date and overview of planned work for Fiscal Year 2019

Agenda

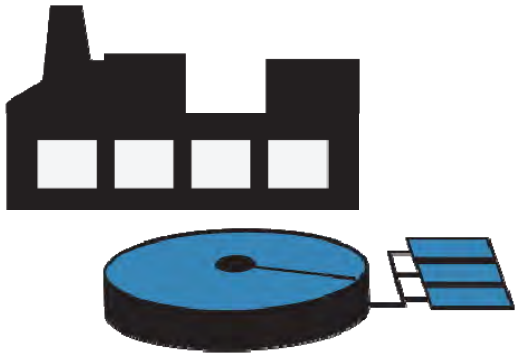
1. Review elements of the Santa Cruz Water Program
2. Discuss Progress to Date
3. Review Program Annual Work Plan (Service Order 4)

The Santa Cruz Water Program

Building a 21st century water system for our community and the environment

5.6

Renew Diversions, Pipelines, and Pumps



Improve Treatment Reliability

Water Supply Augmentation

Overview of Program Activities (Jan-July 2018)

Service Order - Task	Summary
SO 1 - Program Mobilization ($603,185)	• Establish a Program Management Office • Write Program Management Plan (PMP) • Complete “Validation” including budget, schedule, and resource analysis
SO 2 - Design Management and Program Administration ($596,420)	• Provide design/project management assistance on projects • Conduct Value Engineering (VE) sessions • Implement Risk Management, Document Management, and Quality Assurance Plans
SO 3 - Planning, Preliminary Engineering, and Support Services ($1,309,873)	• Initiate work on the Graham Hill Water Treatment Plant Facility Plan update • Assist with ROW negotiation on Newell Creek Dam Inlet/Outlet Project

SO 1-Program Mobilization

- Program Management Plan (PMP) – Create, document, and train staff on tools, procedures, and processes for executing projects (project delivery model, monthly reporting)
- Program Validation – Identify and define projects, build baseline schedule and budget, and conduct resource analysis
- Develop initial program risk register and quality assurance plan

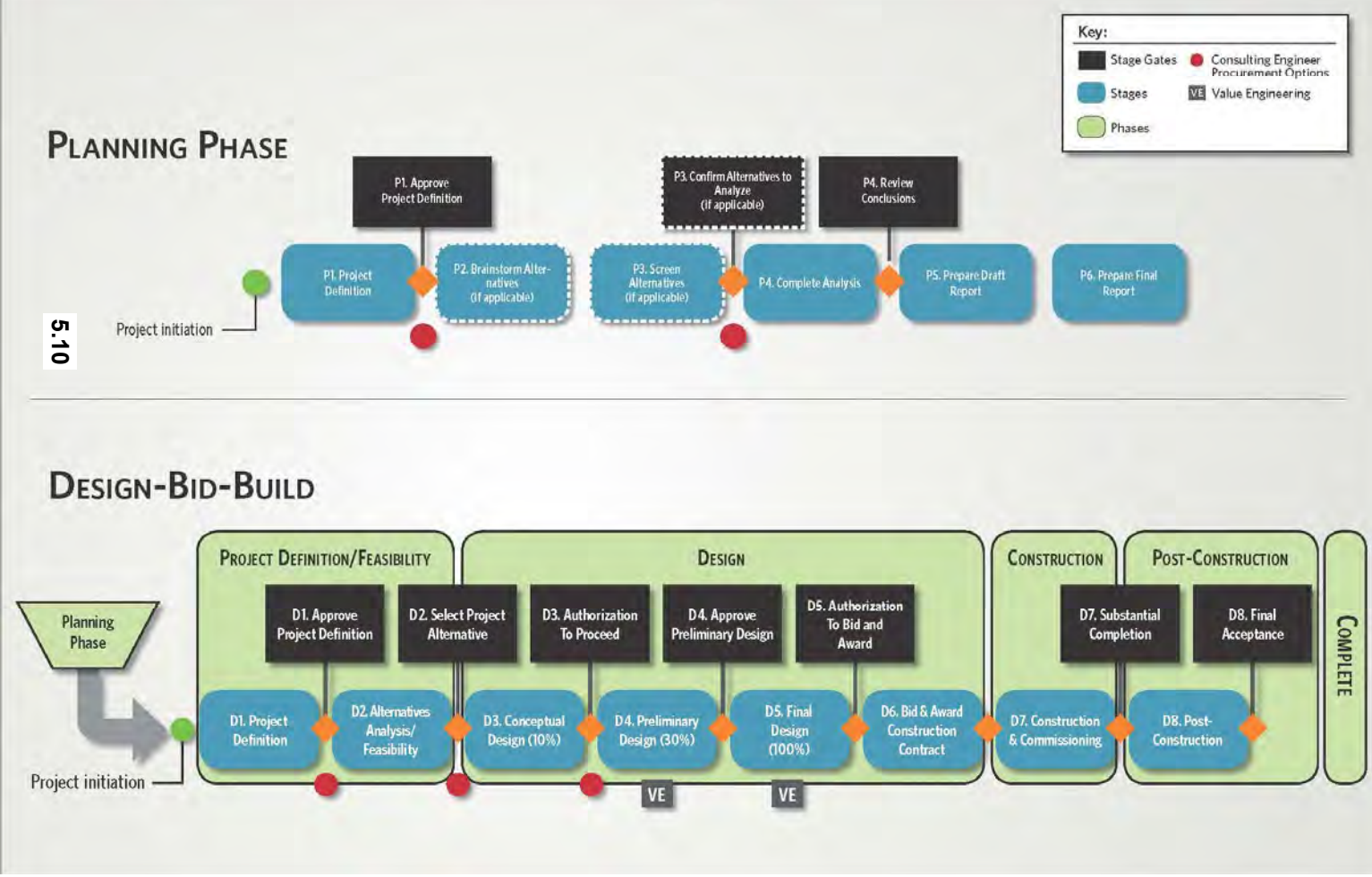
5.8

The Program Management Plan (PMP)

Section
0. Introduction and Table of Contents
1. Project Delivery Model (PDM)
2. Change Management
3. Business Case Evaluation (BCE) Format
4. O&M Coordination Plan
5. Document Management
6. Program Controls Plan IT System; Work Breakdown Structure; Schedule Management; Cost Management; Invoice Management; Monthly and Quarterly Reporting
7. Health, Safety, & Security Plan
8. Risk Management Plan
9. Quality Management Plan
10. Training and Workforce Development Plan
11. Project Validation
12. Design Management Guidelines
13. Construction Management Guidelines
14. Communications and Public Outreach Plan
15. Staffing Analysis

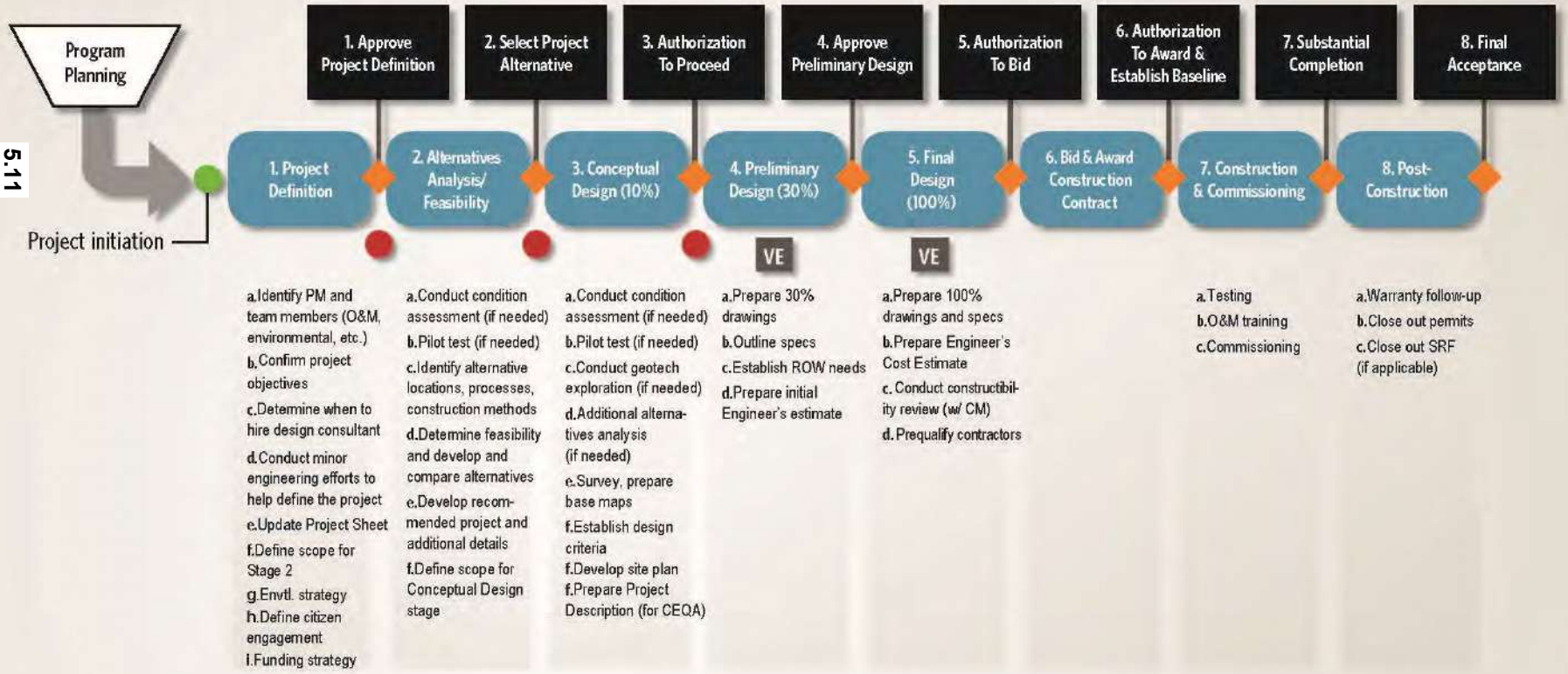
SANTA CRUZ WATER PROGRAM

Project Delivery Model



Project Delivery Model

DESIGN-BID-BUILD



5.11

SANTA CRUZ WATER PROGRAM - MONTHLY PROGRESS REPORT

AUGUST 2019

MAJOR ACTIVITIES AND PROGRESS

This month, the Program team continued with program implementation. Project managers (PMs) completed monthly project reporting in Program format for active projects. We held initial stage gate review meetings on three projects and made updates to streamline the stage gate documentation process. All active Program projects completed the "project initiation" step of the project delivery model (PDM) to formally identify key project team members. The Program's master project list on share point is completed and current.

The integrated Program team from Engineering, Operations, and HDR came together for an extended team building exercise. Benefits of the event were immediate and impactful and will contribute to the success of Program implementation.

The Design Management Guidelines guidance document is finalized. Assistance with standardization of the Department's "front end" specifications is underway. Monthly Program PM meetings are planned for initiation next month and will provide a venue for information sharing regarding Program performance, cross-project issues, process implementation, and lessons learned.

Service Order 4 for HDR's program management contract was finalized for submittal to council. The budget and schedule for the Water Program projects for FY 2019 is now set, significant changes to which will proceed through the Program's change management process.

Extensive work continues on the GHWTP Facilities Plan Update, Newell Creek Dam Inlet-Outlet Pipeline Replacement project, and the Graham Hill WTP Concrete Tanks project (see below).

ROW ACQUISITION SUMMARY

Right-of-way (ROW) acquisition on the Program is currently happening on the Newell Creek Dam Inlet/Outlet Pipeline project. The following ROW activities occurred this past month on that project:

- Provided feedback on all Nelson property contract documents
- Held a conference call with Heidi Luckenbach, Jeff Wisniewski, and Kevin Fellows on purchase status and contract documents review
- Inquiries made on status of Nelson property acquisition

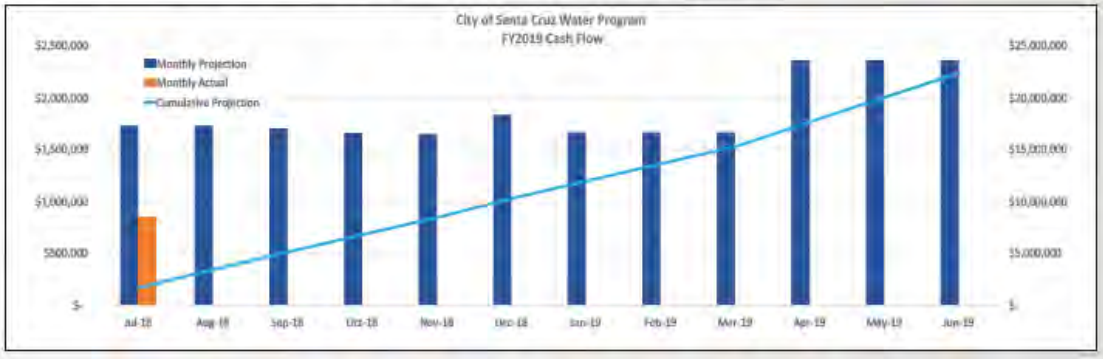
UPDATE ON MAJOR PROJECTS

Newell Creek Dam Inlet/ Outlet Pipeline Replacement	*GHWTP Facilities Plan Update*	*Graham Hill WTP Concrete Tanks*
• AECOM 50% design comment resolution • Final 50% Design Package submitted to DSOD July 31 • VE Workshop July 9-12 and draft VE Study Report submitted to City on July 27 • CM Draft Final RFP submitted to City • NOP public review period closed July 28 • CEQA Scoping meeting held July 18 • D4 Stage Gate meeting schedule for Aug 14 • 50% design presentation to DSOD schedule for Aug 16 • Revised 50% design cost estimate due Aug 10 • Selection of VE proposal by the City by Aug 8 • Advertise RFQ for CM services Aug 17 • Administrative Draft EIR due Aug 31	• Brian Watanabe (HDR) is now working weekly from the WTP to facilitate Ops involvement and coordination • Conference call held on July 11 to review results of on-site Kruger jar testing • Alternatives Screening Workshop held on July 16. Nine initial alternatives were presented for screening. Four alternatives were selected for further refinement as a part of the Alternatives Analysis study • Progress meeting held for Pipeline Condition Assessment on July 27 • Conference call held for Chloramination Assessment to review data request • Alternative Selection Workshop scheduled for September 18 as well as submitting Hanson Quarry Alternative Development TM, Facility Condition Assessment TM, Pipeline Condition Assessment TM, Distribution System Water Age Analysis TM, and Chloramination Assessment TM	• Received initial 50% comment responses from WY • Continued resolution of 50% design review comments and VE comments: – Review meeting with City, HDR, West Yost held on July 16 – City leadership meeting to develop resolution action plan and collaborative strategy held on July 27 • Engaged HDR to review feasibility of siting for downstage facility near sedimentation basin as part of GHWTP upgrades project • Finalized dewatering technology selection: belt filter press • Identified cross project operational concerns through construction and beyond for resolution (ex: disinfection strategy, emergency storage) • Defined potential project changes for change mgt consideration: – storage requirement basis – reclaim process and volume

TOP PROGRAM RISKS

No.	Level	Group	Risk Description	Likelihood	Consequence	Severity Score	Mitigation	Owner
16	Program	Environmental/ Permitting	Difficulty in meeting environmental permitting constraints leading to delays and/ or increased cost	4- High	4- High	16	Early engagements with the permitting agencies. Early identification of permitting issues. Identify opportunities for regulatory avoidance/minimization. Work closely with the permitting agencies even after application submittal. Allow sufficient time in the schedule for CEQA review and permitting.	Sarah Perez
104	Program	Environmental/ Permitting	Regulatory agencies staff shortage causing delay to environmental permitting	4- High	4- High	16	Identify resource requirements and a realistic approach for filling the gaps.	Sarah Perez
105	Program	Environmental/ Permitting	CEQA delay resulting in permitting delay	4- High	4- High	16	Allow sufficient time in the schedule for CEQA review and permitting.	Sarah Perez
2	Program	Staffing	Limited City staff availability slows down decision making and/or affects adequate project reviews	3- Medium	5- Very High	15	Identify resource requirements and a realistic approach for filling the gaps. Succession planning. Supplement City staff with consulting staff. On-going "staff needs" review. Double-up—train two people, in case one leaves. Or, have a more junior level person work with them, to have some knowledge capture/transfer. Watch assignments we give people—invest in people we believe will stay. Where possible, capture key tools/processes in writing. Estimate staff needs 1-2 years ahead. Require succession planning for first several levels of the delivery org chart.	Karen Pappas Heidi Luckenbach
100	Program	O&M	Construction has a major impact on the operation of the treatment plant	3- Medium	5- Very High	15	Reduce likelihood of it happening by investigating in advance (e.g., pot-hole utilities in advance). Reduce consequence by developing a contingency plan to allow us to rapidly implement a repair (e.g., an on-call contractor to repair with unit pricing). More thorough condition assessment. Implement alternative modes of operation to allow water supply to continue (e.g., temporary cross-connections, carefully-planned shut downs, limit number of processes that can be shut down at one time).	Kevin Crossley (O&M Liason)

PROGRAM CASH FLOW - CURRENT AND PROJECTED

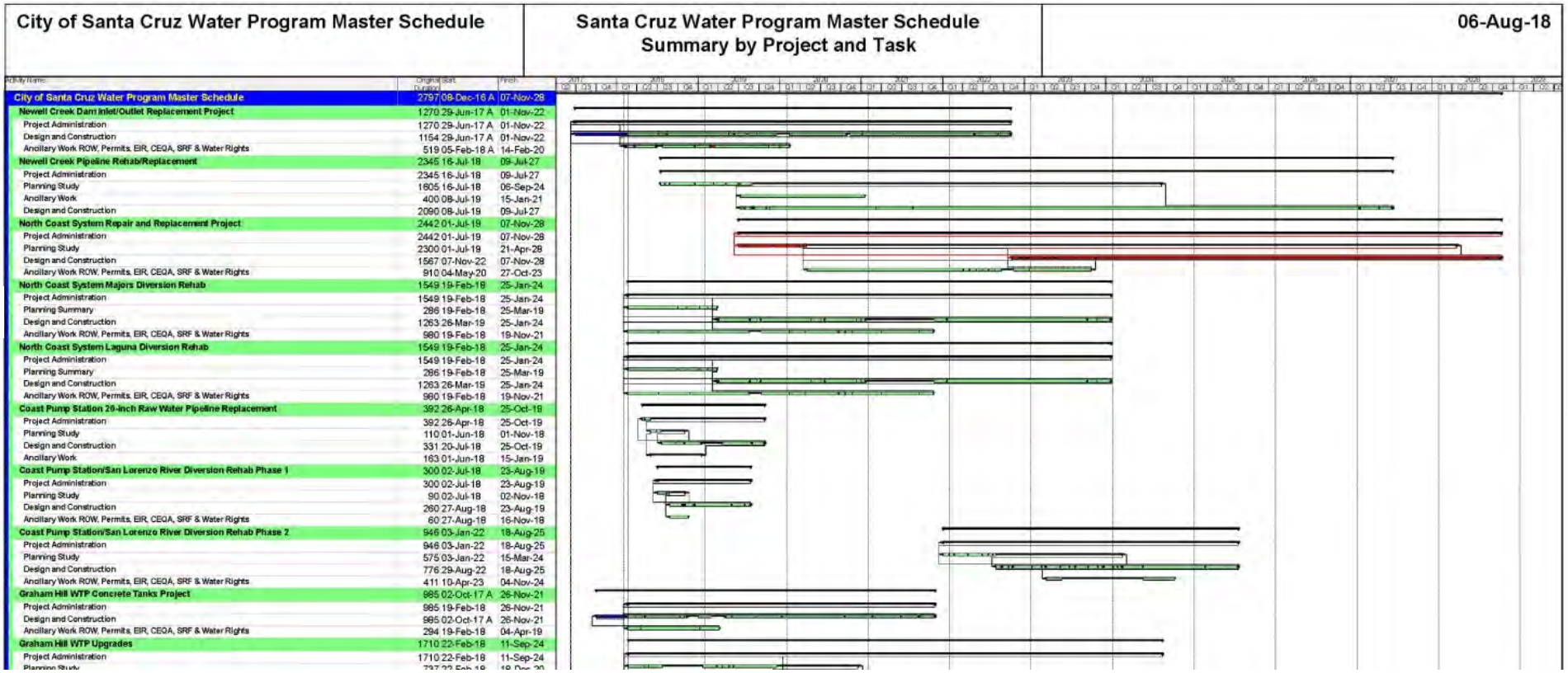


5.12

Validation: Major Steps

5.13

Validation: Program Master Schedule



City of Santa Cruz Water Program Master Schedule

Santa Cruz Water Program Master Schedule
Summary by Project and Task

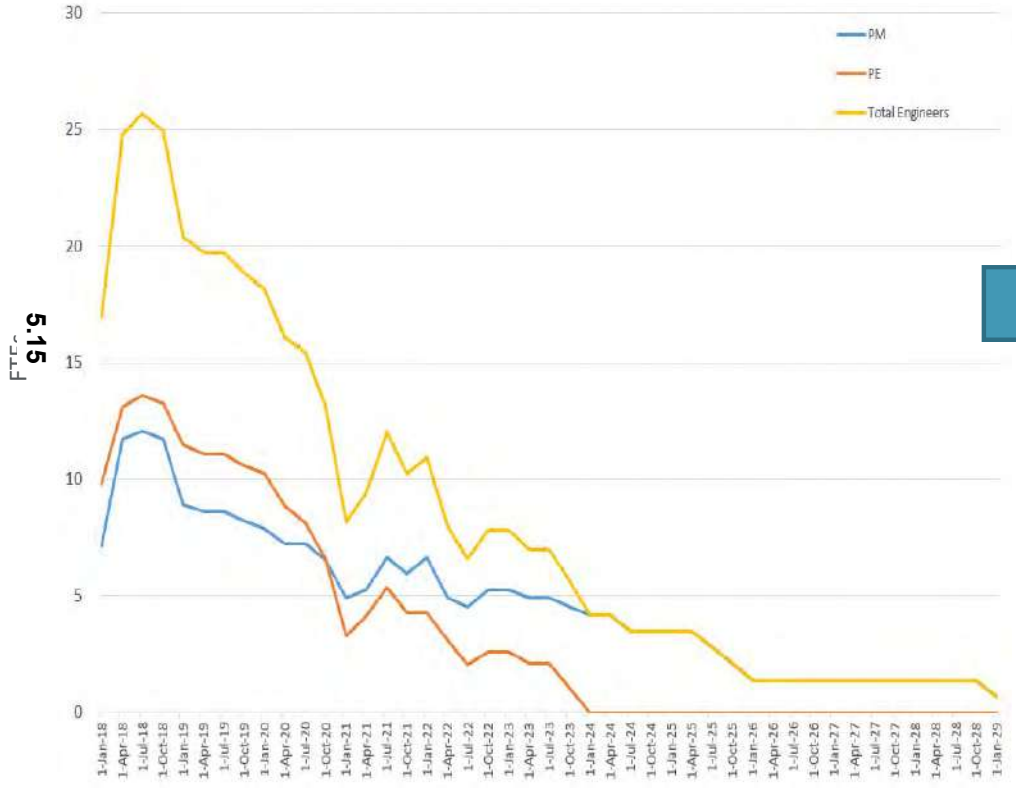
06-Aug-18

Activity Name	Original Duration	Start	Finish
City of Santa Cruz Water Program Master Schedule	2797	08-Dec-16 A	07-Nov-28
Newell Creek Dam Inlet/Outlet Replacement Project	1270	29-Jun-17 A	01-Nov-22
Project Administration	1270	29-Jun-17 A	01-Nov-22
Design and Construction	1154	29-Jun-17 A	01-Nov-22
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	519	05-Feb-18 A	14-Feb-20
Newell Creek Pipeline Rehab/Replacement	2345	16-Jul-18	09-Jul-27
Project Administration	2345	16-Jul-18	09-Jul-27
Planning Study	1805	16-Jul-18	06-Sep-24
Ancillary Work	400	08-Jul-19	15-Jan-21
Design and Construction	2090	08-Jul-19	09-Jul-27
North Coast System Repair and Replacement Project	2442	01-Jul-19	07-Nov-28
Project Administration	2442	01-Jul-19	07-Nov-28
Planning Study	2300	01-Jul-19	21-Apr-28
Design and Construction	1567	07-Nov-22	07-Nov-28
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	910	04-May-20	27-Oct-23
North Coast System Majors Diversion Rehab	1549	19-Feb-18	25-Jan-24
Project Administration	1549	19-Feb-18	25-Jan-24
Planning Summary	286	19-Feb-18	25-Mar-19
Design and Construction	1263	26-Mar-19	25-Jan-24
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	980	19-Feb-18	19-Nov-21
North Coast System Laguna Diversion Rehab	1549	19-Feb-18	25-Jan-24
Project Administration	1549	19-Feb-18	25-Jan-24
Planning Summary	286	19-Feb-18	25-Mar-19
Design and Construction	1263	26-Mar-19	25-Jan-24
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	980	19-Feb-18	19-Nov-21
Coast Pump Station 20-inch Raw Water Pipeline Replacement	392	26-Apr-18	25-Oct-19
Project Administration	392	26-Apr-18	25-Oct-19
Planning Study	110	01-Jun-18	01-Nov-18
Design and Construction	331	20-Jul-18	25-Oct-19
Ancillary Work	163	01-Jun-18	15-Jan-19
Coast Pump Station/San Lorenzo River Diversion Rehab Phase 1	300	02-Jul-18	23-Aug-19
Project Administration	300	02-Jul-18	23-Aug-19
Planning Study	90	02-Jul-18	02-Nov-18
Design and Construction	260	27-Aug-18	23-Aug-19
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	60	27-Aug-18	16-Nov-18
Coast Pump Station/San Lorenzo River Diversion Rehab Phase 2	946	03-Jan-22	18-Aug-25
Project Administration	946	03-Jan-22	18-Aug-25
Planning Study	575	03-Jan-22	15-Mar-24
Design and Construction	776	29-Aug-22	18-Aug-25
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	411	10-Apr-23	04-Nov-24
Graham Hill WTP Concrete Tanks Project	985	02-Oct-17 A	26-Nov-21
Project Administration	985	19-Feb-18	26-Nov-21
Design and Construction	985	02-Oct-17 A	26-Nov-21
Ancillary Work ROW, Permits, EIR, CEQA, SRF & Water Rights	294	19-Feb-18	04-Apr-19
Graham Hill WTP Upgrades	1710	22-Feb-18	11-Sep-24
Project Administration	1710	22-Feb-18	11-Sep-24

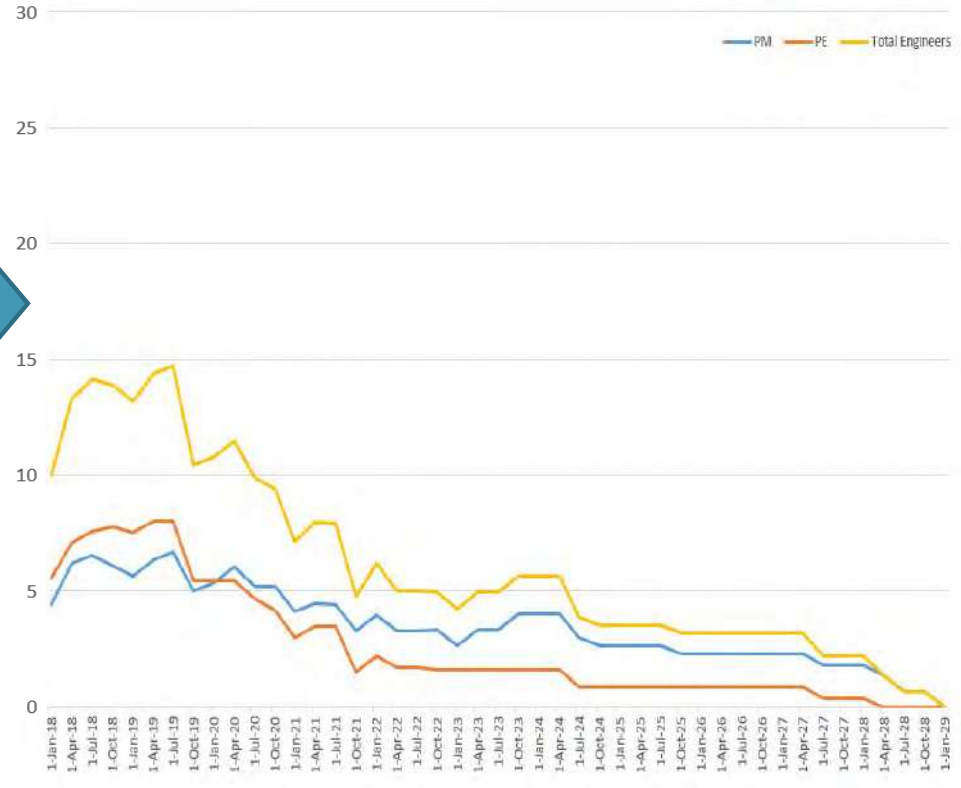
5.14

Validation: Program Staff Resource Analysis

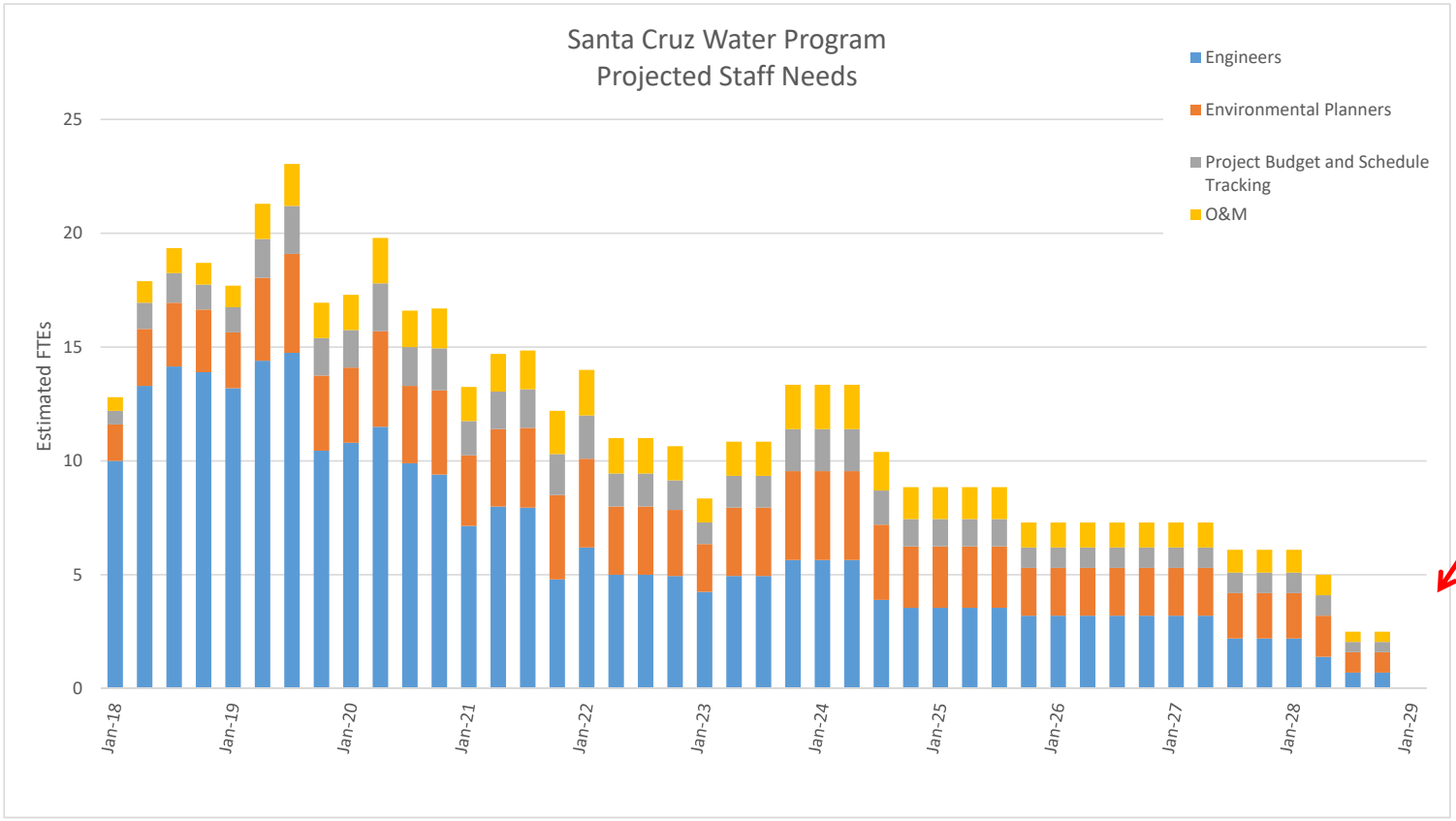
Engineers (Preliminary)



Engineers (Final; With Packaging)



Validation: Total Program Staff Needs

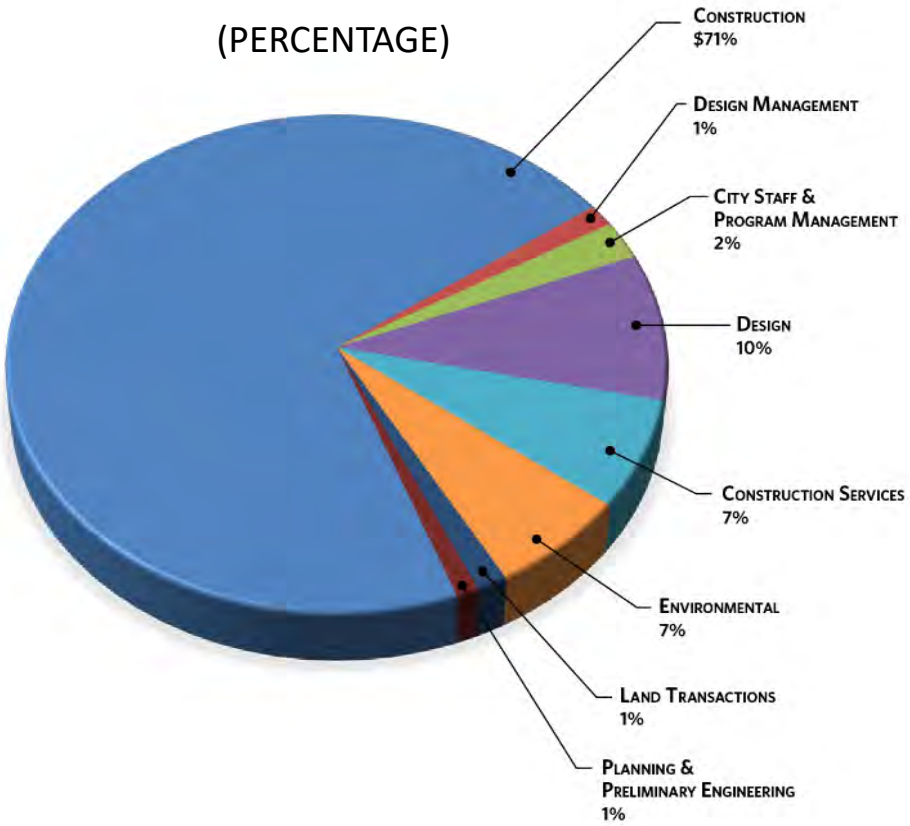


Staff needs for Program shown here are *in addition* to staff for CIP projects outside of Program.

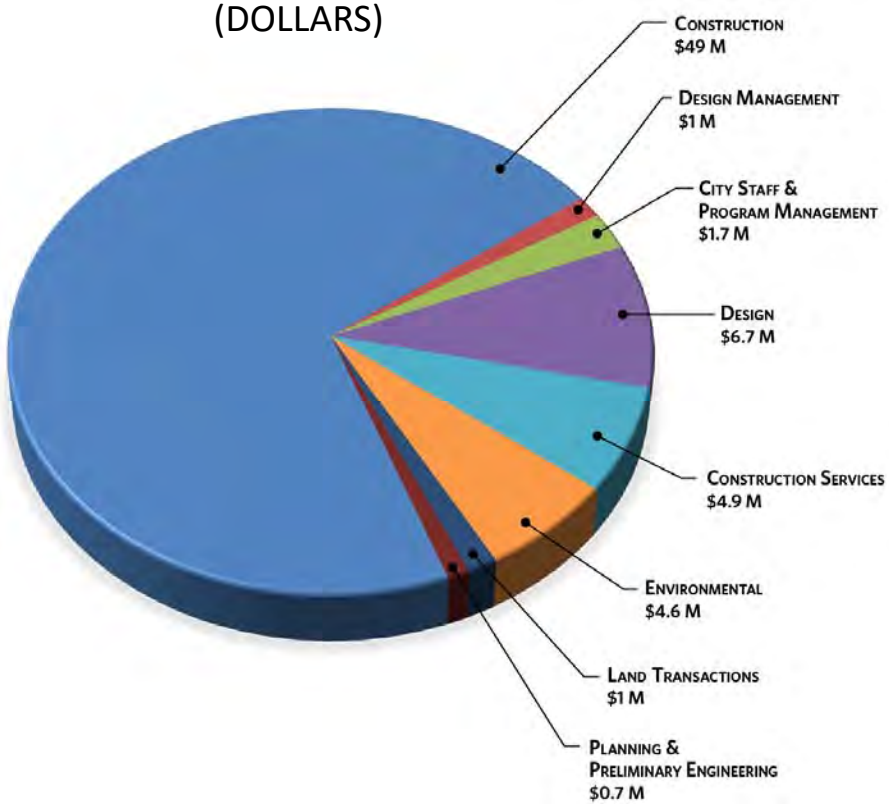
5.16

Cost breakdown for a $70M Project

(PERCENTAGE)



(DOLLARS)

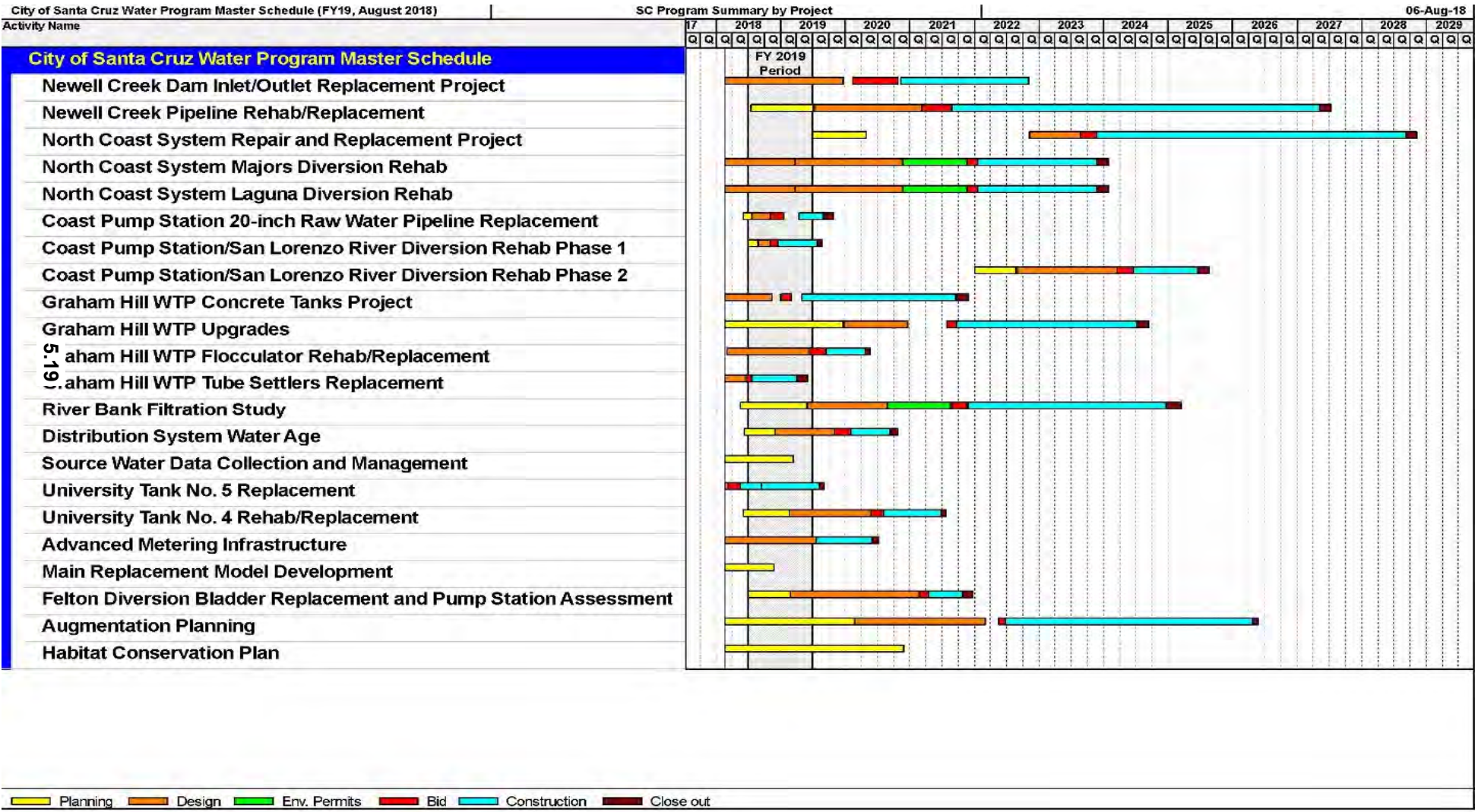


5.17

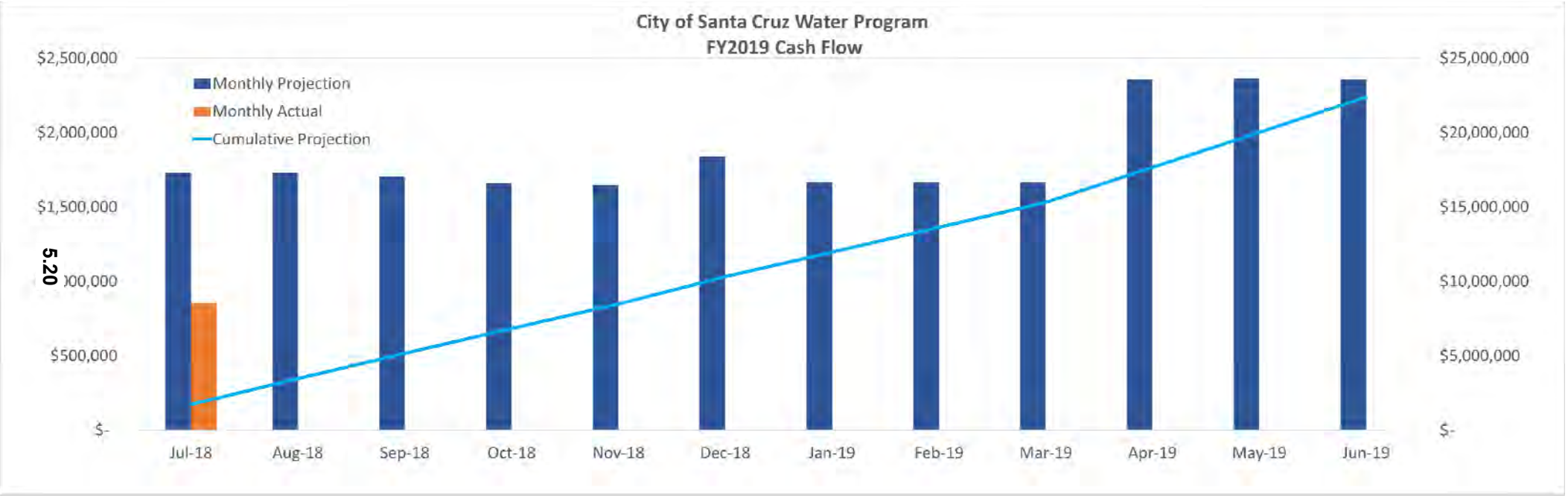
Validated Program Budget

Program Projects	Total Project Budget
Newell Creek Dam Inlet/Outlet Pipeline Replacement Project	$ 50,000,000
Newell Creek Pipeline Rehab/Replacement	$ 61,750,000
North Coast System Repair and Replacement Project	$27,190,000
North Coast System Laguna Diversion Rehab	$ 1,515,000
North Coast System Majors Diversion Rehab	$ 1,515,000
Coast Pump Station 20-inch Raw Water Pipeline Replacement	$ 680,000
Coast Pump Station/San Lorenzo River Diversion (Phase 1 and 2)	$ 7,710,000
Graham Hill WTP Concrete Tanks Project	$ 34,600,000
Graham Hill WTP Upgrades	$ 80,000,000
Graham Hill WTP Flocculator Rehab/Replacement	$ 2,510,000
Graham Hill WTP Tube Settlers Replacement	$ 1,570,000
Riverbank Filtration Study	$ 6,220,000
Distribution System Water Age	$ 2,200,000
Source Water Data Collection and Management (LIMS system implementation)	$ 52,000
University Tank No. 5 Replacement	$ 3,837,000
University Tank No. 4 Rehab/Replacement	$ 5,360,000
Automated Metering Infrastructure	$ 11,000,000
Main Replacement Program Support	$ 2,500,000
Felton Diversion Bladder Replacement and Pump Station Assessment	$ 1,390,000
Habitat Conservation Plan	$ 1,110,000
Augmentation Planning • Augmentation Strategy Plan • ASR and In-Lieu Strategy Technical Memos, Delivery Infrastructure Plan • Recycled Water & Desalination	$80,000,000

Program Schedule



FY 2019 - Annual Cash Flow Projection



5.20

Key Take-Aways on Program Cost and Schedule

- Near-term projects can be constructed within the financial envelope of adopted rate increases
- Actively pursuing State and Federal Low-Interest Loans to reduce project financing costs
- On-going adjustments to project schedules likely to “smooth” peaks in construction spending in future years
- Construction escalation is a factor that will drive program total cost

5.21

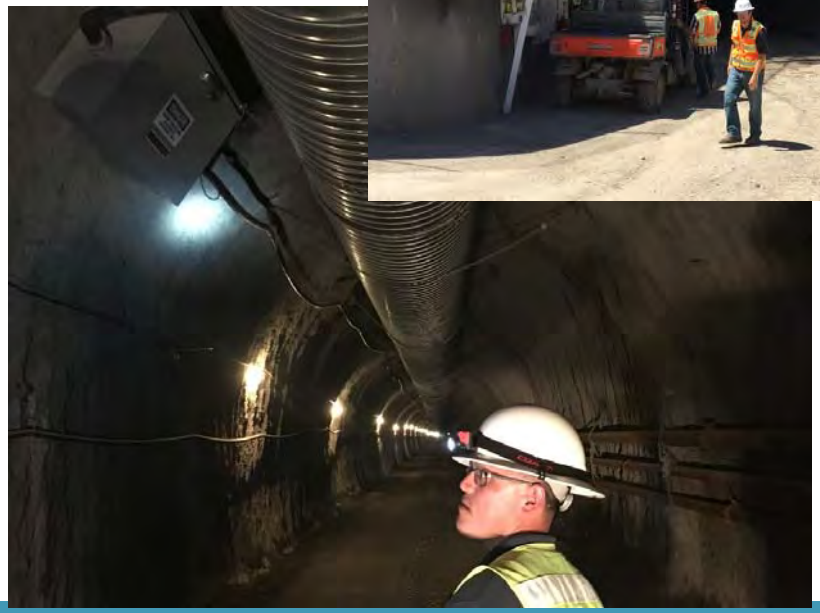
SO 2 - Design Management and Administration

- Provided project management assistance to City PM on the Newell Creek Dam (NCD) Inlet/Outlet Project and Coast Pump Station Line Repair
- Conducted Value Engineering workshops for process technical review and cost saving alternatives (NCD I/O project; GHWTP Tanks project)
- Across all projects: Implemented Program policies, procedures, and systems such as risk management, QA/QC, and Project Delivery Model

5.22

NCD I/O $50,000,000

- Facilitated review of 50% design package
- Provided ROW research, documentation, and assistance leading to proposed purchase of Nelson Property
- Conducted VE Session



Photos from recent tunnel tour, Oakdale CA

5.23

GHWTP Tanks $34,600,000

- Supported 50% design package review, specifically for electrical discipline
- Conducted VE Session to consider process enhancements, verify construction sequencing, and develop cost saving alternatives for City's consideration
- Facilitated cross-project integration of the GHWTP Tanks project and other projects for streamlined implementation

5.24

SO 3 - Program Deliverables and Support

- Initiated key planning for the GHWTP Facilities Plan Update

- Provided support for successful implementation of the Program:
  - Prepared CEQA and Environmental Permitting Strategy
  - Provided right-of-way services (NCD I/O project)
  - Supplied technical expert input (risk planning workshops; design review workshops; program funding strategy)

5.25

GHWTP Facility Planning

Objective: Establish implementation plan to address treatment requirements and goals; Identify and prioritize the improvement projects for incorporation in the Program

- GHWTP Condition Assessment ✓
- GHWTP On-Site Pipeline Assessment (in progress)
- Develop and Evaluate Alternatives (in progress)
- Perform Supplemental Studies:
  - Hanson Quarry Alternative Development ✓
  - Jar Testing ✓
  - Ozone Testing ✓
  - Distribution System Water Age Assessment (in progress)
  - Chloramination Assessment (in progress)

Completion Date: December 2018

Crack in basin wall

Exposed aggregate

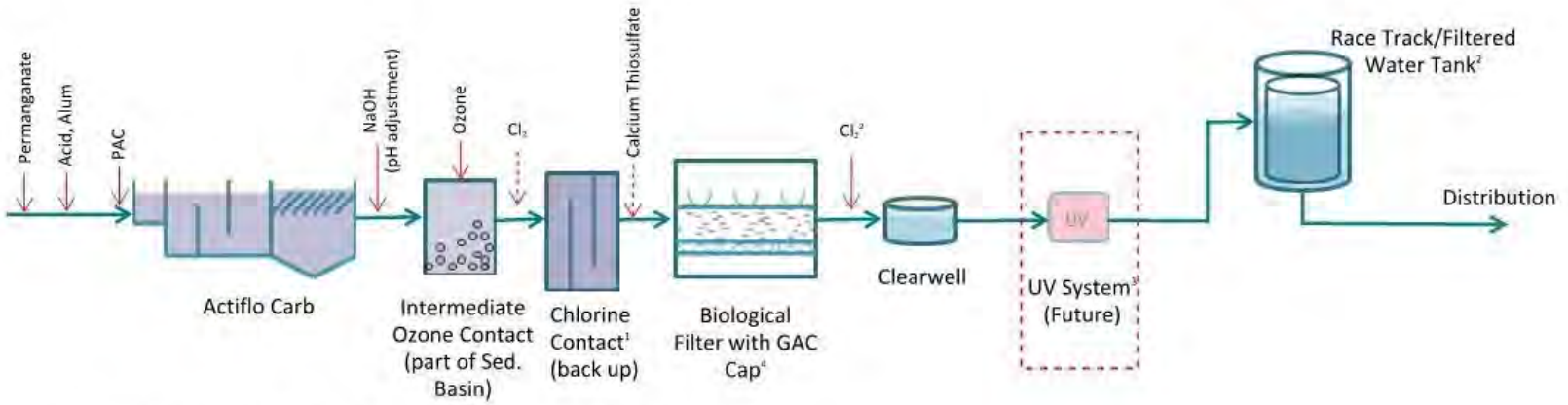
5.26

Modernizing the Water Treatment Plant

- More fully utilize water *when it's available*
- Treatment process to consistently produce high quality water *regardless of source conditions*
- Robustness and adaptability to address current and future regulations, as well as modern consumer sensitivities
- Remove operational constraints related to solids handling
- Contribute to water supply reliability
- Provide a superior consumer product

5.27

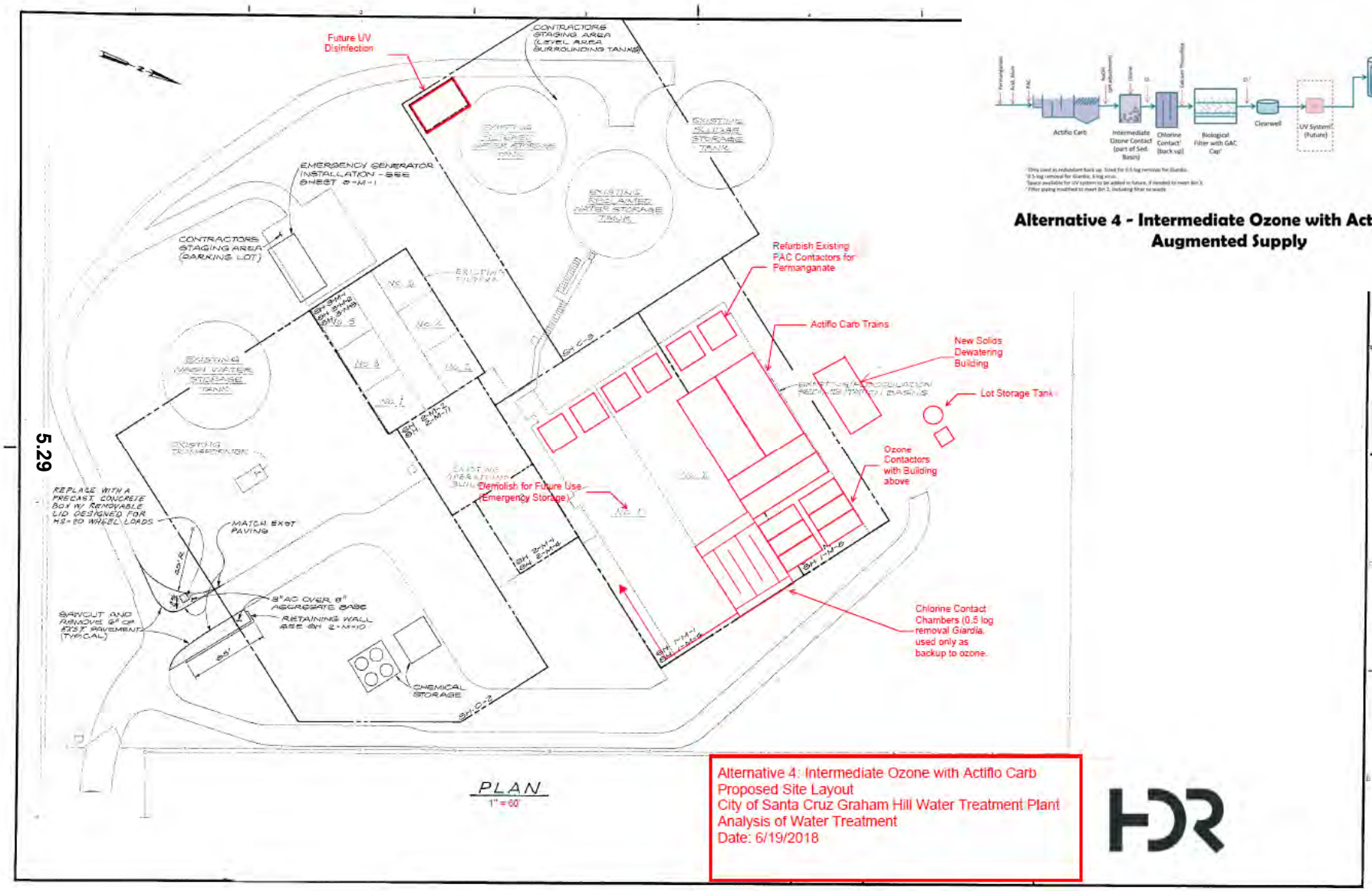
GHWTP Facility Planning

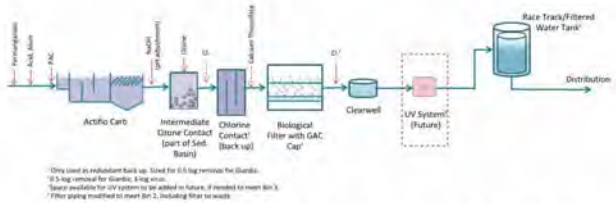


[1] Only used as redundant back up. Sized for 0.5 log removal for Giardia.
[2] 0.5-log removal for Giardia; 3-log virus.
[3] Space available for UV system to be added in future, if needed to meet Bin 3.
[4] Filter piping modified to meet Bin 2, including filter to waste.

Alternative 4 - Intermediate Ozone with Actiflo Carb Augmented Supply

5.28





Alternative 4 - Intermediate Ozone with Actiflo Carb Augmented Supply

Alternative 4: Intermediate Ozone with Actiflo Carb
Proposed Site Layout
City of Santa Cruz Graham Hill Water Treatment Plant
Analysis of Water Treatment
Date: 6/19/2018

5.29

Service Order No. 4 – FY 19 Program Svcs.

- Packaged into Annual Work Plan (Summary) and Detailed Service Order
- Highlights:
  - Condition assessment and/or planning for GHWTP Facilities Plan, Newell Creek Pipeline, San Lorenzo Diversion, and Water Supply Augmentation Planning
  - Manage design on 9 projects including GHWTP Tanks Project, NCD Inlet/Outlet Project, and Coast Pump Station Line Replacement
  - Manage construction of Tube Settlers, GHWTP Tanks , and U5 Tank Replacement

5.30

Projects By Phase (FY 2019)

Planning Projects	Projects in Design	Projects in Construction
Newell Creek Pipeline Rehab/ Replacement Graham Hill WTP Upgrades Distribution System Water Age River Bank Filtration Study Source Water Data Collection and Management Main Replacement Model Development Augmentation Planning • Augmentation Strategy Plan • ASR and In-Lieu Strategy Technical Memos • ASR and In-Lieu Delivery Infrastructure Plan • Recycled Water & Desalination • Regional Coordination Habitat Conservation Plans	Newell Creek Dam Inlet/Outlet Replacement North Coast System Majors Diversion Rehab North Coast System Laguna Diversion Rehab Coast Pump Station 20-inch Raw Water Pipeline Replacement Coast Pump Station Flood Reduction (FEMA) Coast Pump Station San Lorenzo River Diversion Rehabilitation-Phase 1 Graham Hill WTP Concrete Tanks Graham Hill WTP Flocculator Rehab/ Replacement University Tank No. 4 Rehab/ Replacement Advanced Metering Infrastructure (AMI)	Graham Hill WTP Concrete Tanks Graham Hill WTP Tube Settlers Replacement University Tank No. 5 Replacement Felton Diversion Bladder Replacement and Pump Station Assessment Coast Pump Station 20-inch Raw Water Pipeline Replacement Coast Pump Station San Lorenzo River Diversion Rehabilitation-Phase 1 

Project Budget and Associated HDR Fee

Project	Total Project Budget	HDR FY19 Service Order Budget	Planning	Design	Bid	Construction
Newell Creek Dam Inlet-Outlet Pipeline Replacement Project	$ 50,000,000	$1,254,000		X		
Newell Creek Pipeline Rehab/Replacement	$ 61,750,000	$1,055,000	X			
North Coast System Laguna Diversion Rehab	$ 1,515,000	$51,000	X	X		
North Coast System Majors Diversion Rehab	$ 1,515,000	$51,000	X	X		
Coast Pump Station 20-inch Raw Water Pipeline Replacement	$ 680,000	$287,000		X	X	X
Coast Pump Station/San Lorenzo River Diversion	$ 7,710,000	$231,000	X	X	X	X
Graham Hill WTP Concrete Tanks Project	$ 34,600,000	$619,000		X	X	X
Graham Hill WTP Upgrades	$ 19,030,000	$337,000	X			
Graham Hill WTP Flocculator Rehab/Replacement	$ 2,510,000	$119,000		X		
Graham Hill WTP Tube Settlers Replacement	$ 1,570,000	$273,000			X	X
Riverbank Filtration Study	$ 6,220,000	$165,000	X			
Distribution System Water Age	$ 2,200,000	$97,000	X			
Source Water Data Collection and Management (LIMS system)	$ 52,000[a]	$138,000	X			
University Tank No. 5 Replacement	$ 3,837,207	$152,000			X	X
University Tank No. 4 Rehab/ Replacement	$ 5,360,000	$204,000	X	X		
Automated Metering Infrastructure	$ 11,000,000	$143,000	X			
Main Replacement Program Support	$ 2,500,000[b]	$234,000	X			
Felton Diversion Bladder Replacement and Pump Station Assessment	$ 1,390,000	$221,000	X	X		
Augmentation Planning • Augmentation Strategy Plan • ASR and In-Lieu Strategy Technical Memos • ASR and In-Lieu Delivery Infrastructure Plan • Recycled Water & Desalination • Regional Coordination	$ 140,000,000	$1,986,000	X			
Habitat Conservation Plan	$ 1,110,000	$85,000	X			
Total HDR FY19 Service Order 4 Budget		**$7,699,106**				

Questions?

Santa Cruz Water Program

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SANTA CRUZ WATER PROGRAM - MONTHLY PROGRESS REPORT

AUGUST 2018

MAJOR ACTIVITIES AND PROGRESS

This month, the Program team continued with program implementation. Project managers (PMs) completed monthly project reporting in Program format for active projects. We held initial stage gate review meetings on three projects and made updates to streamline the stage gate documentation process. All active Program projects completed the "project initiation" step of the project delivery model (PDM) to formally identify key project team members. The Program's master project list on share point is completed and current.

The integrated Program team from Engineering, Operations, and HDR came together for an extended team building exercise. Benefits of the event were immediate and impactful and will contribute to the success of Program implementation.

The Design Management Guidelines guidance document is finalized. Assistance with standardization of the Department's "front end" specifications is underway. Monthly Program PM meetings are planned for initiation next month and will provide a venue for information sharing regarding Program performance, cross-project issues, process implementation, and lessons learned.

Service Order 4 for HDR's program management contract was finalized for submittal to council. The budget and schedule for the Water Program projects for FY 2019 is now set, significant changes to which will proceed through the Program's change management process.

Extensive work continues on the GHWTP Facilities Plan Update, Newell Creek Dam Inlet-Outlet Pipeline Replacement project, and the Graham Hill WTP Concrete Tanks project (see below).

ROW ACQUISITION SUMMARY

5.34

Right-of-way (ROW) acquisition on the Program is currently happening on the Newell Creek Dam Inlet/Outlet Pipeline project. The following ROW activities occurred this past month on that project:

- Provided feedback on all Nelson property contract documents
- Held a conference call with Heidi Luckenbach, Jeff Wisniewski, and Kevin Fellows on purchase status and contract documents review
- Inquiries made on status of Nelson property acquisition

UPDATE ON MAJOR PROJECTS

Newell Creek Dam Inlet/ Outlet Pipeline Replacement

- AECOM 50% design comment resolution
- Final 50% Design Package submitted to DSOD July 31
- VE Workshop July 9-12 and draft VE Study Report submitted to City on July 27
- CM Draft Final RFP submitted to City
- NOP public review period closed July 28
- CEQA Scoping meeting held July 18
- D4 Stage Gate meeting schedule for Aug 14
- 50% design presentation to DSOD schedule for Aug 16
- Revised 50% design cost estimate due Aug 10
- Selection of VE proposal by the City by Aug 8
- Advertise RFQ for CM services Aug 17
- Administrative Draft EIR due Aug 31

GHWTP Facilities Plan Update

- Brian Watanabe (HDR) is now working weekly from the WTP to facilitate Ops involvement and coordination
- Conference call held on July 11 to review results of on-site Kruger jar testing
- Alternatives Screening Workshop held on July 16. Nine initial alternatives were presented for screening. Four alternatives were selected for further refinement as a part of the Alternatives Analysis study
- Progress meeting held for Pipeline Condition Assessment on July 27
- Conference call held for Chloramination Assessment to review data request
- Alternative Selection Workshop scheduled for September 13 as well as submitting Hanson Quarry Alternative Development TM, Facility Condition Assessment TM, Pipeline Condition Assessment TM, Distribution System Water Age Analysis TM, and Chloramination Assessment TM

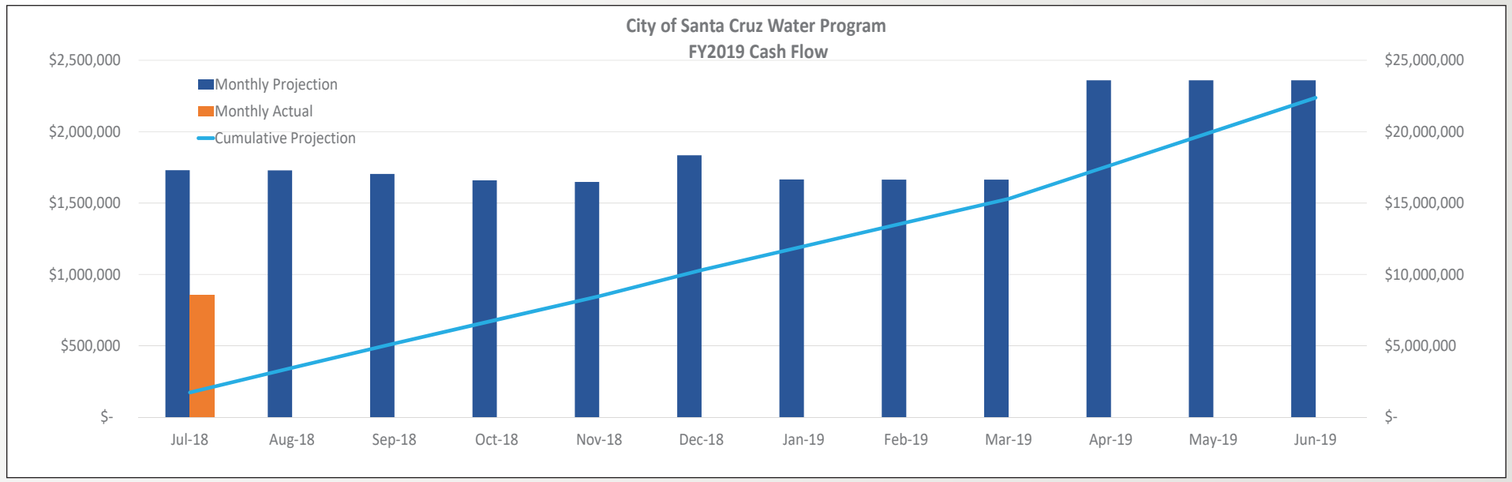
Graham Hill WTP Concrete Tanks

- Received initial 50% comment responses from WY
- Continued resolution of 50% design review comments and VE comments:
  - Review meeting with City, HDR, West Yost held on July 16
  - City leadership meeting to develop resolution action plan and collaborative strategy held on July 27
- Engaged HDR to review feasibility of siting for dewatering facility near sedimentation basin as part of GHWTP upgrades project
- Finalized dewatering technology selection: belt filter press
- Identified cross project operational concerns through construction and beyond for resolution (ex: disinfection strategy, emergency storage)
- Defined potential project changes for change mgt consideration:
  - storage requirement basis
  - reclaim process and volume

TOP PROGRAM RISKS

No.	Level	Group	Risk Description	Likelihood	Consequence	Severity Score	Mitigation	Owner
10	Program	Environmental/ Permitting	Difficulty in meeting environmental permitting constraints leading to delays and/ or increased cost	4- high	4- high	16	Early engagements with the permitting agencies. Early identification of permitting issues. Identify opportunities for regulatory avoidance/minimization. Work closely with the permitting agencies even after application submittal. Allow sufficient time in the schedule for CEQA review and permitting.	Sarah Perez →
104	Program	Environmental/ Permitting	Regulatory agencies staff shortage causing delay to environmental permitting	4- high	4- high	16	Identify resource requirements and a realistic approach for filling the gaps.	Sarah Perez →
105	Program	Environmental/ Permitting	CEQA delay resulting in permitting delay	4- high	4- high	16	Allow sufficient time in the schedule for CEQA review and permitting.	Sarah Perez →
2	Program	Staffing	Limited City staff availability slows down decision making and/or affects adequate project reviews	3- medium	5- very high	15	Identify resource requirements and a realistic approach for filling the gaps. Succession planning. Supplement City staff with consulting staff. On-going "staff needs" review. Double-up—train two people, in case one leaves. Or, have a more junior level person work with them, to have some knowledge capture/transfer. Watch assignments we give people—invest in people we believe will stay. Where possible, capture key tools/processes in writing. Estimate staff needs 1-2 years ahead. Require succession planning for first several levels of the delivery org chart.	**Karen Pappas** Heidi Luckenbach →
100	Program	O&M	Construction has a major impact on the operation of the treatment plant	3- medium	5- very high	15	Reduce likelihood of it happening by investigating in advance (e.g., pot-hole utilities in advance). Reduce consequence by developing a contingency plan to allow us to rapidly implement a repair (e.g., an on-call contractor to repair with unit pricing). More thorough condition assessment. Implement alternative modes of operation to allow water supply to continue (e.g., temporary cross-connections, carefully-planned shut downs, limit number of processes that can be shut down at one time).	Kevin Crossley (O&M Liason) →

PROGRAM CASH FLOW - CURRENT AND PROJECTED



Fiscal Year 2019-Annual Work Plan

Santa Cruz Water Program

Introduction

The City of Santa Cruz's Water Department is implementing the Santa Cruz Water Program (Program) to address a number of critical needs for backbone infrastructure rehabilitation or replacement and to develop supplemental supply that would improve the reliability of the Santa Cruz water system. In the fall of 2017, the Water Department selected HDR to provide program management services to support implementation of the Program, and in December 2017, The City Council approved a five year Master Services Agreement that is the basis for developing specific task or service orders. This Annual Work Plan (AWP) summarizes Service Order 4 and covers HDR's anticipated program management activities, staffing, schedule, and fees in fiscal year 2019 (FY 2019), which extends through June 30, 2019.

Overview of Planned Work during FY 2019

In the first eight months of the Santa Cruz Water Program, the Program team of city and HDR staff implemented Task Order 1, Program Mobilization, which created and implemented an organizational framework for managing and staffing individual capital planning efforts and projects that are at different stages of development. Table 1 lists all the projects in the Program and divides them into three groups: Planning Projects, Projects in Design and Projects in Construction.

Table 1 –Projects by Phase[a] (Fiscal Year 2019)

Planning Projects	Projects in Design	Projects in Construction
Newell Creek Pipeline Rehab/ Replacement	Newell Creek Dam Inlet/Outlet Replacement	Graham Hill WTP Concrete Tanks
Graham Hill WTP Upgrades	North Coast System Majors Diversion Rehab	Graham Hill WTP Tube Settlers Replacement
Distribution System Water Age	North Coast System Laguna Diversion Rehab	University Tank No. 5 Replacement
River Bank Filtration Study	Coast Pump Station 20-inch Raw Water Pipeline Replacement	Felton Diversion Bladder Replacement and Pump Station Assessment
Source Water Data Collection and Management	Coast Pump Station Flood Reduction (FEMA)	Coast Pump Station 20-inch Raw Water Pipeline Replacement
Main Replacement Model Development	Coast Pump Station San Lorenzo River Diversion Rehabilitation-Phase 1	Coast Pump Station San Lorenzo River Diversion Rehabilitation-Phase 1
Augmentation Planning • Augmentation Strategy Plan • ASR and In-Lieu Strategy Technical Memos • ASR and In-Lieu Delivery Infrastructure Plan • Recycled Water & Desalination • Regional Coordination	Graham Hill WTP Concrete Tanks	
Habitat Conservation Plans	Graham Hill WTP Flocculator Rehab/ Replacement	
	University Tank No. 4 Rehab/ Replacement	
	Advanced Metering Infrastructure (AMI)	

a) Projects may be shown twice if they transition between phases, for example from design to construction.

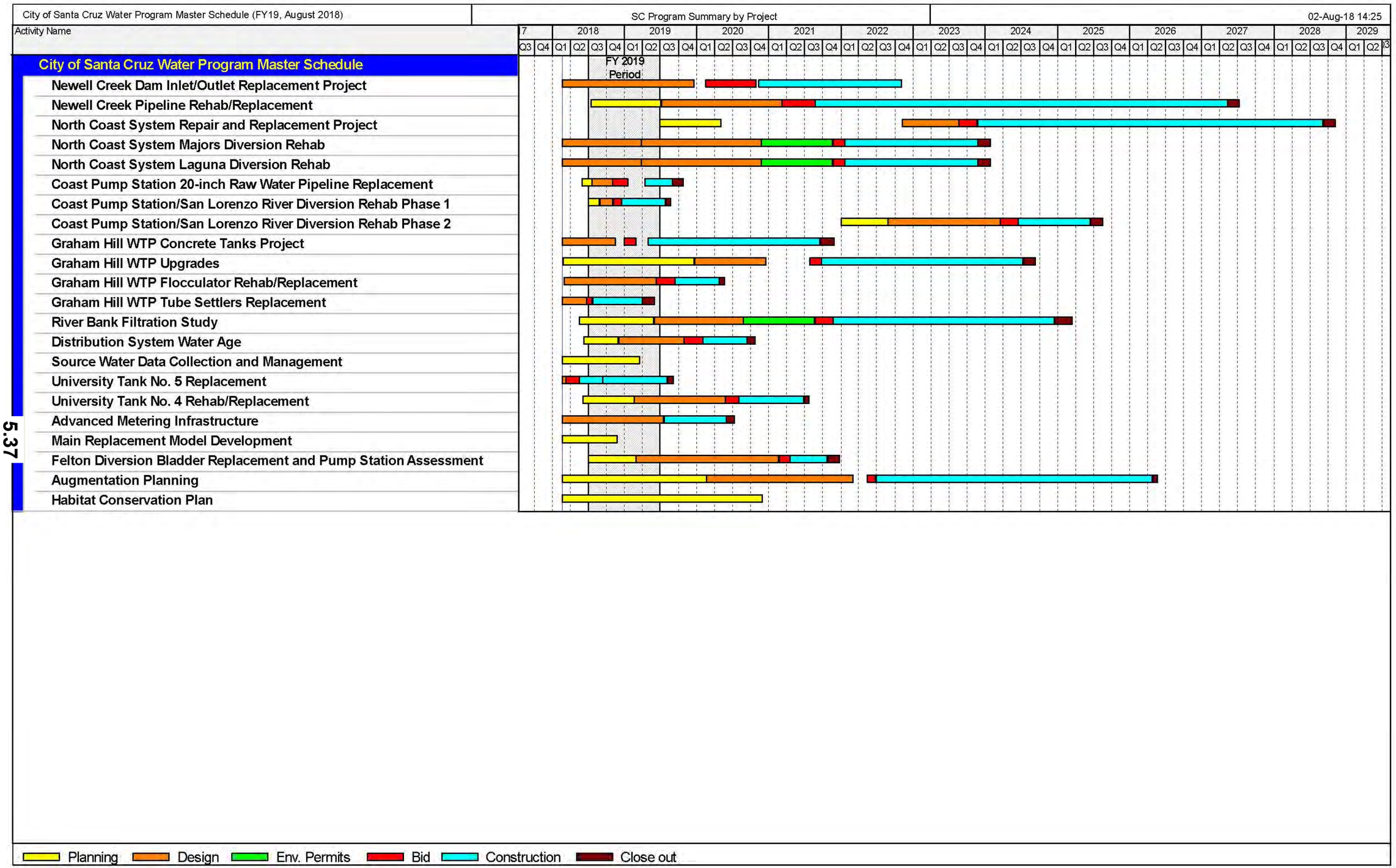
This AWP includes a wide range of services that will be provided to move each of the projects developed forward. Table 2 provides a summary of the types of services for each of the three categories of services that HDR will be providing during FY 2019 as part of Service Order 4.

Table 2 –Types of Services for each Project Phase (Fiscal Year 2019)

HDR Planning Services	HDR Design Management Services	HDR Construction Services
• Provide Planning lead • Review and document existing information and identify data gaps. • Conduct planning level studies to define technical feasibility and cost • Perform preliminary engineering, and the identification and analysis of alternatives • Prepare reports, presentations, and briefing materials to support decision making processes, • Develop implementation and sequencing plans and schedules for recommendations. • Facilitate planning meetings and workshops for Water Department Staff to discuss alternatives and coordinate with stakeholders including partnering agencies. • Prepare infrastructure system inventories, assist with development of prioritization criteria, and document recommendations. • Support Water Department Staff in the development and calibration of hydraulic models. • Support Department Staff in the selection and implementation of a laboratory information management system. • Perform infrastructure condition assessments. • Assist the department in financial analysis associated with program funding efforts, including providing support in applying for grants and low income loans.	• Provide Design Management lead • Work with PMs to transition existing consultants into program reporting and processes. • Issue design management guidelines and cost estimating guidelines. • Provide Package Managers, PMs and/or project engineers for various projects including: Infrastructure Planning package, North Coast package, Newell Creek Dam Inlet/Outlet Pipeline, and Coast Pump Station Pipeline Repairs. • Assist in hiring design consultants, reviewing consultant deliverables, and conducting value engineering (VE) efforts. • Provide a full-time staff member to serve as liaison between O&M and the program team, facilitating O&M review of design deliverables and supporting coordination of O&M input into projects (all phases). • Continue ROW acquisition activities on Newell Creek Dam I/O project. Support obtaining permits-to-enter on the Riverbank Filtration project. • Provide environmental planners to lead permitting support efforts associated with: ASR Feasibility Study, River Bank Filtration Study, Coast Pump Station 20-inch Raw Water Pipeline Replacement, Newell Creek Pipeline Rehab/Replacement, and Coast Pump Station/San Lorenzo River Diversion projects. • Assist with environmental documentation, including CEQA, NEPA, technical study, field surveys, or permit application. • Support Department Staff in the development and implementation of communications and community engagement plans. • Provide technical expert input as requested. • Pilot a system for improved efficiency and collaboration on design reviews.	• Implement Construction Management Strategy • Select and implement Construction Management software • Provide Construction Management project manager, and field engineer on the GHWTP Tube Settler Replacement project. • Provide Construction Management project manager and field engineer(s), for the GHWTP Concrete Tanks project.

Figure 1 shows the schedule of activities planned for each project, with work broken down into several phases: planning, design, bidding, construction and project close out.

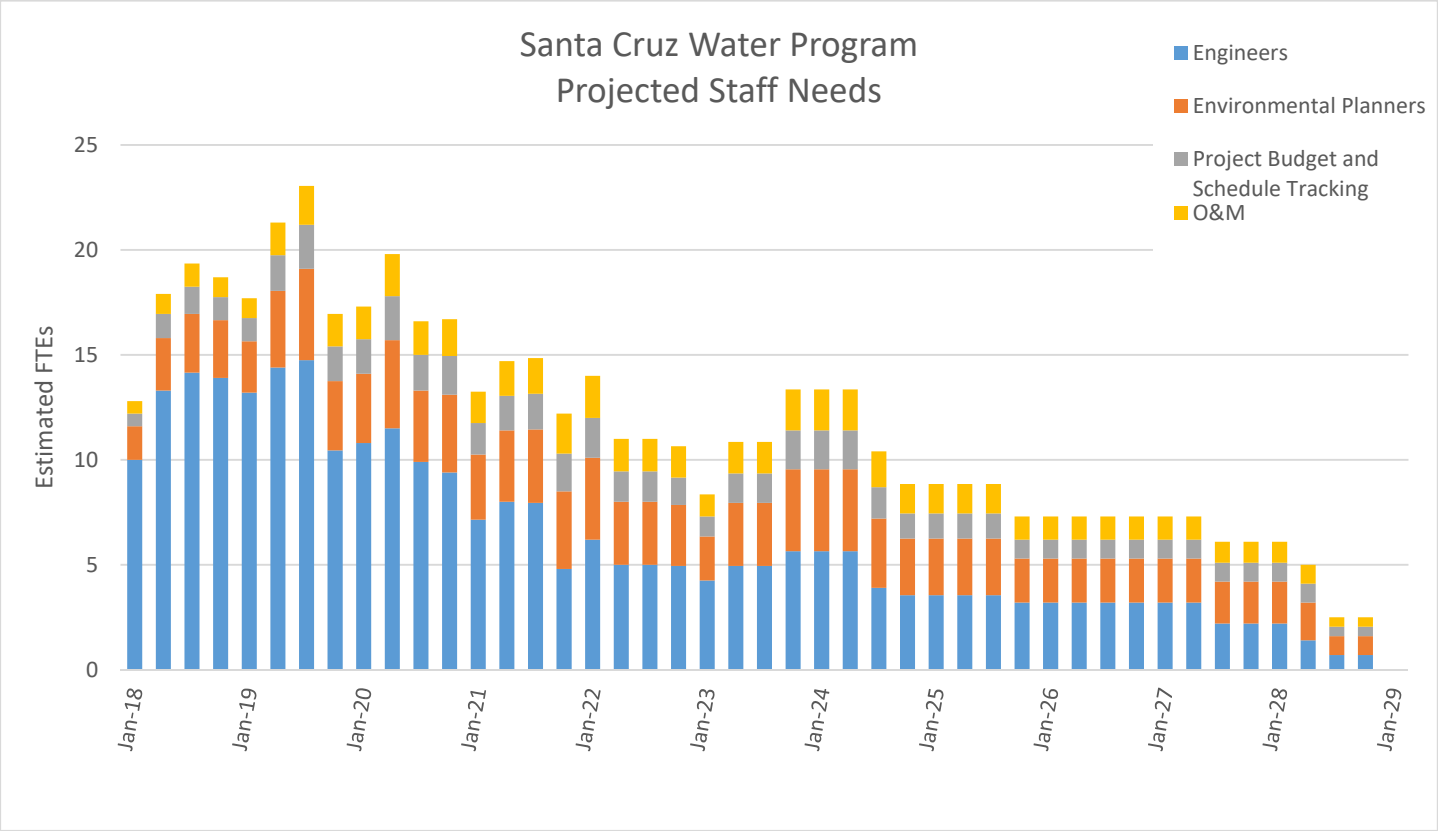
Figure 1 – Santa Cruz Water Program Master Program Schedule



Planned Staffing

The major resources being provided through the HDR Program Management Contract involves staffing services. These services are necessary because, on average, the Water Department's annual capital program expenditures are rising nearly three-fold over spending levels during the last decade. The Water Department's Engineering Section currently includes around 10 full time equivalent (FTE) positions supporting the capital program in various capacities, and recruitments for four vacant positions, Associate Planner II, Associate Engineer, and (2) Assistant Engineers, are ongoing. A recently completed staffing analysis estimates that total staffing needs of the Program of nearly 20 FTEs will be required to manage and support the capital program in peak years. Figure 2 below illustrates the expected staffing requirement over the coming decade just to manage the planning, design, and construction.

Figure 2



This staffing analysis was developed to support the implementation plans and schedules shown for each project on the Master Schedule (Figure 1). The staffing analysis integrates the Water Department's available staffing in Engineering and Operations and Maintenance. Engagement of Operations staff as critical stakeholders in virtually all of the projects in the Program is an important condition for success as they have much to contribute to project definition, planning efforts, and design. Due to the nature of many of the projects, a key focus of both City and HDR administrative and operating personnel who are part of the Program is ensuring that the Department's ability to produce and deliver a reliable supply of high quality drinking water to its customers is not compromised during project construction. Achieving this goal will require ongoing planning and coordination by all members of the team.

Part of the work on the Program to date has been in identifying HDR team members who will be part of the Program Team during FY 2019. Table 3 identifies HDR staff or unfilled roles in each of the three major Service Order 4 work areas.

Table 3 – Staffing for Planned HDR Program Management Services (Fiscal Year 2019)

HDR Planning Services	HDR Design Management Services	HDR Construction Services
Jeff Lawrence Erin Heydinger Rich Stratton[a] Brian Watanabe[a] Alex Dueson Mason Beck John Koreny	**Karen Pappas** Jeff Lawrence Jeff Wisniewski Jon Boitano Kevin Fellows Shane Clements Jillian Brown Alex Deuson Ray Genato [O&M Liaison] Leslie Tice (Environmental) Betty Dehoney (Environmental) Elaine Verver (ROW Acquisition)	**Ron Perkins** [Construction Inspector]

[a] Continuing planning work from Service Order 3, which will extend into FY 2019.

Implementation of the Santa Cruz Water Program also involves a range of ongoing administrative and quality control services including, for example:

- Monthly progress reporting including cost and schedule tracking, risk management and quality assurance;
- Document management and SharePoint site maintenance and updates; and
- Application and updating the Program Management Plan, implement health and safety plan.

Ongoing Program management and administration will be led by John Buttz, Karen Pappas, as Deputy Program Manager, and Yasser Ebrahimy as lead on project scheduling, cost control, and progress reporting.

All personnel to support the Program are identified in writing and authorized by the City's Program Director. The personnel and labor hours for the FY 2019 Work Plan represent the Program Team's best understanding of the strategic, technical, and administrative requirements for delivering the planned services. Actual requirements may vary and the City and HDR will work together to adjust the staffing and distribution of labor hours within this AWP to maintain progress toward delivery of the Program.

Estimated Fees

Table 4 presents information for each project in the Program including the estimated total project budget for the life of the project, and the FY 2019 HDR fees for services for the work to be done on each project during the coming year. The fee estimate is also presented by task and total hours as an attachment to Contract Amendment 2019-01.

Table 4 –Project Budget and Associated HDR Fee

Project	Total Project Budget	HDR FY19 Service Order Budget	Planning	Design	Bid	Construc -tion
Newell Creek Dam Inlet-Outlet Pipeline Replacement Project	$ 50,000,000	$1,256,000		X		
Newell Creek Pipeline Rehab/Replacement	$ 61,750,000	$1,057,000	X			
North Coast System Laguna Diversion Rehab	$ 1,515,000	$52,000	X	X		
North Coast System Majors Diversion Rehab	$ 1,515,000	$52,000	X	X		
Coast Pump Station 20-inch Raw Water Pipeline Replacement	$ 680,000	$287,000		X	X	X
Coast Pump Station/San Lorenzo River Diversion	$ 7,710,000	$239,000	X	X	X	X
Graham Hill WTP Concrete Tanks Project	$ 34,600,000	$623,000		X	X	X
Graham Hill WTP Upgrades	$ 19,030,000	$339,000	X			
Graham Hill WTP Flocculator Rehab/Replacement	$ 2,510,000	$122,000		X		
Graham Hill WTP Tube Settlers Replacement	$ 1,570,000	$264,000			X	X
Riverbank Filtration Study	$ 6,220,000	$167,000	X			
Distribution System Water Age	$ 2,200,000	$100,000	X			
Source Water Data Collection and Management (LIMS system implementation)	$ 52,000[a]	$140,000	X			
University Tank No. 5 Replacement	$ 3,837,207	$154,000			X	X
University Tank No. 4 Rehab/ Replacement	$ 5,360,000	$207,000	X	X		
Automated Metering Infrastructure	$ 11,000,000	$145,000	X			
Main Replacement Program Support	$ 2,500,000[b]	$237,000	X			
Felton Diversion Bladder Replacement and Pump Station Assessment	$ 1,390,000	$223,000	X	X		
Augmentation Planning • Augmentation Strategy Plan • ASR and In-Lieu Strategy Technical Memos • ASR and In-Lieu Delivery Infrastructure Plan • Recycled Water & Desalination • Regional Coordination	$ 140,000,000	$1,956,000	X			
Habitat Conservation Plan	$ 1,110,000	$86,000	X			
Total HDR FY19 Service Order 4 Budget		$7,699,106				

a. Cost of LIMS software is in addition to this amount and is funded from the Department Operating budget.
b. Total FY19 CIP budget for main replacement.

Funding Source:

Funding for all activities planned as part of Service Order 4 is included in the Water Department's FY 2019 Capital Investment Program. As many of the projects included in Water Program are large and will occur over multiple years, the Department developed the 2016 Long Range Financial Plan to identify the steps needed to fund these investments in rehabilitating or replacing existing water system infrastructure and developing a supplemental supply to improve the reliability of the Santa Cruz water system. That plan was approved by the City Council on June 14, 2016 and is guiding the Department's approach to planning for and funding this decade long capital reinvestment cycle.