

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



WATER COMMISSION

Regular Meeting

August 23, 2021

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

COVID-19 ANNOUNCEMENT: This meeting will be held via teleconference ONLY.

In order to minimize exposure to COVID-19 and to comply with the social distancing suggestion, the Council Chambers will not be open to the public. The meeting may be viewed remotely, using the following sources:

- Online: <https://ecm.cityofsantacruz.com/OnBaseAgendaOnline/Meetings/Search?dropid=4&mtids=124>
- Zoom Live (no time delay): <https://zoom.us/j/95803078527>
- Facebook: https://www.facebook.com/SantaCruzWaterDepartment/?epa=SEARCH_BOX

PUBLIC COMMENT:

If you wish to comment during on items 1-3 during the meeting, please see information below:

- Call any of the numbers below. If one number is busy, try the next one. Keep trying until connected.
 - +1 669 900 9128
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- Enter the meeting ID number: 958 0307 8527
- When prompted for a Participant ID, press #.
- Press *9 on your phone to "raise your hand" when the Chair calls for public comment.
 - It will be your turn to speak when the Chair unmutes you. You will hear an announcement that you have been unmuted. The timer will then be set to three minutes.
 - You may hang up once you have commented on your item of interest.
 - If you wish to speak on another item, two things may occur:
 - 1) If the number of callers waiting exceeds capacity, you will be disconnected and you will need to call back closer to when the item you wish to comment on will be heard, or
 - 2) You will be placed back in the queue and you should press *9 to "raise your hand" when you wish to comment on a new item.

NOTE: If you wish to view or listen to the meeting and don't wish to comment on an item, you can do so at any time via the Facebook link or over the phone or online via Zoom.

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

Announcements

Consent Agenda (Pages 1.1 - 2.5) 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 Action Affecting the Water Department (Pages 1.1 - 1.2)

Accept the City Council actions affecting the Water Department.

2. Water Commission Minutes from August 2, 2021 (Pages 2.1 - 2.5)

Approve the August 2, 2021 Water Commission Minutes.

Items Removed from the Consent Agenda

General Business (Pages 3.1 - 3.112) 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.

Attachment 1 in Item 3 was updated on August 23, 2021

3. 2021 Updated Long-Range Financial Plan and Proposed FY 2023 - FY 2027 Water Rates (3.1 - 3.112)

That the Water Commission:

1. Receive a presentation on the working draft of the Long Range Financial Plan and provide feedback to staff on its content; and
2. Receive a presentation on the FY 2023 - FY 2027 schedule of water rates that has been developed to reflect the Commission's input, and take action to recommend a proposed water rate schedule for FY 2023 to FY 2027 to the Council for use in the Proposition 218 public notification and public hearing processes that are legally required prior to adoption and implementation of new rates.

Subcommittee/Advisory Body Oral Reports

4. Santa Cruz Mid-County Groundwater Agency

5. Santa Margarita Groundwater Agency

Director's Oral Report

Information Items

Adjournment

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WATER COMMISSION
INFORMATION REPORT

DATE: 8/18/2021

AGENDA OF: August 23, 2021
TO: Water Commission
FROM: Rosemary Menard, Water Director
SUBJECT: City Council Actions Affecting the Water Department

RECOMMENDATION: That the Water Commission accept the City Council actions affecting the Water Department.

BACKGROUND/DISCUSSION:

August 10, 2021

Award Contract for 5-yard Dump Truck for Water Distribution (WT)

Motion **carried** to award purchase of replacement of a 5-yard Dump Truck for Water Distribution from Coast Counties Peterbilt (San Jose, CA) in the amount of \$147,709 and authorize the Water Director to execute change orders within the approved budget.

First Amended Joint Exercise of Powers Agreement for the Santa Cruz Mid-County Groundwater Agency (WT)

Motion **carried** to approve the First Amended Joint Powers Agreement for the Santa Cruz Mid-County Groundwater Agency and authorize the City Manager to sign the amended agreement in a form acceptable to the City Attorney on behalf of the City of Santa Cruz.

Graham Hill Water Treatment Plant Facility Improvements Project Progressive Design-Build – Award of Agreement for Phase 1 Services with AECOM/WM Lyles Joint Venture (WT)

Motion **carried** to authorize the City Manager to execute the Graham Hill Water Treatment Plant Facility Improvements Project Progressive Design- Build Agreement for Phase 1 Services in a form approved by the City Attorney with the AECOM/WM Lyles Joint Venture (Fresno, CA) in the amount of \$9,149,152 and to authorize the Water Director to execute future contract amendments within the approved budget.

Acceptance and Appropriation of Grant Funding for Brackney Landslide Area Pipeline Risk Reduction Project - Budget Adjustment (WT)

Resolution No. NS-29,859 was **adopted** authorizing acceptance of Hazard Mitigation Grant Program (HMGP) funding as awarded by HMGP and appropriating the funding from Water Enterprise Operation (Fund 711) and amending the Water Department budget for CIP project c702002, Brackney Landslide Area Pipeline Risk Reduction Project accordingly.

FY 2022 Budget for the Water Department to Implement Stage 1 Water Shortage Warning – Budget Adjustment (WT)

Resolution No. NS-29,860 was **adopted** appropriating \$229,393 from Water Enterprise Operation Fund 711 and amending the Water Department’s FY 2022 budget to fund Stage 1 Water Shortage Warning expenses.

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

ATTACHMENTS: None.



Water Department

Water Commission
7:00 p.m. – August 2, 2021
Council Chambers/Zoom Teleconference
809 Center Street, Santa Cruz

Summary of a Water Commission Meeting

Call to Order: 7:00 PM

Roll Call

Present: J. Burks (via Zoom), T. Burns (Via Zoom), D. Engfer (via Zoom), S. Ryan (Chair) (via Zoom), A. Páramo (via Zoom), W. Wadlow (Vice-Chair) (via Zoom)

Absent: D. Schwarm, with notification

Staff: R. Menard, Water Director (via Zoom); D. Baum, Water Chief Financial Officer (via Zoom); C. Coburn, Deputy Director/Operations Manager (via Zoom); H. Luckenbach, Deputy Director/Engineering Manager (via Zoom); L. Van Der Maaten, Associate Civil Engineer; K. Fitzgerald, Administrative Assistant III (via Zoom)

Others: Four members of the public (via Zoom)

Presentation: None.

Statements of Disqualification: None.

Oral Communications: One member of the public spoke.

Announcements: Commissioner Engfer commended staff for hosting a tour of the Newell Creek Dam on July 15th.

Consent Agenda

1. City Council Items Affecting the Water Department
2. Water Commission Minutes From July 12, 2021

Commissioner Engfer pulled Item 3 for further discussion.

Commissioner Wadlow moved the Consent Agenda as amended. Commissioner Burns seconded.

VOICE VOTE: MOTION CARRIED

AYES: All

NOES: None

ABSTAIN: None

Items Pulled from the Consent Agenda

3. Graham Hill Water Treatment Plant Facility Improvements Project Progressive Design-Build Phase 1 Agreement

Can staff confirm that risk identification and mitigation work continue to be done during the planning and design phases of this project as it was for the Newell Creek Dam Inlet/Outlet project?

- Yes, risk management work will continue through all phases of the project. We continue to manage risks at the Newell Creek Dam through construction which has given us a good model to follow for the projects that will occur at the treatment plant.

Ms. Menard also commented that risk management and mitigation work is integrated into all projects in the Capital Investment Program (CIP) at both the project and program level.

Will this project also have a mediated conflict resolution process and dispute resolution board similar to the one that serves the Newell Creek Dam Inlet/Outlet Replacement project?

- We do not know at this time if a dispute resolution board will be established or what the conflict resolution process will look like for this project. With respect to partnering work, initially, we are including staff across the department and then plan to integrate the contract team, Aecom/WM Lyles, into that process.

How did having familiarity and prior knowledge of the facility and system factor into selection process for the design-build team?

- We conducted a robust procurement process that included a prequalification phase, proposal submittals from all three contract teams as well as site visits and oral panel interviews. We viewed all the teams pre-qualified to propose as being very experienced and capable of doing an excellent job.
- That said, the WM Lyles recently completed two upgrade projects at the treatment plant, the flocculator and tube settlers replacements, so they do have that familiarity however we do not have experience with the AECOM/WM Lyles joint venture.

Ms. Menard commented that the AECOM design team that will be working on the GHWTP FIP will be different from the team that designed the Newell Creek Dam Inlet/Outlet Replacement project which was from AECOM.

Will we see any incremental benefits or water quality improvements from the treatment plant before construction is complete in 2028?

- It is too early in the design process to determine when we could start seeing any benefits or water quality improvements.

How do the current Water Infrastructure and Innovation Act (WIFIA) and State Revolving Fund (SRF) loan interest rates compare to what has been factored into the Long Range Financial Plan?

- We submitted a letter of interest for a WIFIA loan in the amount of \$164 million and the interest rate is based on the state and local government securities rate plus one basis point which makes the overall rate about 2% in today's market, which is higher than the SRF interest rate. The WIFIA program offers flexible loan terms which make it an attractive option to pursue. Due to the lower SRF rates, we will also pursue SRF funding for future projects.

When will the general information package for the SRF loan be submitted to the State Water Resources Control Board?

- This will be submitted in pieces starting with the initial information package followed by separate engineering and environmental packages. We are still in the early developmental phases of this project so there is not much to submit at this point.

Commissioner Engfer motioned to move Item 3. Commissioner Páramo seconded.

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

General Business

4. Water Supply Augmentation Strategy (WSAS) Quarterly Report

Ms. Menard introduced Ms. Luckenbach, Ms. Van Der Maaten, Dr. Casey Brown (UMass), and Robert Marks (Pueblo Water Resources) for the presentation and discussion of the Water Supply Augmentation Strategy Quarterly Report.

Ms. Luckenbach began the presentation which provided a summary of the water supply augmentation strategy work to date.

Ms. Van Der Maaten presented the results of the groundwater modeling in the Mid-County basin, including Scenario 11.2, as part of the Aquifer Storage and Recovery (ASR) work.

Is the water being used for ASR pilot testing excess surface water?

- Yes, treated water from the Graham Hill plant is the source of supply for all of the pilot testing work conducted to date and would also be used for any future pilot testing or operations of ASR.

Can staff explain how the ASR simulation capacities subtotals for groundwater modeling? For example, Scenario 11.2 on slide 21 show that three million gallons can be extracted when two million gallons are injected?

- This is because extraction is not always running at a 3mgd rate, more often extraction is at a 1mgd or 2mgd rate. While maintaining an average injection rate of 2mgd, a mass balance sheet shows that over time, we are actually injecting more into the aquifer than we would be extracting.

In the context of 11.2, do we need to do any [seawater intrusion protection] based on modeling performed so far?

- The Pure Water Soquel project (PWS) is constructed to maintain the sustainability of their part of the groundwater basin which, presumably means on impact to the basin from seawater intrusion. The modeling that Pueblo Water Resources (Pueblo) has performed shows that the operation of the PWS project increases groundwater levels to a point where ASR injection rates would need to be reduced, and spread out. We are still completing modeling work looking at the potential for injecting water to create a seawater barrier to see if there are any benefits in terms of the City's potential injection and extraction strategy.

- Mr. Marks responded that the PWS project meets the protective water elevations at the coast for Soquel Creek Water District's (the District) service area and does not raise water levels within the City's service area. This means that the City's potential operation in the basin will need to ensure that protective groundwater elevations at the coast are maintained.

What is the direction of groundwater flow in the Mid-County basin?

- Mr. Marks responded that the general flow is southeast toward the District.

Has there been a discussion on how excess surface water will be prioritized between water transfers with the District or for ASR?

- As of now, we cannot retrieve water that has been transferred to the District, and the District's ability to take water is limited to a relatively small volume. This means that, in the near term, at least, available surface water would be prioritized for use in the City's service area so that water we can use it as water supply during droughts.

Two public comments were received.

Ms. Menard commented that a report on the costs of transferring water to the District was discussed at a past Water Commission meeting and is available on the city's website. If there was a viable option for the City to get water back from the District, the price would be different.

Dr. Casey Brown presented the Vulnerability Assessment and Adaptation Planning for the Santa Cruz Water Department – Weather Generator and Future Scenarios.

Can staff share any reports or academic papers that are related to the model with the Commission?

- Yes. Dr. Brown contributed to this vulnerability assessment for the Department of Water Resources (see link below).
<https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/All-Programs/Climate-Change-Program/Climate-Action-Plan/Files/CAP-III-Decision-Scaling-Vulnerability-Assessment.pdf>

Commissioners commended staff and Dr. Brown for their work on the climate vulnerability assessment and completing the Water Balance Model for the City.

One public comment was received.

Dr. Brown commented that local climate elements, such as the marine layer and fog, are still being factored into the modeling scenario changes so that it reflects the historical climate and will continue to be assessed as vulnerabilities are identified.

Ms. Menard and Ms. Luckenbach discussed potential state and federal funding initiatives and opportunities.

Commissioners requested that staff provide information on how ASR and climate vulnerability work is being integrated with maintaining fish flow requirements at a future Water Commission meeting.

One public comment was received.

Subcommittee/Advisory Body Oral Reports

5. Santa Cruz Mid-County Groundwater Agency (MGA)

Ms. Menard reported the MGA has not met since June 17th and that the next meeting will be held on September 9th. Ms. Menard also reported that the First Amended Joint Powers Agreement (JPA) will be on the City Council meeting agenda on August 10th for their approval.

6. Santa Margarita Groundwater Agency (SMGWA)

Commissioner Engfer reported that the SMGWA met on July 27th and voted to release the draft Groundwater Sustainability Plan (GSP) for the 60-day public comment and review period. Only one SMGWA board member, a San Lorenzo Valley Water District representative, voted not in favor of releasing the draft GSP.

Director's Oral Report: Ms. Menard reported that Department staff are having internal conversations on how to prepare for a potentially additional dry winter season given that this year is projected to be a La Niña year.

Adjournment Meeting adjourned at 9:52 PM.

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WATER COMMISSION
INFORMATION REPORT

DATE: 8/18/2021

AGENDA OF: August 23, 2021

TO: Water Commission

FROM: Rosemary Menard, Water Director

SUBJECT: 2021 Updated Long-Range Financial Plan and Proposed FY 2023 – FY 2027 Water Rates

RECOMMENDATION: That the Water Commission:

1. Receive a presentation on the working draft of the Long-Range Financial Plan and provide feedback to staff on its content; and
 2. Receive a presentation on the FY 2023 – FY 2027 schedule of water rates that has been developed to reflect the Commission’s input, and take action to recommend a proposed water rate schedule for FY 2023 to FY 2027 to the City Council for use in the Proposition 218 public notification and public hearing processes that are legally required prior to adoption and implementation of new rates.
-

BACKGROUND: Beginning in early 2020, the Santa Cruz Water Commission worked extensively with Water Department staff on updating the Department’s financial planning work. Activities included revising system development charges, looking at and providing recommendations to the Council on long-term revenue requirements to support capital investment in the water system and water supply, evaluating and providing policy recommendations to the Council on several policy issues such as outside-city rate surcharges and elevation pumping fees, developing water pricing policy objectives to be considered by the Council when it did a similar exercise, and learning about and providing feedback on Cost-of-Service analysis and rate structure options. The Water Commission also received reports from the planned customer and community outreach efforts conducted as part of the rate development process and integrated this input into the development of its recommendations to the Council.

Since 2016, the Water Department has integrated its financial planning into a Long-Range Financial Plan (LRFP) that identifies and characterizes key financial policies, assumptions, and

modeling inputs and provides key outputs such as multi-year revenue requirements that water rates need to be designed to recover. At the Commission's August 23, 2021 meeting it will be asked to provide staff feedback on the draft 2021 LRFP and also to review and take action to recommend to the Council water rates for FY 2023 through FY 2027.

On September 21, 2021, the Council will be asked to take action adopting the 2021 LRFP, authorize the Water Department to initiate the Proposition 218 public notification process for the proposed rates, and set the public hearing on the rate proposal for November 23, 2021.

The remaining content of this staff report draws heavily from the presentation of the 2020 – 2021 water rate development process presented in the updated LRFP. Additional context that may relate to the rate-related information provided here is available by referring to the LRFP itself.

DISCUSSION: Water rates are the element of the LRFP that most directly impacts customers. The water rate development process is heavily regulated by legal provisions in California as well as by water service industry best practices. An example of the latter is the American Water Works Association's (AWWA) M1 Manual on Water Rates, Fees and Charges. Quite a number of policy and technical considerations go into the water rate development process. These are summarized below:

A. Priority Water Pricing Policy Objectives

Policy maker engagement in the rate-making process typically begins early in the effort using water pricing policy objective exercises. Table 1 in section 1.2 on the Financial Planning Conceptual Model gives a list of some water pricing policy objectives that could be considered in developing customer water rates. Both the Water Commission and the City Council worked through an exercise to prioritize water pricing policy objectives for use in designing water rates for the next five years. The selected priority objectives are:

1. Ensures water for essential use is affordable to all customers;
2. Maintains transparency and equity for capital and water reliability needs; and
3. Provides sufficient revenues to meet operating, capital, and customer service level needs.

B. Water Rate Structure Options

In its deliberations about potential changes to the structure of water rates and in consideration of both the priority water pricing policy objectives and the community input received through customer engagement, the Water Commission considered four different rate structure options:

1. Maintaining the existing volume-based rate structure in which both the consumption charge and the Infrastructure Reinvestment Fee (IRF) are based on amounts of water used, and are tiered for those user rates that are based on tiered consumption.

2. Maintaining the volume-based rate structure for the consumption charge, and shifting the IRF to the fixed charge based on meter size.
3. Maintaining the volume-based rate structure for the consumption charge, and converting the IRF to a uniform charge for each unit of water consumed.
4. Maintaining the volume-based rate structure for the consumption charge and shifting the IRF to the property tax based on meter size.

At its July 12 2021 meeting, the Water Commission considered actual rates for Alternatives 1, 2, and 3, and provided direction to the consulting team about which alternative to pursue for the rate proposal to be further developed for recommendation to the City Council and presented as proposed rates in the planned Proposition 218 notice and public process.

As anticipated, the Water Commission's discussion on the options centered on the key issue of how to fund the IRF, or perhaps more simply, how to fund the Department's Capital Investment Program, which is basically all about reliability.

As has been demonstrated multiple times over the last decade, neither the Department's critical backbone infrastructure nor its water supply is reliable, particularly with respect to the current and expected impacts of climate change. The Department's capital program over the next 15 years is almost entirely focused on increasing infrastructure reliability and resilience and improving the reliability of Santa Cruz's water supply. Regardless of how much water is used by individual customers, it is clear that all customers benefit from these improvements. This reality drives the main question related to rate structure alternatives: "What is the best way to collect the costs allocated to each customer class for these improvements?" The following choices were considered by the Water Commission:

1. Funding the IRF using the same tiered or uniform rate commodity structure used to collect the consumption-based costs that fund the Department's operating budget;
2. Funding the IRF using a uniform rate in which every unit of consumption is charged a fixed amount; or
3. Funding the IRF using a fixed charge based on meter size.

Each of the options that the Commission will review will collect the projected IRF cost allocated to each customer class, they just do it in different ways. Focusing on single-family residential customers, as both the largest customer class and the group contributing the largest part of the Water Department's funding:

- Alternative 1 would collect the IRF funding from those using greater amounts of water in the rates where tiers are in place (residential, irrigation);
- Alternative 2 would collect the IRF as a uniform charge for every unit used, without increasing the cost per unit for higher users; and

- Alternative 3 would collect the IRF by spreading the cost allocated to residential customers with 5/8th inch meters equally among all 21,719 property owners in this situation.

Preliminary rates for the FY 2023 – FY 2027 rate period were presented to the Water Commission for discussion. This information shows that in the first two options, those customers using less water will have a smaller financial impact to their future bills than would be the case if the IRF were allocated by meter size. Between the first two options, low water users would pay less under Alternative 1 than the same low water using customer would pay under Alternative 2.

C. Water Rate Structure Recommendations

The Water Commission discussion resulted in a recommendation to the Council to retain its current volume-based rate structure largely because this approach does the best job of maintaining affordable access to water for essential use for all customers. In this approach, about 90% of the Department's total revenue comes from charges associated with the amount of water used. The remaining 10% comes from fixed charges based on meter size and is intended to recover the costs of meter reading, meter maintenance, producing and delivering bills and providing customer service.

Under the volume-based rate structure, accurate meter readings are critical for maintaining both revenue sufficiency and customer equity, and is one more reason it's the meter replacement program approved by Council in August 2020 is included in the Capital Investment Program.

Continued customer demand reductions in the peak season have resulted in a flattening of peak season demand. Further tiered volume-based pricing implemented in 2016 effectively incentivized water use reductions in the peak season and lower and more stable consumption patterns throughout the year by many customers. This result supported a further revision of the tiered structure from four tiers to three in the recommended future rates. Tiered rates for single-family residential customers would be retained with the number of tiers being reduced from five to four. Recommended revised tiers for single and multi-family residential customers are as follows:

- 0 – 5 CCF = tier 1 (average winter use)
- 6 – 9 CCF = tier 2 (average spring and fall use)
- 10 and above CCF = tier 3 (average summer use)

Multi-family residential rates would also be tiered using the same tiers as for single-family but multiplying the tier allocations by the number of dwelling units in a master metered complex.

No changes are recommended for landscape irrigation accounts. They would continue to be billed based on a simplified water budget system that would establish an allocation for each account. Usage up to that water budget allocation would be billed at tier 1 of the irrigation rates, up to 150% of the allocation would be billed at tier 2 of the irrigation rates, and all usage above 150% of the allocation would be billed at tier 3 of the landscape irrigation rates.

The remaining customer classes would be billed using uniform rates established for each class based on the Cost-of-Service Analysis. For example, this means that the University of California at Santa Cruz, whose water use includes some seasonal peaking, would pay a higher uniform rate than those customer classes that do not.

D. Specific Assumptions Used in Developing Proposed Water Rates¹

Once a proposed water rate structure is identified, and revenue requirements are determined, the result of the Cost-of-Service Analysis is used to allocate the proportionate shares of projected costs to each customer class. The water demand forecast identifies the number of units of water (in hundreds of cubic feet or CCF) expected to be sold to each customer class for each year of the proposed rate schedule. Specific rates are then designed to recover the required amount in each of the years covered in the rate schedule. So, specifically, the inputs to the water rates being proposed for the FY 2023 – FY 2027 rate schedule period include the following assumptions:

1. Rate Structure:

- Collect revenues sufficient to recover the revenue necessary to cover the cost of meter reading, meter maintenance, billing preparation and distribution, and customer service through a fixed fee based on meter size.
- Collect all other revenues based on volume-based user rates generally split between revenues needed to recover operating costs through the commodity fee and revenues needed to cover pay-as-you-go capital spending and debt service on borrowing needed to support the capital program in the IRF.

2. Revenue Requirements:

- Revenue requirements split between the amounts to be collected through fixed charges (about 10%) and charges on consumption and the amount to be collected via the IRF are as presented in Table 1.

¹ See Presentation attached to this Agenda item for water rate details.

Table 1
FY 2023 – FY 2027 Projected Revenue Requirements as Used in Rate Design

Financial Plan	COS	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
O&M	\$30,197,959	\$32,696,061	\$34,069,032	\$36,018,421	\$37,980,397	\$40,168,470
IRF	\$9,136,232	\$9,348,238	\$14,517,877	\$21,446,883	\$21,513,987	\$25,038,677
Total Rev. Req.	\$39,334,191	\$42,044,299	\$48,586,908	\$57,465,304	\$59,494,385	\$65,207,147
% Change		6.9%	15.6%	18.3%	3.5%	9.6%

3. Projected Water Sales

- For the purposes of rate development, assume that the amount of water to be sold during the five years covered by the proposed rates is 2.26 billion gallons per year growing to 2.46 billion gallons per year by 2027.²

E. Risk Management and Strategies to Mitigate Revenue Stability Concerns

A more volume-based rate structure creates inherent revenue stability risks for a utility. In making a decision to move in this direction, Water Department staff carefully considered how this risk might influence revenues by evaluating the character and water use consumption patterns in the City’s service area.

Even before the recent drought, Santa Cruz water customers were among the lowest water users in the state on both system-wide and residential gallons per capita per day metrics. During the drought, that pattern continued. Anecdotally, staff is observing some continuing shifts in water use that may reflect some long-term changes in use patterns that will ultimately be attributed to the drought becoming permanent. One very likely candidate for this kind of change is residential landscape irrigation.

Revenue streams that depend on the volume of water sold are particularly susceptible to weather-driven changes in consumption and changes in consumption due to price effects. The Department’s recent experiences make it keenly aware of this dynamic. The challenges of managing ongoing operations and management of the water utility while simultaneously planning for and implementing major capital improvements aren’t insurmountable with a more volume-based rate structure, but certainly introduce an element of uncertainty that should be carefully considered before proceeding. This is what Department staff has done.

² Water sales demand assumptions come from the 2020 updated demand forecast developed for the 2020 update of the Urban Water Management Plan. Projected sales figures do not include system losses but do include North Coast Agricultural use. Use levels for FY 2023 and FY 2027 are interpolated between projections for FY 2020, FY 2025 and FY 2030.

Rather than avoid recommending a rate structure that seems well-suited to the community’s and policy maker’s values and priorities, Department staff recommends planning for and implementing as part of the rate structure the mechanisms needed to mitigate these potential risks.

These risks come in two basic forms: drought risks and non-drought risks. The risk mitigation approaches being recommended to address each are discussed in more detail below.

1. Drought Risks

In 2014, the Water Department instituted a drought cost recovery fee mechanism that is put in place as a fixed charge. Table 2 shows the Drought Cost Recovery Fee revenue recovery target for each stage of the City’s Water Shortage Contingency Plan and provides the amount charged for a typical single-family residential customer using a 5/8th or 3/4th inch meter. Table 2 provides the details.

**Table 2
Drought Cost Recovery Fee for Water Shortage Contingency Plan Stage 2
Example Fixed Charge for 5/8th and 3/4th inch Meters**

Meter Size	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
5/8 inch	\$21.05	\$24.46	\$28.42	\$30.38	\$32.48
3/4 inch	\$31.58	\$36.70	\$42.64	\$45.58	\$48.73

A Drought Cost Recovery Fee was levied in Santa Cruz from October 1, 2014 through June 30, 2016. Levying the fee is explicitly linked to an action by the Santa Cruz City Council to declare a drought and establish a curtailment stage in advance of each year’s dry season (May through October).

The Department’s 2014 and 2016 Proposition 218 notice included the Drought Cost Recovery Fee Schedule. The planned 2021 Proposition 218 notice will also include publication of this fee.

2. Non-drought related Risks

A heavily volume-based revenue-generating approach presents a variety of risks that should be mitigated in order to protect the Water utility’s financial position. The COVID-19 pandemic is a particularly relevant example of an unforeseen and unforeseeable event that resulted in changes in customer consumption. One example is the very dramatic reduction of water use by UCSC as a result of shutting down all (or most) in-person learning between spring of 2020 and fall of 2021. The mitigation strategy adopted in 2016 involved two approaches:

Acknowledge and mitigate the risks to revenue stability associated with moving to a more volume-based rate by:

- a. Maintaining the conservative assumption at 2.4 billion gallons per year;
- b. Applying a \$1.00 surcharge per unit of water consumption (a hundred cubic feet or CCF) to maintain the Rate Stabilization Reserve at a minimum of \$10 million. In any normal water year³ where 2.4 billion gallons of water is not sold, the revenue shortfall associated with this situation would be covered by resources from this fund.⁴

Water Department staff recommend continuing to use these strategies for the next five years. The water sales assumption would be as revised (downward) based on the updated long-term water demand forecast described above, and the Rate Stabilization Reserve target would remain at \$10 million. Section 2.6 discusses terms and conditions of use of the Rate Stabilization Reserve should it grow to a level above \$10 million.

3. Allocations of Rate Stabilization 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 the projected level for relevant year in the rate period billion gallons per year or is greater than the projected demand for the relevant year in the rate period. 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 15%, and
- there is no unpaid outstanding balance of short-term borrowing⁵ to address needs other than the cash-flow issues associated with delayed reimbursements of construction cost claims from state or federal low-interest loans reimbursement.

³ Meaning any year where a drought emergency has not been declared and/or Drought Cost Recovery Fees have not been collected, even though they were authorized to be levied as a result of a drought emergency declaration by Council.

⁴ The Rate Stabilization Reserve Fund would be used to augment revenues during “normal” water years if the amount of water sold falls below projected sales for that year gallons. In water years where water restrictions are required due to inadequate supply, a Drought Cost Recovery charge would be used to ensure revenues are adequate to meet system costs and debt service obligations.

⁵ Sources of short-term borrowing include a revolving line of credit such as the department’s June 2021 \$50m line of credit with Bank of America, or other sources of funds that are needed due to address cash flow issues or to support consolidation of various capital expenses to allow more cost effective long term borrowing.

then either...

- additional planned rate increases will be adjusted to the level needed to produce required revenues without any excess,⁶ or
- directed additional funds to “pay-as-you-go” capital expenditures, reducing the need to issue debt, or
- at council’s direction, adjust the amount of funding in the emergency reserve and the rate stabilization reserve to an established percent of the operating budget rather than using a fixed dollar amount for these reserves.

Because the Rate Stabilization Reserve produces annual revenues, the amount of annual revenue produced, but not the total Rate Stabilization Reserve fund balance, can be used in calculating the Department’s annual Debt Service Coverage Ratio.

F. Rates for North Coast Agriculture

1. Rate Structure for North Coast

North Coast’s water rates include a monthly fixed readiness-to-serve charge based on meter size, a uniform commodity charge based on water usage (to recover operating costs), a uniform infrastructure reinvestment fee (IRF) based on water usage (to recover capital costs), and a uniform rate stabilization fee. North Coast purchases raw water from the City and does not require treatment. The analysis used to develop both commodity and IRF rates for North Coast customers excludes all costs associated with water treatment and the treated water system.

2. Reliability Options for North Coast

Compared to all other City customers, North Coast currently has the same level of service but requires a different type of service. A customer’s level of service is defined by the reliability of water delivery, whereas the type of service differs for North Coast due to the class’s use of raw water instead of treated water. All other City customers use treated water.

The two rate options presented in this memorandum involve differing levels of reliability: “maintain reliability” or “decreased reliability.” Under the “maintain reliability” option, North Coast would keep its current level of service, which is subject to curtailment when all other City customers are also curtailed. Under the “decreased reliability” option, water service for North Coast would be seasonally interruptible based on water supply conditions in Santa Cruz. North Coast rates for the “decreased reliability” option will be less than the “maintain reliability” option. The “decreased reliability” option allows North Coast to access water from the North Coast system only, as opposed to the entire Santa Cruz water system.

⁶ 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.

3. Readiness-to-Serve Charge

The fixed monthly readiness-to-serve charge is the same for all customers and recovers meter maintenance, customer service, and billing costs. The readiness-to-serve charge will be the same for both reliability options since the charge does not recover any costs related to reliability.

4. Commodity Charges

The uniform commodity charges recover operating and capital costs (operating plus IRF). The operating commodity charge for all customers includes raw water delivery, treated water delivery, water supply, raw water peaking, treated water peaking, and conservation costs. North Coast customers are only charged for assets that are used in the service they receive and, therefore, are not allocated for either operating or capital facilities that are used to provide treated water or treated water peaking services to customers.

The cost allocations for the “maintain reliability” option include the proportionate share of all system raw water facilities because all these facilities are needed to maintain this level of service. The cost allocations for the “decreased reliability” option include only the proportionate share of the North Coast raw water facilities. The ability to seasonal interrupt these customers when water supply conditions dictate makes it possible to avoid allocating costs related to San Lorenzo system raw water storage and transmission facilities to customers using this option because it is the San Lorenzo system raw water storage and transmission facilities that are used to maintain water system reliability in dry conditions. Tables 3 and 4 below show the preliminary operating commodity charges and IRF based on the two reliability options.

Table 3
North Coast Ag Consumption Rates for Reliability Options

Reliability Options	Current FY 2022 Charge	Proposed FY 2023 Charge	Difference (\$)
Commodity + IRF			
Maintain Reliability	\$8.98	\$6.45	(\$2.53)
Decreased Reliability	\$8.98	\$2.88	(\$6.10)

Table 4
Five-Year Rate Schedule for North Coast Ag Rates

Reliability Options	Proposed FY 2023	Proposed FY 2024	Proposed FY 2025	Proposed FY 2026	Proposed FY 2027
Commodity + IRF					
Maintain Reliability	\$6.45	\$7.51	\$8.74	\$9.35	\$10.00
Decreased Reliability	\$2.88	\$3.36	\$3.92	\$4.20	\$4.50

North Coast rates are decreasing from current rates due to a change in usage characteristics for the class; compared to the last rate study, North Coast water usage and peaking have decreased. Additionally, the methodology used to determine the IRF in the previous rate study was based on capacity; the proposed methodology in this study is based on asset benefit. The proposed

methodology to allocate capital costs changed from the last study due to the availability of better asset data. The prior study used the best available data at the time the study was conducted. However, detailed asset data, particularly replacement cost information, were not available during the prior water rate study. City staff provided Raftelis with detailed asset information during the current rate study process, which was used as the framework for allocating capital costs based on asset benefit.

FISCAL IMPACT: The LRFPP lays out the fiscal impact over the upcoming five-year rate period, FY 2023 – 2027. The proposed rates fund ongoing operations as well as supporting implementation of a \$291 million capital program while maintaining the Department’s sound financial position by maintaining funding for reserves and meeting key financial metrics.

PROPOSED MOTION: Motion to recommend a proposed water rate schedule for FY 2023 to FY 2027 to the City Council for use in the Proposition 218 public notification and public hearing processes that are legally required prior to adoption and implementation of new rates.

ATTACHMENTS:

1. Draft Long-Range Financial Plan
2. Raftelis Presentation on Proposed Rate Increases

CITY OF SANTA CRUZ WATER DEPARTMENT

LONG RANGE FINANCIAL PLAN



Draft

SEPTEMBER 2021

LONG RANGE FINANCIAL PLAN
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EXECUTIVE SUMMARY

To be added.

WORKING DRAFT

1. INTRODUCTION

1.1 PURPOSE AND NEED

The development of the 2021 Updated Long Range Financial Plan (LRFP) focuses on providing a ten-year capital financing strategy and water rates needed to implement the first five-year period for the plan. Overall, the LRFP is intended to support the City of Santa Cruz Water Department in achieving the following goals:

- Address the repair and rehabilitation of critical infrastructure and the needed augmentation of the City’s available water supply;
- Prepare the water system’s infrastructure and water supply to adapt to the impacts of climate change that are already being experienced;
- Establish and maintain financial policies, reserve levels, and stable revenues needed to ensure financial sustainability and provide flexibility to adapt to unforeseen circumstances or challenges;
- Maintain the credit rating needed to support the Department’s ability to debt finance the major capital investments and reinvestments needed to ensure supply and system reliability;
- Achieve an equitable allocation of capital costs/charges between current and future system users; and
- Manage rates in a predictable and reasonably stable manner.

The LRFP is intended to be a living document that will provide a financial foundation for the Department to use in annual budget planning and management activities.

1.2 ORGANIZATIONAL PROFILE

The Santa Cruz Water Department is an entirely self-funded operation. User rates, fees, and charges are the source of all revenues used to support the ongoing operation, maintenance, planning, management, and capital investments needed to deliver water to some 98,000 water users every day.

Approximately 96% of Santa Cruz’s water is provided by local surface water supplies, with local groundwater resources making up the remaining supply. The customer base is stable, primarily residential and reasonably diverse with the top 10 customers accounting for 18% of total operating revenues. Notwithstanding the recent and assumed to be temporary impacts of the COVID 19 pandemic, the service area economy is also stable and anchored by the University of California at Santa Cruz (UCSC).

Prior to 2012, the unrestricted fund balance of the Water Operating fund (Fund 711) was historically strong, but by the end of 2015 the fund balance had declined rapidly. The cause of the decline was the cash funding of large Capital Investment Program (CIP) projects such as the \$26 million reconstruction of the Bay Street Reservoir. At the time of the preparation of the 2016 LRF, the status of Fund 711 and the lack of adequate reserves were significant issues, and addressing these issues as well as preparing for an increase in capital spending to address necessary rehabilitation and replacement for major system facilities and implement water augmentation projects became the focus of that plan.

As of the preparation of the 2021 LRF, the Department's strong performance with respect to its cash reserve and financial metrics has been reestablished. Achieving this substantial improvement in the Department's financial position represents important progress and is a major accomplishment arising from the implementation of the policies and plans included in the 2016 LRF. The Department's current financial profile is discussed in more detail in Section 1.4 below.

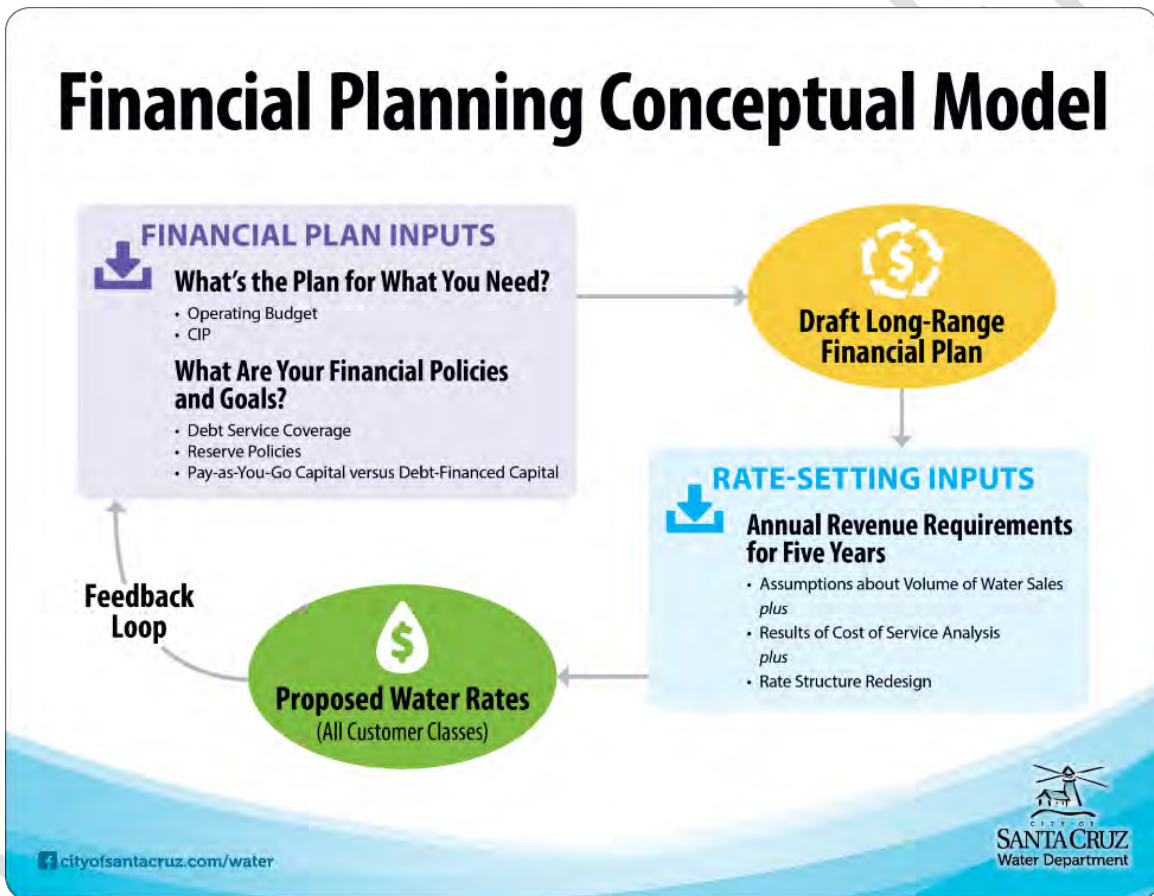
Among the various opportunities and challenges facing the Water Department in the coming years, climate change stands out as significant. In general, Santa Cruz is already experiencing the impacts of climate change and, more specifically, climate change is definitely affecting water supply and infrastructure reliability. As a result, climate change is a major driver of the Department's capital spending. The pattern of extreme weather is particularly challenging because wetter wet years create significant opportunities for landslides that damage raw water transmission facilities, as well as impairing source water quality, making the water more difficult to treat. At the opposite end of the weather spectrum, drought conditions resulting from decreased precipitation during the region's traditional "wet" season are being experienced more frequently, and with multiple year durations. Due to inadequate system storage, these conditions stress the water system and are particularly difficult in an environment where customer water use is already so efficient that there is little opportunity for further reductions using curtailment strategies.

Climate adaptation and efforts to reinvest in major elements of the raw water system that have reached the ends of their useful life are, and will continue to be, the focus of the Water Department's capital spending for the next decade and more. More specifically, capital projects will focus on rehabilitation of major elements of the water system (particularly raw water and treatment facilities,) as well as on supply augmentation, to support adaptation to climate change and improve reliability of the system. The water supply augmentation strategies being pursued are in alignment with the 2015 Council-accepted recommendations of the Water Supply Advisory Committee.

1.3 FINANCIAL PLANNING CONCEPTUAL MODEL

Financial planning and rate making for today’s water utility involves a multi-stepped process depicted in Figure 1 below. The figure shows the inputs and outputs of the utility financial planning and rate making processes. It also shows the feedback loop between proposed rates, the end product of the process, and the organization’s budget and CIP, which are key inputs to the beginning of the process.

Figure 1
Conceptual Model of Utility Financial Planning and Rate Making



This LRFP includes discussions of each key financial plan inputs and outputs including:

- Operating budgets for five years;
- Capital investment requirements for 10-years with a focus on the first five years;
- Financial policies and goals for debt service coverage, financial reserves and the portion of capital spending to be funded with pay-you-go versus debt financing; and
- Water rates that are necessary to support the Department’s operations and capital investments for the coming five-year period.

The first three bullets above are the key inputs that are used to produce annual revenue requirements that water rates will need to be designed to generate.

The foundation of water rates is a Cost-of-Service Analysis. This analysis is designed to establish the specific costs associated with providing service to various classes of customers and must comply with the requirements of Proposition 218, a 1996 voter approved constitutional amendment that limits collection of property-related fees and charges such as utility rates to only those costs that are attributable to providing service to the property. The law does not require that costs for each individual property be calculated, but rather provides for treating similarly situated customers, for example, single family residential customers, in a consistent manner.

Once a cost basis is established with a Cost-of-Service Analysis, policy makers can make choices among various ways to structure rates to recover allocated costs. One way to inform decision-making about how to structure rates is to prioritize water pricing objectives. Examples of water pricing objectives are shown in Table 1 below

**Table 1
Water Pricing Policy Objectives**

Enhances revenue sufficiency	Enhances revenue stability
Promotes efficient water use	Is simple to communicate and understandable by customers
Perceived to be fair by the public	Provides transparency regarding CIP needs
Supports affordable for essential use	Enhances rate stability

As an example of how prioritizing one water pricing objective over another might influence a decision on the rate structure, consider what the impact of choosing a structure that enhances revenue sufficiency over one that promotes efficient water use. A rate structure that enhances revenue sufficiency, for example, might collect all or a large majority of its revenues through fixed charges, which would ensure that the utility gets the funds it needs regardless of water use or weather variability. On the other hand, a rate structure that promotes efficient water use would set charges based on use levels - so customers who use more, pay more receiving a price signal that may motivate changes in use.

The feedback loop between water rates and financial plan inputs is included to make the point that if the approved rate increases don't produce the required revenue, adjustments must be made to the financial plan so that rate revenues will be adequate to support operating and capital improvement spending.

1.4 CURRENT FINANCIAL PROFILE

The Department’s current financial position, in terms of reserves and the ability to meet realistic and appropriate financial metrics, is substantially better than it has been over the last decade. As will be discussed further in this section, the Department’s debt obligations, as anticipated, have increased since 2016 as it took steps to fund necessary capital improvements with debt financing.

This section provides a brief status of the Department’s Financial Profile for each of the following key financial performance indicators:

- Meeting Financial Performance Goals and Metrics
- Status of Financial Meeting Performance Goals and Metrics
- Credit Rating
- Debt Management
- Current Water Rates Structure
- Revenue Stability

1.4.1 FINANCIAL GOALS AND PERFORMANCE INDICATORS

Financial policies and financial indicators are a key input in the financial planning process. Having and meeting goals for key financial performance indicators is central to good financial management. An organization’s financial performance in meeting financial goals and metrics is also a key factor used in establishing its credit rating, which affects the interest rate that will be charged on borrowed funds.

The 2016 LRF was purposefully focused on defining and creating clear and achievable financial goals, and laying out strategies and methods to meet them. The 2021 LRF builds on the success achieved, and maintains a strong focus on the organizational and financial planning and management activities that are necessary to continue to meet these targets.

1.4.1.1 FINANCIAL RESERVES

Over the years, the City Council has established some financial performance metrics for the Water Utility, including a Rate Stabilization Reserve in 1993, and Operating and Emergency Reserves in 2014. At the end of FY 2015, the Rate Stabilization Reserve Fund balance was \$2.4 million and the Emergency Reserve Fund balance was \$600,000. A 90 Day Cash Operating Reserve Fund was also created in September 2014, but was not funded until June 30, 2015.

The Council’s intent in creating the Rate Stabilization Reserve¹ in 1993 was to “shield the Water Fund from the financial effects of extraordinary circumstances.” As originally approved by the Council, the rate stabilization reserve was to be used to help the Department deal with one or a combination of the following conditions:

- 1 Increased CIP or capital outlay expenditures due to an extraordinary non-recurring need or circumstance;
- 2 A fluctuation in water consumption revenues creating an unanticipated shortfall,
or
- 3 Catastrophic losses as the result of a natural disaster.

In the nearly 30 years since the City Council created the original Rate Stabilization Reserve with a target funding level of \$2.3 million, infrastructure and operating costs have increased substantially, and in 2014 the Department staff recommended and the Council approved creating additional reserves. These additional reserves, one for 90 days of operating cash, and one to address natural disaster types of emergency conditions, effectively replaced the first and third purposes intended to be served by the original Rate Stabilization Reserve. Creating these more substantial reserves also began the process of moving the utility to a stronger financial position, which better prepared it to deal with future costs.

The current established reserves and target funding levels include the following:

- Rate Stabilization Reserve (Fund 713) of \$10 million;
- Water Emergency Reserve Fund (Fund 717) at minimum level of \$3 million; and
- An Operating Reserve equal to 180 days of operating expenses, with 90 days of operating cash in Water Operating Cash Reserve Fund (Fund 716), and the remaining 90 days of operating cash in the Water Operating Fund (Fund 711). The annual funding targets for these reserves are based on the Department’s annual operating budget and the metric is to have both Fund 716 and Fund 711 meet the annual 90 days operating cash criterion by the fiscal year’s June 30 closing date.

1.4.1.2 DEBT SERVICE COVERAGE RATIO

Another key financial performance metric is a target for debt service coverage ratio (DSCR). The DSCR is a measure of net operating revenues to annual debt payments. The Water Department has issued relatively little debt over the past 20 years so hadn’t formally established or used a debt service coverage ratio (DSCR) target in its financial planning until

¹ See <http://www.cityofsantacruz.com/home/showdocument?id=3255>

recently. The bond covenant for utility debt issued in 2006 included a 1.25 DSCR. The current minimum DSCR is 1.2, with this level being incorporated into the debt covenants for the Department’s low-interest loans with the State Drinking Water Revolving Loan Fund.

A financial plan that only supports meeting the legal minimum figure can put the utility at risk of technical default on its bonds if revenues are reduced by, say, drought conditions when water use restrictions are put into place. Establishing a target that is above the minimum legal requirement is a good idea because it builds needed flexibility into the system that makes the utility more financially resilient in the face of uncertainty. The 2016 LRF specifically included using a minimum debt service coverage ratio target of 1.5. The impact of this requirement is that annual revenues must be generated to produce at least 1.5 times the annual debt service payment requirement, with the calculation to verify compliance being made after all operating expenses have been paid.

1.4.1.3 MEETING FINANCIAL PERFORMANCE METRICS

As noted in Section 1.1 above, implementing the 2016 LRF has allowed the Water Department to continuously meet all LRF financial performance metrics and fully fund all of its reserves at the target levels.

1.4.2 CREDIT RATING²

The Water Department maintains its own credit rating and has investment grade credit ratings from both Standard and Poors (now S&P Global) and Fitch Rating services. In 2019, in advance of our planned bond sale which took place in December 2019, Fitch gave us an A+ rating with a stable outlook. In November 2020, they downgraded our credit rating to A- to give us a negative outlook.

This action is disappointing, of course, particularly so because our current financial condition is strong. Fitch’s ratings are “forward looking” and the major drivers for the credit downgrade are as follows:

- The additional debt we’ve taken on since 2019 – specifically the \$149 million Drinking Water State Revolving Fund (DWSRF) loan for the Newell Creek Inlet/Outlet and Graham Hill Water Treatment Plant (GHWTP) Concrete Tanks Replacement projects;

² A brief primer on the factors credit rating agency considers in assigning credit ratings for utilities is provided in Appendix A.

- The size of the capital program going forward;
- A concern about affordability of water rates; and
- The fact that we are at the end of our scheduled rate increase cycle and had not yet finalized recommendations on the next cycle of rate increases, and had not completed the Prop 218 public review process and Council action.

The Water Department’s current financial management performance is entirely in line with the 2016 Long Range Financial Plan, which contemplated debt financing about 75% of the needed capital reinvestment in the water system. The latest pro forma model indicates an increase in debt to 85% of capital expenditures.

With respect to affordability, Department staff shared with Fitch our own very recent analysis of the affordability of water rates which was based on a more detailed data analysis and a more refined metric of affordability than Fitch’s. Fitch’s analysis was based on coarser metrics and we believe likely significantly overstates the number of customers who find existing water rates unaffordable.

The City’s water revenue bonds continue to trade at very favorable interest rates. Recent investors have bought the maturities ranging from 20 to 29 years for prices that yield 1.3% to 1.6%.

1.4.3 DEBT FINANCING

The 2016 LRFP included a strategy for, on average, financing 75% of capital spending with long term loans, while funding the remaining 25% with annual rate revenues. The reasoning behind using debt financing to fund a major portion of the CIP is that it provides for inter-generational equity, letting future system users who will benefit from investments in facilities with very long useful lives pay their fair share of the cost of the needed improvements. In addition, spreading these costs over time helps to moderate and stabilize near-term adjustments to water rates.

As planned, with the significant increase in capital spending, the Department is taking on quite a bit of additional long-term debt. As a result of a significant amount of careful work by staff, water rate-payers are benefitting from having the vast majority of the Department’s new debt funded by DWSRF that have a loan 1.4% interest rate over a 30-year term. As noted above, during FY 2020-2021, \$149.3 million in DWSRF loan funds were obtained to support implementation of the Newell Creek Inlet/Outlet Pipeline Replacement and GHWTP Concrete Tank Replacement projects.

Table 2 shows the status of the Water Department’s current debt. Interest and principal payments on the Department’s existing and anticipated future debt is incorporated into the

financial model and is part of the current and future revenue requirements that are the basis for water rates and provide the financial resources necessary to make debt payments.

Table 2
Water Department Debt Obligations

Water Department Current Debt				
Debt	Date Issued	Principal Amount	Interest Rate	Maturity
City of Santa Cruz 2014 Revenue Refunding Bonds	9/2014	\$ 11,260,000	3.32%	8/1/2036
IBank 2016	8/2016	\$ 25,000,000	3.24%	8/1/2046
City of Santa Cruz 2019 Revenue Bonds (Green Bonds)	11/2019	\$ 20,925,000	5%	3/1/2049
DWSRF – Newell Creek Inlet/Outlet Pipeline Replacement Project	9/23/20	\$ 103,453,000	1.4%	10/1/2052
DWSRF – Graham Hill Water Treatment Plant Concrete Tanks	4/19/21	\$ 45,900,000	1.4%	4/30/2054
Revolving Line of Credit 2021 (BOA)³	6/15/21	\$ 50,000,000	Variable ⁴	6/14/2024

One of the reasons for developing the LRFP was to be able to assess the Department’s capacity to use debt financing for major elements of its CIP. A measure of the Department’s financial capacity is what portion of its revenues would be used for debt service. For example, the amount of financial flexibility of an organization is substantially reduced as the percent of its revenue is dedicated to paying debt service rises.

During the first five-years, the Department anticipates issuing debt totaling \$211 million. The annual average debt service is not expected to exceed 25% of annual rate revenue during the first five-years, but it would continue to rise to a maximum of about 28% of annual revenues at

³ Note: Short-term borrowing through a revolving line of credit is being used to assist with cash-flow issues. DWSRF loans are disbursed from the state on a reimbursable basis that requires the Department to submit claims for costs after they have been incurred. The state’s turn-around time on paying claims often exceeds 60 days creating significant cash-flow issues for borrowers.

⁴ The rate is 1 Month LIBOR plus 50 basis pts for drawn funds and 22 basis pts for undrawn funds

the end of the ten-year period. These figures are obviously significantly greater than the Department's projection of less than 10% of its revenues being currently dedicated to debt service., The Department's financial advisors are satisfied that the Department has the debt capacity needed to support implementation of the LRFP capital financing strategy, as long as the Department is able to increase rates and charges as outlined in the LRFP and able to meet key financial targets including maintaining financial reserves and meeting the 1.5 debt service coverage ratio.

1.4.4 CURRENT WATER RATE STRUCTURE

As part of the development of the 2016 LRFP, the Department recommended and Council approved a significant change to the water rate structure. Since at least 2004, water rates produced about 35% of revenue through fixed charges based on meter size and 65% of total revenue was collected through volume or commodity charges. The rate structure adopted in 2016 collects substantially more of the total revenue through volume charges, a significant change to the historical practice. The new rate structure collects the roughly 10% of operating costs associated with meter reading, meter maintenance, and billing and customer service functions through a fixed charge based on meter size, with the remainder being collected in the form of charges related to the amount of water used.

The priority water pricing objectives that informed the change in rate structure were:

1. Revenue sufficiency;
2. Promotes efficiency;
3. Perceived to be fair by the public; and
4. Affordable for essential uses.

Other changes from the rate structure adopted in 2004 were: reducing tiers for residential customers from 5 to 4; changing multi-family rates to the same tiers as single family customers, and multiplying those tier levels by the number of units in the multi-family building; and adding the Infrastructure Reinvestment Fee (IRF) to collect revenues associated with pay as you go and capital spending. The IRF wasn't exactly a new fee, as funds needed for capital spending were always being collected as part of fixed and/or commodity charges. But with the planned expansion of the Department's capital spending, the Department recommended creating the IRF to add transparency for customers related to what they were paying for.

Revised tiered rates for single family residential customer were as follows:

- 0 – 5 CCF = Tier 1 (average winter use)
- 6 – 7 CCF = Tier 2 (average spring and fall use)
- 8 – 9 CCF = Tier 3 (average summer use)
- ≥ 10 CCF = Tier 4

As noted, multi-family residential rates were also tiered using the same tiers as for single family, but multiplying the tier allocations by the number of dwelling units in a master metered complex.⁵

The rate structure for landscape irrigation accounts was revised to be based on a simplified water budget system that established an allocation for each account. Usage up to that water budget allocation would be billed at tier 1 of the irrigation rates, consumption above the budgeted amount and up to 150% of the allocation would be billed at tier 2 of the irrigation rates, and all usage above 150% of the allocation would be billed at tier 3 of the landscape irrigation rates.

The rate structures for the remaining customer classes were set using uniform rates established for each class based on the Cost-of-Service Analysis. Higher water use during the peak season is one factor that is used in the Cost-of-Service Analysis to allocate costs between customer classes. So for example, this means that the UCSC, whose water use includes some seasonal peaking, would pay a higher uniform rate than those customer classes that do not peak.

The shift to generating a much larger portion of total water revenue based on water consumption introduced a number of revenue stability issues that were mitigated through a series of risk-management strategies. Section 1.4.5 below discusses some information about how well the risk management approaches worked. Further information on and discussion about ongoing revenue stability-related risk management strategies for the FY 2023 – 2027 rate period is presented in section 2.4 later in this document.

1.4.5 REVENUE STABILITY

In general, water rate revenues have been stable and the Department has been able to improve and sustain its financial position during the last five years. Water sales have consistently been below the 2.5 billion gallons per year conservative estimate used in water rate development in 2016 but the financial consequences of this shortfall have been mitigated due to a fairly

⁵ Master metered systems may include irrigation or have irrigation on a separate meter. For water utility billing purposes, individually metered multi-family units are treated as single family residential properties.

consistent underspending of the annual operating and capital budgets. As several large capital projects transition from pre-construction activities to construction, capital spending is becoming more aligned with annual projections of capital expenditures. Additionally, Department leadership has taken steps in recent years to better align annual budgeting with annual expenditures and, as a result, expects to have less opportunity to mitigate lower than anticipated water sales through lower annual spending.

Annual water rate increases necessary to support implementation of the 2016 LRFP were approved by City Council in August 2016 and implemented in October 2016, July 2017, July 2018, July 2019, and July 2021. The July 2021 increase was originally scheduled for July 2020 but was deferred due to the overall economic impact of the COVID 19 pandemic.

The 2016 water rate increase also included the implementation of a more volume-based rate structure with about 90% of revenues coming from charges based on the amount of water consumed, and only 10% of revenues coming from fixed charges based on meter size. The Council approved an increase in the Rate Stabilization Reserve (Fund 713) from \$2.3 Million to \$10 Million, which was specifically designed to provide a hedge against non-drought related variability. \$3.8 million from the Rate Stabilization Reserve was, in fact, needed to mitigate revenue impacts due to business and UCSC pandemic-related closures during FY 2020, and additional funds may be transferred from Fund 713 to mitigate ongoing pandemic impacts in FY 2021, once year-end accounting is completed.

The increasing costs of water, particularly in the higher-use tiers for residential customers and for irrigation uses did result in customers taking steps to reduce consumption where they could. Long-term demand forecasts now indicate that customer use can be expected to remain below 2.7 billion gallons per year in total system demand, a figure that hasn't been typical in more than 45 years when the system was serving about one-half the current population. Rate increases for the FY 2023 through FY 2027 time period will reflect these water use trends, which result in higher per-unit prices for each unit of water sold because of the utility's high degree of fixed to variable costs of producing and delivering water, and the increased revenue requirements associated with the capital program.

2. 2021 LONG RANGE FINANCIAL PLAN RECOMMENDATIONS AND PLAN IMPLEMENTATION

This LRFP has been developed based on a specific five-year forecast within a ten-year planning horizon. The purpose of using the ten-year time frame is to ensure that steps taken during the first five-years don't unduly constrain future decision-making on one or more projects to augment water supply. The specific recommendations are limited to the first five-years

because that is as far ahead as the Department can establish rates under the limits set by California’s Proposition 218.

As presented and discussed in this section, the LRFP integrates the key financial plan inputs that are used to produce multi-year revenue requirements. These revenue requirements reflect what is needed for ongoing utility operations, implement a capital financing strategy, maintain financial reserves, and meet a 1.5 debt service coverage target. Finally, the proposed water rates needed to support the planned operating and capital spending for FY 2023 – FY 2027 have been developed through a year-long process in collaboration with the Water Commission and the community, through community engagement that was unfortunately somewhat attenuated due to the COVID pandemic.

Working with its consultant team, Department staff has created a Financial Plan that is realistic and implementable. Details of the assumptions, recommendations and approaches needed to implement the LRFP are presented in the following sections.

2.1 CAPITAL FINANCING STRATEGY

The recommended capital financing strategy is consistent with that included in the 2016 LRFP. The major capital investments that will be made in the five-year FY 2023 – FY 2027 timeframe all have very long useful lives and will be in service and providing benefits to the community for decades to come. This means that it is entirely appropriate to finance the investments in these assets using long-term debt.

This LRFP recommends lowering the goal for the amount of capital spending covered by annual operating revenues from a multi-year average of 25% to a multi-year average of 15%. This recommendation is in response to the already significant revenue increases that are necessary to support planned capital spending for some very large projects including the Graham Hill Water Treatment Plant concrete tanks replacement and the subsequent facilities improvement project at the same location.

Implementing this capital facilities financing strategy results in increases in annual debt service, which is the major driver to the increased revenue requirements presented in Table 5. As a result of increased debt service, in the near term, water rate revenues must increase to a much greater rate than annual inflation, and over time, customers are sure to notice the cumulative effect of these increases. To improve the City’s ability to maintain equitable access to water service for low-income rate payers, the Department, along with many other state and federal interests and decision-makers is actively exploring and supporting state and federal action on low-income water rate assistance programs.

2.1.1 DEBT FINANCING ASSUMPTIONS

In evaluating future financing needs, the LRFPI includes assumptions on the initial and ongoing costs associated with issuing debt. Table 3 shows the projected current interest rate and terms for various debt issuance mechanisms that have been and would continue to be used in debt funding the planned CIP.⁶

Table 3
Debt Mechanism Estimated Rates & Terms

Debt Mechanism	Assumed Interest Rate (percent)	Term (years)
Tax-Exempt Financing (Bonds)	2.25 – 2.5	30
California Infrastructure & Economic Development Bank (I-Bank)	3.24	30
Drinking Water State Revolving Loan Fund	1.4	30
Water Infrastructure Financing and Innovation Act Loan	2.5	35+ years

For general and longer-range planning purposes, additional debt issuance is assumed to be tax-exempt bonds issued in seven series. This assumption is used because, even though the Department has had very good luck applying for and receiving low-interest financing from state programs such as the California Infrastructure and Economic Development Bank and the Drinking Water State Revolving Loan Fund, only tax-exempt water bonds are a virtually guaranteed source of funding, assuming that the Department maintains its credit-worthiness.⁷ The Department will also pursue below market Drinking Water State Revolving Loan Fund loans for rehabilitation and replacement projects that would score well in meeting that program’s competitive criteria.

2.2 FINANCIAL POLICIES AND RESERVE GOALS

Reserve policies are a particularly important tool to help manage risks to an agency’s financial condition. In addition, they help an organization establish and maintain a good bond rating, thereby reducing the cost of borrowing.

⁶ A discussion of potential grant funding options being explored and pursued is included in Section 2.7 on Plan Implementation.

⁷ See further discussion in Section 3.2 below and in Appendix A

Beginning with Council direction in 1993, the Department has built and maintained a Rate Stabilization Reserve Fund (Fund 713). In 2014, the City Council approved two additional reserve funds: a 90-Day Operating Cash Reserve Fund (716) and an Emergency Reserve Fund (717). As discussed in section 1.3 above, a major accomplishment of adopting and implementing the 2016 LRFP was fully funding all reserves. This LRFP recommends retaining the existing goals and policies related to financial reserves and goals.

Table 4 provides information on the recommended reserve fund goals, the financial status of each reserve at 6-30-2021 and the goal for each reserve that is indexed to operating costs at the end of the five-year rate schedule.

**Table 4
Fund Balance Reserve Goals⁸**

Fund		Fund Status on 6/30/2021	Fund Target on 6/30/2027
711	Water Operations & Maintenance	90 Days Operating Cash \$7,442,326 M at FY 2021 year end	90 Days Operating Cash \$10,042,117 M in FY 2027
713	Water Rate Stabilization Reserve	\$11,418,633	\$10,000,000
716	Water 90-Day Operating Cash Reserve	90 Days Operating Cash \$6,887,122 at FY 2021 year end	90 Days Operating Cash \$10,042,117 M in FY 2027
717	Water Emergency Reserve	\$3,28,320	\$3,000,000

2.3 REVENUE REQUIREMENTS

Working together with its consultants, Public Financial Management (PFM) and Raftelis Financial Consultants (Raftelis), a financial planning model was created in 2015-2016 to support the Department’s ongoing efforts to project operating and capital budgets and forecast annual revenue requirements. These projections include:

- Revenues needed to cover debt service payments for the financing expected to be used to fund capital investments;

⁸ For a fuller discussion of the earlier status and funding history of these reserve funds and reserve goals, please see <https://www.cityofsantacruz.com/home/showpublisheddocument/53794/636064174716000000>.

- Assumptions about how much of the capital program will be cash (pay-as-you-go funding) financed versus debt financed; and
- Funds required to meet financial reserve and debt service coverage ratio targets.

This information is then used by the Department’s 2016 and 2021 rate consultant, Raftelis Consulting, to develop proposed water rates that are also based on a comprehensive Cost-of-Service Analysis also completed by Raftelis.⁹

2.3.1 FINANCIAL PLAN MODEL INPUTS

The key financial planning tool being used by the Department in its financial planning work is a custom financial model created by the Department’s financial advisor, PFM. This model requires a number of inputs including:

1. The beginning fund balance for the Department’s Operating Fund (Fund 711),
2. Multi-year operating expenses, as modified by specific inflation factors,
3. Multi-year capital costs, including specific inflation factors and cost estimating provisions, and
4. Multi-year debt service costs, which are generated from debt financing assumptions.

The model then produces the following outputs:

1. Multi-year revenue projections,
2. Financial performance metrics related to the debt service coverage ratio and financial reserve goals,
3. The sizing and timing of new debt issues, and
4. Information necessary to identify year-over-year increases in revenues that is then used in rate-making.

The sections below describe the inputs being used in the 2021 LRFP

⁹ The Cost-of-Service Analysis is completed and used as the basis of preparing water rates that comply with the requirements of Proposition 218 (give Constitutional cite reference). Proposition 218 requires that customer rates be based on the cost of serving similarly situated customers, for example, single family residential customers.

2.3.1.1 PROJECTED OPERATING BUDGETS

Table 5 shows anticipated operating and capital expenses for FYs 2023 through 2027. Appendix B includes the complete ten-year Pro Forma from which the information in Table 5 was excerpted.

**Table 5
Anticipated Expenses FY 2023 – 2027**

Operating Expenses	2023	2024	2025	2026	2027
Personnel	\$18,295,095	\$19,217,668	\$20,201,621	\$21,251,780	\$22,373,372
Services, Supplies & Other	16,428,430	17,249,852	18,112,344	19,017,982	19,968,860
Capital Outlay	631,575	663,154	696,311	731,127	767,683
Total Operating	\$35,355,040	\$37,130,674	\$39,010,276	\$41,000,849	\$43,109,915

Operating costs have been developed based on very modest changes to staffing and departmental operations over time. The changes in Operating costs are based on the annual inflation factors shown in Table 6. These inflation factors are based on actual historical experience and long-term industry trends.

Table 6 ¹⁰

Operating Budget Inflation Factors

Expense Category	2023-2027
Salaries & Wages	3.0
Employee Benefits	9.0
Operating Supplies and Chemicals	5.0
Energy	5.0
All Other Categories	3.0

2.3.1.2 PLANNED CAPITAL INVESTMENTS

There is no question but that the major driver of the Water Department’s financial planning is its needs to invest and reinvest in water system infrastructure and water supply augmentation to improve the reliability of Santa Cruz’s water supply. The 2016 LRFP set the stage for these efforts, and ongoing infrastructure condition assessments and subsequent capital project planning and development activities since 2016 have significantly increase staff’s understanding of what work needs to be done and its likely cost.

As work on water rate development for the FY 2023 to 2027 period began in 2020, staff wanted to engage with Water Commissioners in evaluating and providing feedback on possible capital planning scenarios and their outcomes in terms of system performance and reductions of vulnerability and their potential impacts on future revenue requirements and water rates. To do this staff recommended that the Water Commission form an Ad Hoc Subcommittee to work with staff on this effort.

At the Water Commission’s July 7, 2020 meeting, an Ad Hoc Subcommittee was formed to forecast revenues and develop various financial scenarios to establish revenue requirements to inform the water rate making process. Three members of the Water Commission, Doug Engfer,

¹⁰ Inflation factors were developed using a combination of actual historical experience (Energy and Chemicals), City projections (salaries and benefits) and industry trends for everything else. The **Handy Whitman Index**, which focuses on the inflation of construction cost for projects using significant quantities of concrete and steel, and is particularly applicable for water utilities, has been used to escalate the cost of projects in the Capital Improvement Program.

Walt Wadlow and Alejandro Páramo, were selected to work with Water Department staff on this assignment. The Ad Hoc Subcommittee met with staff on five different occasions to:

- Gain an understanding of the current financial model, including inputs and outputs, used by the Department;
- Review four scenarios with four different 10-year Capital Investment Plan (CIP) expenditure plans; the scenarios were a low (\$189 million), medium (\$377 million) and high (\$610 million) level of capital investment as well as a no CIP (\$0) scenario; and
- Analyze a fifth scenario, as recommended by the Ad Hoc Subcommittee that rescheduled the projects in the high (\$610 million) cost scenario over 15 years to smooth spending and equalize the collective impacts on water rates.

Data reviewed by the Ad Hoc Subcommittee included CIP project priorities, projects included in each of the scenarios, a side-by-side comparison of all the scenarios, and the aggregate impact on future water rates.

The final financial scenario recommended by the Water Commission and reviewed with the City Council in its April 6, 2021 work session on water financial planning and rate-making topics was used to establish revenue requirements to fund daily operations a capital program of \$271 million for the FY 2023 – FY2027 rate period. These revenue requirements were provided to the Water Department’s rate consultant, Raftelis, to use, in combination with the Cost-of-Service study, for the development of rates for each customer class.¹¹

Capital projects planned for over the five-year period are shown in Table 7.

¹¹ See Water Commission Ad Hoc Subcommittee presentation at <https://ecm.cityofsantacruz.com/OnBaseAgendaOnline/Meetings/ViewMeeting?id=1608&doctype=2>

Table 7
CIP for FY 2023 - 2027

CIP Budget Summary		Project Costs (FY23 -FY27)
Project Titles		
WATER SUPPLY RESILIENCY & CLIMATE ADAPTATION PROJECTS		
<i>Water Supply Augmentation Strategy</i>		
Beltz Wellfield Aquifer Storage and Recovery (ASR)		15,070,358
Santa Margarita ASR and In Lieu Water Transfers and Exchanges		6,503,376
Studies for Recycled Water, Climate Change, and ASR		230,000
	Subtotal	21,803,734
INFRASTRUCTURE RESILIENCY AND CLIMATE ADAPTATION		
<i>Raw Water Storage Projects</i>		
NCD I/O Replacement Project		9,660,000
<i>Raw Water Diversion and Groundwater System Projects</i>		
Laguna Creek Diversion Retrofit		10,000
North Coast System Majors Diversion Rehab		966,927
Tait Diversion Rehab/Replacement		1,493,513
Felton Diversion Pump Station Improvements		1,043,986
<i>Raw Water Transmission</i>		
Newell Creek Pipeline Rehab/Replacement		10,000
Newell Creek Pipeline Felton/GHWTP		26,590,000
Brackney Landslide Area Pipeline Risk Reduction		4,980,000
<i>Surface Water Treatment</i>		
GHWTP Concrete Tanks Replacement		23,090,000
GHWTP Facilities Improvement Project		108,017,427
River Bank Filtration Study		5,877,851
<i>Distribution System Storage, Water Main and Pressure Regulation, and Metering Projects</i>		
University Tank No. 4 Rehab/Replacement		5,280,000
Meter Replacement Project		1,940,000
Engineering and Distribution Main Replacement Projects		9,631,099
Facility & Infrastructure Improvements		2,306,028
	Subtotal	200,896,831
OTHER RISK MANAGEMENT AND RISK REDUCTION PROJECTS		
<i>Staff Augmentation</i>		
Water Program Administration		13,660,140
<i>Contingency</i>		
Management Reserve		34,531,189
	Subtotal	48,191,329
	GRAND TOTAL	270,891,894

The projected size and timing of debt issues to finance these capital projects are summarized in the table below. These figures do not include the potential benefits of additional DWSRF, WIFIA, or grant funding for projects that may defer or replace projected borrowing shown on the next page. The anticipated debt issues total \$211 million over the next five years. These debt issues assume borrowing rates of 2.25% to 2.5% for 30 year debt. Table 8 shows planned and necessary borrowing.

Table 8
Size and Timing of Revenue Bond Issues Needed to Fund Capital Program

2023	2024	2025	2026	2027
\$36,887,583	\$27,536,633	\$42,763,648	\$49,662,981	\$54,144,163

Appendix B provides the details of the fifteen-year Capital Investment Plan, including both brief project descriptions and a fifteen-year plan of spending.

2.3.2 FINANCIAL PLAN MODEL OUTPUTS: REVENUE REQUIREMENTS FOR FY 2023 – FY 2027

As shown in Figure 1, a significant output of financial planning is the revenue requirements that inform the rate making process. Based on the recommendations and assumptions described in Section 2.3, the Department was able to calculate revenue requirements. Table 9 summarizes these results. The figures shown are the revenue requirements needed to meet operating and capital costs, pay debt service, and comply with reserve and debt service coverage policies in the five-years of the financial plan period FY 2023 – FY 2027.

**Table 9
FY 2023 – FY 2027 Projected Revenue Requirements**

Annual Revenue Requirements	FY 2021 COS¹²	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
	\$39,334,191	\$42,044,299	\$48,586,908	\$57,465,304	\$59,494,385	\$65,207,147
Unsmoothed Year over Year Increase		6.9%	15.6%	18.3%	3.5%	9.6%
Proposed Smoothed Year over Year Increase		6.9%	16.2%	16.2%	6.9%	6.9%

Rates are being developed for the revenue requirements where year-over-year increases are smoothed for rate schedule years two and three and four and five. Smoothing is used to minimize, to the degree feasible, significant changes in annual rate increases. Due to the significant amount of capital spending in years two and three, it is not really feasible to implement the more ideal approach of smoothing rates over the entire rate period because doing so would result in inadequate resources to meet expenditures during years two and three. The year one rate increase is being left at the projected 6.9% level due to impacts to in-city rate-payers of the Council-approved elimination of the surcharge on water charges for outside city rate-payers.

A complete version of this table which provides the Department’s detailed Financial Pro Forma can be found in Appendix B.

2.4 WATER RATES

Water rates are the element of the LRFP that most directly impact customers. The water rate development process is heavily regulated by legal provisions in California as well as by water

¹² The FY 2021 figure is revenue neutral (collects same amount of revenue as current rates), utilizes the FY 2021 budget and cost data, and is based on customer consumption data from FY 2019. It serves as the baseline for year over year calculations of the percent revenue increase for FY 2023, the first year of the projected 5-year rate schedule.

service industry best practices. An example of the latter is the American Water Works Association’s (AWWA) M1 Manual on Water Rates, Fees and Charges.¹³

Beginning in early 2020, the Santa Cruz Water Commission worked extensively with Water Department staff on updating the Department’s financial planning work. Activities included revising system development charges, looking at and providing recommendations to the Council on long-term revenue requirements to support capital investment in the water system and water supply, evaluating and providing policy recommendations to the Council on several policy issues such as outside-city rate surcharges and elevation pumping fees, developing water pricing policy objectives to be considered by the Council when it did a similar exercise, and learning about and providing feedback on Cost-of-Service analysis and rate structure options. The Water Commission also received reports from the customer and community outreach efforts conducted as part of the rate development process, and integrated this input into the development of its recommendations to the Council.

2.4.1 PRIORITY WATER PRICING POLICY OBJECTIVES

Policy-maker engagement in the rate-making process typically begins early in the effort with a water pricing policy objectives exercise. Table 1 in section 1.2 on the Financial Planning Conceptual Model gives a list of some water pricing policy objectives that could be considered in developing customer water rates. Both the Water Commission and the City Council worked through an exercise to prioritize water pricing policy objectives for use in designing water rates for the next five years. The selected priority objectives are:

1. Ensures water for essential use is affordable to all customers;
2. Maintains transparency and equity for capital and water reliability needs; and
3. Provides sufficient revenues to meet operating, capital, and customer service level needs.

2.4.2 RATE STRUCTURE OPTIONS CONSIDERED

In its deliberations about potential changes to the structure of water rates and in consideration of both the priority water pricing policy objectives and the community input received through customer engagement, the Water Commission considered four different rate structure options:

1. Maintaining the existing volume-based rate structure in which both the consumption charge and the Infrastructure Reinvestment Fee (IRF) are based on amounts of water used, and are based on tiered consumption.

¹³ See Appendix D for an excerpt of the AWWA M1 Manual on Water Rates, Fees and Charges. This appendix provides a table of contents for the 2017 edition along with chapter 1.

2. Maintaining the volume-based rate structure for the consumption charge, and shifting the IRF to the fixed charge based on meter size.
3. Maintaining the volume-based rate structure for the consumption charge, and converting the IRF to a uniform charge for each unit of water consumed.
4. Maintaining the volume-based rate structure for the consumption charge and shifting the IRF to the property tax based on meter size.

At its July 12, 2021 meeting, the Water Commission considered actual rates for Alternatives 1, 2, and 3, and provided direction to the consulting team about which alternative to further develop for recommendation to the City Council, as well as to present as proposed rates in the Proposition 218 notice and public process.

As anticipated, the Water Commission's discussion on the options centered on the key issue of how to fund the IRF, or perhaps more simply, how to fund the Department's capital investment program, which is basically all about reliability.

As has been demonstrated multiple times over the last decade, neither the Department's critical backbone infrastructure nor its water supply is reliable, particularly with respect to the current and expected impacts of climate change. The Department's capital program over the next 15 years is almost entirely focused on increasing infrastructure reliability and resilience, and improving the reliability of Santa Cruz's water supply. Regardless of how much water is used by individual customers, it is clear that all customers benefit from these improvements. This reality drives the main question related to rate structure alternatives: "What is the best way to collect the costs allocated to each customer class for these improvements?" The following choices were considered by the Water Commission:

1. Funding the IRF using the same tiered or uniform rate commodity structure used to collect the consumption-based costs that fund the Department's operating budget;
2. Funding the IRF using a uniform rate in which every unit of consumption is charged a fixed amount; or
3. Funding the IRF using a fixed charge based on meter size.¹⁴

Each of the options that the Commission reviewed will collect the projected IRF cost allocated to each customer class, they just do it in different ways. Focusing on single-family residential customers, as both the largest customer class and the group contributing the largest part of the Water Department's funding:

- Alternative 1 would collect the IRF funding from those using greater amounts of water in the rates where tiers are in place (residential, irrigation);

¹⁴ See July 12, 2021 Water Commission Meeting Materials at <https://ecm.cityofsantacruz.com/OnBaseAgendaOnline/Meetings/Search?dropid=4&mtids=124>.

- Alternative 2 would collect the IRF as a uniform charge for every unit used, without increasing the cost per unit for higher users; and
- Alternative 3 would collect the IRF by spreading the cost allocated to residential customers with 5/8th inch meters equally among all 21,719 property owners in this situation.

Preliminary rates for the FY 2023 – FY 2027 rate period were presented to the Water Commission for discussion. This information shows that in the first two options, those customers using less water will have a smaller financial impact to their future bill than would be the case if the IRF were allocated by meter size. Between the first two options, low water users would pay less under Alternative 1 than the same low water using customer would pay under Alternative 2.

2.4.3 WATER RATE STRUCTURE RECOMMENDATION

The Water Commission discussion resulted in a recommendation to the Council to retain its current volume-based rate structure largely because this approach does the best job of maintaining affordable access to water for essential use for all customers. In this approach, about 90% of the Department's total revenue comes from charges associated with the amount of water used. The remaining 10% comes from fixed charges based on meter size and is intended to recover the costs of meter reading, meter maintenance, producing and delivering bills and providing customer service.

Under the volume-based rate structure, accurate meter readings are critical for maintaining both revenue sufficiency and customer equity, and is one more reason the meter replacement program approved by Council in August 2020 is included in the Capital Investment Program.

Continued customer demand reductions in the peak season have resulted in a flattening of peak season demand. Further tiered volume-based pricing implemented in 2016 effectively incentivized water use reductions in the peak season and lower and more stable consumption patterns throughout the year by many customers. This result supported a further revision of the tiered structure from four tiers to three in the recommended future rates. Tiered rates for single family residential customers would be retained with the number of tiers being reduced from five to four¹⁵. Recommended revised tiers for single and multi-family residential customers are as follows:

¹⁵ The change in the number of tiers was the result of the analysis done by Raftelis Financial Consultants as part of the Cost-of-Service Study and was based on evolving water use patterns for residential customers.

- 0 – 5 CCF = Tier 1 (average winter use)
- 6 – 9 CCF = Tier 2 (average spring and fall use)
- 10 and above CCF = Tier 3 (average summer use)

Multi-family residential rates would also be tiered using the same tiers as for single family but multiplying the tier allocations by the number of dwelling units in a master metered complex.¹⁶

No changes are recommended for landscape irrigation accounts. They would continue to be billed based on a simplified water budget system that would establish an allocation for each account. Usage up to that water budget allocation would be billed at tier 1 of the irrigation rates, up to 150% of the allocation would be billed at tier 2 of the irrigation rates, and all usage above 150% of the allocation would be billed at tier 3 of the landscape irrigation rates.

The remaining customer classes would be billed using uniform rates established for each class, based on the Cost-of-Service Analysis. For example, this means that the University of California at Santa Cruz, whose water use includes some seasonal peaking, would pay a higher uniform rate than those customer classes that do not.

2.4.4 SPECIFIC ASSUMPTIONS USED IN DEVELOPING PROPOSED WATER RATES

Once a proposed water rate structure is identified, and revenue requirements are determined, the result of the Cost-of-Service Analysis is used to allocate the proportionate shares of projected costs to each customer class. The water demand forecast identifies the number of units of water (in hundreds of cubic feet or CCF) expected to be sold to each customer class for each year of the proposed rate schedule. Specific rates are then designed to recover the required amount in each of the years covered in the rate schedule. So, specifically, the inputs to the water rates being proposed for the FY 2023 – FY 2027 rate schedule period include the following assumptions:

1. Rate Structure:
 - Collect revenues sufficient to recover the revenue necessary to cover the cost of meter reading, meter maintenance, billing preparation and distribution, and customer service through a fixed fee based on meter size.
 - Collect all other revenues based on volume-based user rates generally split between revenues needed to recover operating costs through the commodity

¹⁶ Master metered systems may include irrigation or have irrigation on a separate meter. For water utility billing purposes, individually metered multi-family units are treated as single family residential properties.

fee and revenues needed to cover pay-as-you-go capital spending and debt service on borrowing needed to support the capital program in the IRF.

2. Revenue Collection Split:

- Revenue collections are split between the amounts to be collected through fixed charges (about 10%) and charges on consumption and the amount to be collect via the IRF. are as presented in Table 10

Table 10¹⁷

FY 2023 – FY 2027 Projected Revenue Requirements as Used in Rate Design

Financial Plan	COS	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
O&M	\$30,197,959	\$32,696,061	\$34,069,032	\$36,018,421	\$37,980,397	\$40,168,470
IRF	\$9,136,232	\$9,348,238	\$14,517,877	\$21,446,883	\$21,513,987	\$25,038,677
Total Rev. Req.	\$39,334,191	\$42,044,299	\$48,586,908	\$57,465,304	\$59,494,385	\$65,207,147
% Change		6.9%	15.6%	18.3%	3.5%	9.6%

3. Projected Water Sales

- For the purposes of rate development, assume that the amount of water to be sold during the five-years covered by the proposed rates is 2.26 billion gallons per year growing to 2.46 billion gallons per year by 2027.¹⁸

Additional details about the recommended rate structure and water rates can be found in Appendix F.

2.4.5 RATE OPTIONS FOR NORTH COAST AGRICULTURE CUSTOMERS

As part of the development of a rate schedule for the FY 2023 – FY 2027 rate period, the City worked with Raftelis to develop reliability-based rate options for the North Coast Agriculture customer class (North Coast), which includes a subset of customers that purchase raw water for agricultural irrigation.

¹⁷ See Table 9 for the total revenue requirements being used for the smoothed rate increase scenario.

¹⁸ Water sales demand assumptions come from the 2020 updated demand forecast developed for the 2020 update of the Urban Water Management Plan. The summary table of that forecast is provided in Appendix E. Projected sales figures do not include system loses but do include North Coast Agricultural use. Use levels for FY 2023 and FY 2027 are interpolated between projections for FY 2020, FY 2025 and FY 2030

Compared to all other City customers, North Coast currently has the same level of service but requires a different type of service. A customer’s level of service is defined by the reliability of water delivery, whereas the type of service differs for North Coast due to the class’s use of raw water instead of treated water. All other City customers use treated water.

Current North Coast’s water rates include a monthly fixed readiness-to-serve charge based on meter size, with their charges being exactly the same for this portion of the bill due as all other customers. In addition, North Coast Ag customers pay a uniform commodity charge based on water usage (to recover operating costs), a uniform IRF based on water usage (to recover capital costs), and a uniform rate stabilization fee. The cost basis for their commodity and IRF charges is the water system’s raw water assets and capacities, for instance, Newell Creek Dam and Loch Lomond Reservoir, the North Coast sources and both the North Coast and Newell Creek Pipelines. No costs associated with the operation, maintenance, rehabilitation or replacement of water treatment facilities or the treated water storage and distribution are allocated or North Coast users.

The two rate options developed for consideration by North Coast Ag customers involve differing levels of reliability: “maintain reliability” or “decreased reliability.” Under the “maintain reliability” option, North Coast Ag customers would keep their current level of service, which is subject to curtailment when all other City customers are also curtailed. Under the “decreased reliability” option, water service for North Coast would be seasonally interruptible based on water supply conditions in Santa Cruz. North Coast rates for the “decreased reliability” option will be less than the “maintain reliability” option because the cost-allocation methodology used for the two options differs.

In the “maintain reliability” option, both North Coast and San Lorenzo river water and infrastructure assets are needed to provide the level of reliability that North Coast Ag (and all other customers) receive. Without the San Lorenzo river’s supply and raw water storage assets Santa Cruz water service customers, including North Coast Ag customers, cannot be assured that they will have water during the six month long annual dry season, as these facilities are a critical component of the system’s ability to provide water during those months.

In the “decreased reliability” option, the cost basis used in developing rates excludes the San Lorenzo river supply and raw water storage assets. This is possible because when water supply conditions warrant, North Coast Ag customers choosing this level of service will be completely cut off from service, so the San Lorenzo storage and water system assets will not be either available or needed to serve them.

Table 11 below shows the preliminary operating commodity charges and IRF based on the two reliability options. North Coast rates are decreasing from current rates due to a change in usage characteristics for the class; compared to the last rate study, North Coast water usage and peaking have decreased. Additionally, the methodology used to determine the IRF in the

previous rate study was based on capacity; the proposed methodology in this study is based on asset benefit. The proposed methodology to allocate capital costs changed from the last study due to the availability of better asset data.

Table 11
Example Water Rates for North Coast Ag Customers under Two Reliability Options

Reliability Options	Current FY 2022 Charge	Proposed FY 2023 Charge	Difference (\$)
Commodity + IRF			
Maintain Reliability	\$8.98	\$6.45	(\$2.53)
Decreased Reliability	\$8.98	\$2.88	(\$6.10)

The prior study used the best available data at the time the study was conducted. However, detailed asset data, particularly replacement cost information, were not available during the prior water rate study. City staff provided Raftelis with detailed asset information during the current rate study process, which was used as the framework for allocating capital costs based on asset benefit.

The proposed five-year rate schedule for North Coast Ag customers is included with other rate details in Appendix F.

2.5 RISK MANAGEMENT – MITIGATING THE POTENTIAL REVENUE STABILITY RISKS OF A HEAVILY VOLUME BASED RATE STRUCTURE

A more volume-based rate structure creates inherent revenue stability risks for a utility. In making a decision to move in this direction, Water Department staff carefully considered how this risk might influence revenues by evaluating the character and water use consumption patterns in the City’s service area.

Even before the recent drought, Santa Cruz water customers were among the lowest water users in the state on both system-wide and residential gallons per capita per day metrics. During the drought, that pattern continued. Anecdotally, staff is observing some continuing shifts in water use that may reflect some long-term changes in use patterns that will ultimately be attributed to the drought becoming permanent. One very likely candidate for this kind of change is residential landscape irrigation.

Revenue streams that depend on the volume of water sold are particularly susceptible to weather driven changes in consumption, and changes in consumption due to price effects. The Department’s recent experiences make it keenly aware of this dynamic. The challenges of managing ongoing operations and management of the water utility while simultaneously planning for and implementing major capital improvements aren’t insurmountable with a more

volume-based rate structure, but certainly introduce an element of uncertainty that should be carefully considered before proceeding. This is what Department staff has done.

Rather than avoid recommending a rate structure that seems well-suited to the community’s and policy maker’s values and priorities, Department staff recommends planning for and implementing as part of the rate structure the mechanisms needed to mitigate these potential risks.

These risks come in two basic forms: drought risks, and non-drought risks. The risk mitigation approaches being recommended to address each is discussed in more detail below.

2.5.1 DROUGHT RISKS

In 2014, the Water Department instituted a drought cost recovery fee mechanism that is put in place as a fixed charge. Table 12 shows the Drought Cost Recovery Fee revenue recovery target for each stage of the City’s Water Shortage Contingency Plan and provides the amount charged for a typical single family residential customer using a 5/8 or 3/4 inch meter.

**Table 12 complete table
Drought Cost Recovery Fee for Water Shortage Contingency Plan Stage 2
Example Fixed Charge for 5/8 and 3/4 inch Meters**

Meter Size	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
5/8 inch	\$21.05	\$24.46	\$28.42	\$30.38	\$32.48
3/4 inch	\$31.58	\$36.70	\$42.64	\$45.58	\$48.73

Additional Details on the Drought Cost Recovery Fees for other meter sizes can be found in Appendix F

A Drought Cost Recovery Fee was levied in Santa Cruz from October 1, 2014 through June 30, 2016. Levying the fee is explicitly linked to action taken by the Santa Cruz City Council to declare a drought and establish a curtailment stage in advance of each drought year’s dry season (May through October).

The Department’s 2014 and 2016 Proposition 218 notice included the Drought Cost Recovery Fee Schedule. The planned 2021 Proposition 218 notice will also include publication of this fee.

2.5.2 NON-DROUGHT RELATED RISKS

A heavily volume-based revenue generating approach presents a variety of risks that should be mitigated in order to protect the Water utility’s financial position. The COVID 19 pandemic is a particularly relevant example of an unforeseeable event that resulted in changes in customer consumption. One example is the very dramatic reduction of water use by UCSC as a result of shutting down all (or most) in-person learning between spring of 2020 and fall of 2021. The mitigation strategy adopted in 2016 involves two approaches:

Acknowledge and mitigate for the risks to revenue stability associated with moving to a more volume-based rate by:

1. Maintaining the conservative assumption of water volumes to be sold at at 2.26 billion gallons in FY 2023 growing to 2.46 billion gallons per year by FY 2027;
2. Applying a \$1.00 surcharge per unit of water consumption (a hundred cubic feet or CCF) to maintain the Rate Stabilization Reserve at a minimum of \$10 million. In any normal water year¹⁹ where water sales don’t meet projections, the revenue shortfall associated with this situation would be covered by resources from this fund.²⁰

Water Department staff recommend continuing to use these strategies for the next five years. The water sales assumption would be revised (downward) based on the updated long term water demand forecast described above, and the Rate Stabilization Reserve target would remain at \$10 million. Section 2.6 discusses terms and conditions of use of the Rate Stabilization Reserve should it grow to a level above \$10 million.

2.6 ALLOCATIONS OF RATE STABILIZATION 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 the projections being used in the LRF or is greater

¹⁹ Meaning any year where a drought emergency has not been declared and/or Drought Cost Recovery Fees have not been collected, even though they were authorized to be levied as a result of a drought emergency declaration by Council.

²⁰ The Rate Stabilization Reserve Fund would be used to augment revenues during “normal” water years if the amount of water sold falls below 2.5 billion gallons. In water years where water restrictions are required due to inadequate supply, a Drought Cost Recovery charge would be used to ensure revenues are adequate to meet system costs and debt service obligations.

than projected. 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 15%, and
- there is no unpaid outstanding balance of short-term borrowing²¹ to address needs other than the cash-flow issues associated with delayed reimbursements of construction cost claims from state or federal low-interest loans reimbursement.

Then either...

- additional planned rate increases will be adjusted to the level needed to produce required revenues without any excess,²² or
- direct additional funds to “pay-as-you-go” capital expenditures, reducing the need to issue debt, or
- At Council’s direction, adjust the amount of funding in the Emergency Reserve and the Rate Stabilization Reserve to an established percent of the Operating budget, rather than using a fixed dollar amount for these reserves.

Because the Rate Stabilization Reserve produces annual revenues, the amount of annual revenue produced, but not the total Rate Stabilization Reserve fund balance, can be used in calculating the Department’s annual Debt Service Coverage Ratio.

2.7 PLAN IMPLEMENTATION

Much of the policy direction and financial performance targets of the LRFPP are integrated in to the Department’s ongoing operations, for example a five-year rate schedule, once it has been

²¹ Sources of short-term borrowing include a revolving line of credit such as the Department’s June 2021 \$50M Line of Credit with Bank of America, or borrowing from other available sources.

²² 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.

through the required public process and the Council has taken action on it. This means that there are relatively few items that require further direction once the plan is approved. Just two items are included here to make explicit policies or strategies that are related to the LRFP and its implementation. These two items are described below.

2.7.1 CONSIDERATIONS IN THE TIMING AND SIZING OF DEBT

In order to effectively use a debt financing approach to minimize interest costs associated with borrowing, it is necessary to actively manage the timing and sizing of debt issued to avoid paying interest on cash sitting idle in a bank account. Given this concern, when issuing debt, it makes sense to take into account the following:

- Set a minimum debt financing amount of \$15 million;²³
- Consider the spending rate on current and near-term capital projects;²⁴
- Consider market conditions or interest rate changes that might be more or less favorable in the future;
- Explore the potential to use one or more bridge funding mechanisms such as a bank letter of credit or internal borrowing (from City reserve funds, for example) that would allow for debt issuance at a later date.

The PFM model includes a debt sizing function that can be used to forecast capital expenditures and anticipate when additional borrowing is needed. The model uses both built-in parameters, such as the minimum \$15 million in borrowing, and the opportunities to consciously consider the sizing and timing of debt. City staff will be actively using this model in ongoing financial analyses and management activities, and the timing and sizing of each debt issue may be revised based on market conditions at the time.

²³ The purpose for establishing a minimum issuance amount for a debt issue is based on reasoning that is similar to the advice of travel gurus regarding going to the ATM when you're on vacation in a foreign country. There are certain transaction costs associated with taking money out of the ATM that don't vary (or don't vary very much) with the size of the withdrawal. Therefore, it is more cost effective to go to the ATM fewer times and take out more money rather than doing the opposite. Issuing debt also has certain borrowing costs that accrue, and borrowing in bigger chunks helps manage and minimize the impact of some of these costs.

²⁴ The Department's CIP shows spending patterns that reflect the staff's best estimate of how the project will play out. The environmental review, right-of-way, and regulatory climate in California is complex and project spending can be greatly influenced by this reality. In sizing and timing debt issues, it will be important to use the most up-to-date information about progress on projects.

2.7.2 OPPORTUNITIES FOR GRANT FUNDING

In addition to borrowing, the Department will work to acquire grant funding for capital investments if and as available. Grant funds may most likely be an option to defray some of the costs of the projects included in the Water Supply Augmentation Strategy.

Appendix G includes a July 2021 summary of federal and state infrastructure funding opportunities that was developed for and provided to the Water Commission. This summary provides an overview of the many programs being considered or already approved that will provide new opportunities for infrastructure funding, including potential grants for drought response and climate resilience investments, both of which are entirely aligned with Santa Cruz Water's initiatives and needs.

2.8 REVIEW AND REVISION OF THE LRF

The LRF is designed to be used as an ongoing guide for the Water Department financial planning and management activities over the upcoming five to ten-year period. The financial planning and rate models that form the analytical basis of the LRF are effective tools to support the Department's financial decision-making, and will be used and updated as new information is available. In 2027, the Department would expect to complete a new Cost-of-Service Analysis to use in setting rates of FY 2028 through FY 2032. Using these results as well as updated information on revenue requirements, the Department will comprehensively review and revise the LRF to guide the next five-year's activities.

Glossary

- **Bond covenant** – A legally binding term for an agreement between a bond issuer and a bond holder. Bond covenants are designed to protect the interests of both parties. Bond covenants are commitments that the City makes to the bondholders to ensure timely payment of principal and interest.
- **Capital Investment Plan** – A multi-year plan that lists the rehabilitation, replacement, major maintenance, and new water system facilities and systems that are needed to maintain reliable and high-quality water service or meet regulatory requirements;
- **CCF** (One Hundred cubic feet of water) – 748 gallons of water. A CCF is the unit used by the Santa Cruz Water Department as the basis for charges to customers based on water use.
- **Debt service coverage ratio** – The ratio of net operating revenue to annual debt payments.
- **Emergency reserve fund** – A reserve fund specifically designed to provide resources to address the consequences of natural disasters on water system facilities or resources or a catastrophic failure of a water system facility;
- **Pro forma** (financial statement) - A pro forma financial statement is a forecast of the utility's revenues and expenditures based on certain assumptions and projections;
- **Ninety-day operating cash reserve fund** – A reserve created to help ensure the utility's ability to meet operating expenses, provide financial stability, and resilience and support establishing and maintaining a good credit rating.
- **Operating budget** – The portion of the Department's overall budget that pays for ongoing operations of the utility, including the costs related to personnel, materials and services such as water treatment chemicals, energy resources, and non-capital improvement project professional and technical services;
- **Pay-as-you-go capital funding** – paying for capital improvement projects using current year or accumulated rate revenues rather than the use of short or long term debt;
- **Proposition 218** – a 1996 California Constitutional Amendment that established the “cost-of-service” requirements for utility rates as well as certain noticing and public review process requirements related to water rate increases;²⁵
- **Rate structure design** – Characteristics of water rates that provides for the amount of revenue produced by fixed and variable charges, the use of different tiers for different amounts of water use, etc.;
- **Rate stabilization reserve** – a financial reserve specifically intended to provide a hedge against revenue variability resulting from weather conditions, such as a cool wet spring that results in less water than projected being used for outdoor irrigation.

²⁵ Proposition 218 also includes other provisions that aren't relevant to water rates and finances.

- **Reimbursement resolution** – A Council action that authorizes the Department to reimburse itself for funds expended on capital projects using proceeds from future debt issues.
- **Water Supply Augmentation Strategy** – This is the plan developed by the Council appointed Water Supply Advisory Committee and accepted by the City Council for implementation in November 2015.

WORKING DRAFT

APPENDIX A PRIMER ON UTILITY CREDIT RATINGS

One typical measure of a Utility’s financial performance is its credit rating. Table A-1 below describes the factors considered by Credit Rating Agencies in assigning credit ratings.

**Table A-1
Rating Agency Factors Used in Assigning an Agency Credit Rating**

Rating Factor	Rating Sub-Factors & Description
System Characteristics	<ul style="list-style-type: none"> • asset condition • service area wealth (median family income) • gross county product • unemployment rate • annual utility bill as a % of median family income • system size (O&M)
Financial Strength	<ul style="list-style-type: none"> • annual debt service coverage • days cash on hand • debt to operating revenues • debt to capitalization ratio
Management	<ul style="list-style-type: none"> • rate management • regulatory compliance • capital planning • financial planning (debt & investment policies) • operational risk (water supply adequacy)
Legal Provisions	<ul style="list-style-type: none"> • rate covenant • debt service reserve requirement

Credit rating agencies consider a variety of factors in assigning a credit rating, and utilities that have the best credit ratings typically will include policies that specifically address the financial strength metrics listed in Table A-1.

Establishing the 90-Day Operating Cash Reserve Fund was an important step, however for bond rating purposes a 180-day reserve is preferable. To that end, the financial plan also envisions keeping a 90-day reserve in the operating fund (711) in addition to the 90-Day Operating Cash Reserve Fund (716). Providing a reserve equal to 180-days of operating expenses (between balances in Fund 711 and 716) is considered to be the minimum reserve to maintain a strong bond rating (AA category) and access to capital markets. Increasing these reserves above 180-days operating cash may be pursued if and when resources become available.

The Rate Stabilization Reserve Fund has been maintained at the historic \$2.3 million level and seeks to provide a cushion to cover one-time situations where expenses exceed rate revenue. At 6-30-2015, this fund had increased to \$2.4 million including interest income. As noted above, the \$1/CCF surcharge will be used to help increase this fund to \$10 million, as part of the mitigation for moving to a more volume-based rate structure. This approach is discussed in greater detail in Section 6.5.2 below.

WORKING DRAFT

APPENDIX B 15 YEAR CIP

This Appendix includes a spreadsheet listing projects, and the project descriptions.

Water Department FY 2022 – FY 2031 Capital Improvement Program

CIP Budget Summary	Project Costs (FY23 -FY27)	Project Costs (FY28 -FY32)	Project Costs (FY33 -FY37)
Project Titles			
WATER SUPPLY RESILIENCY & CLIMATE ADAPTATION PROJECTS			
<i>Water Supply Augmentation Strategy</i>			
Belz Wellfield Aquifer Storage and Recovery (ASR)	15,070,358	8,133,423	-
Santa Margarita ASR and In Lieu Water Transfers and Exchanges	6,503,376	57,413,516	-
Studies for Recycled Water, Climate Change, and ASR	230,000	-	-
<i>Subtotal</i>	21,803,734	65,546,939	-
INFRASTRUCTURE RESILIENCY AND CLIMATE ADAPTATION			
<i>Raw Water Storage Projects</i>			
NCD I/O Replacement Project	9,660,000	-	-
<i>Raw Water Diversion and Groundwater System Projects</i>			
Laguna Creek Diversion Retrofit	10,000	-	-
North Coast System Majors Diversion Rehab	966,927	4,199,534	-
Tait Diversion Rehab/Replacement	1,493,513	4,730,331	-
Coast Pump Station Rehab/Replacement	-	9,668,360	704,981
Felton Diversion Pump Station Improvements	1,043,986	2,866,416	-
<i>Raw Water Transmission</i>			
Newell Creek Pipeline Rehab/Replacement	10,000	-	-
Newell Creek Pipeline Felton/GHWTP	26,590,000	-	-
Newell Creek Pipeline Felton/Loch Lomond	-	36,927,421	3,802,653
Brackney Landslide Area Pipeline Risk Reduction	4,980,000	-	-
North Coast Pipeline Repair/Replacement - Ph 4	-	20,110,626	33,957
North Coast Pipeline Repair/Replacement - Ph 5	-	10,887,373	9,986,134
<i>Surface Water Treatment</i>			
GHWTP Concrete Tanks Replacement	23,090,000	-	-
GHWTP Facilities Improvement Project	108,017,427	26,905,780	-
River Bank Filtration Study	5,877,851	15,313	-
<i>Distribution System Storage, Water Main and Pressure Regulation, and Metering Projects</i>			
University Tank No. 4 Rehab/Replacement	5,280,000	-	-
Meter Replacement Project	1,940,000	-	-
Engineering and Distribution Main Replacement Projects	9,631,099	9,385,533	11,039,751
Facility & Infrastructure Improvements	2,306,028	2,681,580	3,154,214
<i>Subtotal</i>	200,896,831	128,378,267	28,721,690
OTHER RISK MANAGEMENT AND RISK REDUCTION PROJECTS			
<i>Staff Augmentation</i>			
Water Program Administration	13,660,140	3,806,930	-
<i>Contingency</i>			
Management Reserve	34,531,189	4,088,413	-
<i>Subtotal</i>	48,191,329	7,895,343	-
GRAND TOTAL	270,891,894	201,820,549	28,721,690

APPENDIX C FINANCIAL PRO FORMA

This Appendix provides a 10 year Pro Forma from the Department’s financial Model.

Might be good to include a bit of explanatory text here – check to see what is in the document and see what might be elaborated on (briefly) here.

WORKING DRAFT

City of Santa Cruz Water Department FY 2023 – FY 2032 Financial Pro-Forma

Year	City of Santa Cruz Water Department Pro-Forma Projections										
	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	
Revenues											
Rate Revenue											
Fixed Fee Revenue	\$ 3,572,322	\$ 3,775,378	\$ 4,368,481	\$ 5,173,636	\$ 5,222,434	\$ 5,727,433	\$ 6,283,029	\$ 6,826,865	\$ 7,368,600	\$ 7,611,238	
Volumetric Revenue	\$ 35,133,536	\$ 37,855,475	\$ 43,802,475	\$ 51,875,716	\$ 53,855,998	\$ 59,063,761	\$ 64,793,304	\$ 70,401,576	\$ 75,988,185	\$ 78,490,368	
Elevation Surcharges	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	\$ 352,788	
Rate Stabilization Revenue	\$ 3,060,462	\$ 3,060,462	\$ 3,060,462	\$ 3,060,462	\$ 3,163,368	\$ 3,163,368	\$ 3,163,368	\$ 3,163,368	\$ 3,163,368	\$ 3,163,368	
Manual Revenue Adjustment (Fire Service)	\$ 57,650	\$ 60,658	\$ 63,164	\$ 63,164	\$ 63,164	\$ 63,164	\$ 63,164	\$ 63,164	\$ 63,164	\$ 63,164	
Total Rate Revenue	\$ 42,176,758	\$ 45,104,761	\$ 51,647,370	\$ 60,525,766	\$ 62,657,753	\$ 68,370,515	\$ 74,655,653	\$ 80,807,761	\$ 86,936,106	\$ 89,680,926	
Non-Rate Revenue											
Other Income	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	
Investment Income	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	
Total Non-Rate Revenue	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	\$ 1,250,000	
Total Revenues	\$ 43,426,758	\$ 46,354,761	\$ 52,897,370	\$ 61,775,766	\$ 63,907,753	\$ 69,620,515	\$ 75,905,653	\$ 82,057,761	\$ 88,186,106	\$ 90,930,926	
Operating Expenses											
Personnel	\$ 16,479,238	\$ 18,295,035	\$ 19,217,668	\$ 20,201,621	\$ 21,251,760	\$ 22,373,372	\$ 23,572,197	\$ 24,854,473	\$ 26,226,978	\$ 27,697,076	
Services, Supplies & Other	\$ 15,646,124	\$ 16,428,430	\$ 17,249,852	\$ 18,112,344	\$ 19,017,962	\$ 19,968,860	\$ 20,967,303	\$ 22,015,668	\$ 23,116,451	\$ 24,272,274	
Capital Outlay	\$ 601,500	\$ 631,575	\$ 663,154	\$ 696,311	\$ 731,127	\$ 767,683	\$ 806,068	\$ 846,371	\$ 888,689	\$ 933,124	
Other Operating Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Total Operating Expenses	\$ 32,726,862	\$ 35,355,040	\$ 37,130,673	\$ 39,010,276	\$ 41,000,848	\$ 43,109,915	\$ 45,345,567	\$ 47,716,512	\$ 50,232,118	\$ 52,902,473	
Net Operating Revenues	\$ 10,699,896	\$ 10,999,722	\$ 15,766,697	\$ 22,765,490	\$ 22,906,904	\$ 26,510,600	\$ 30,560,086	\$ 34,341,250	\$ 37,953,988	\$ 38,028,453	
Capital Expenditures	\$ 81,780,000	\$ 61,610,000	\$ 40,830,000	\$ 50,500,000	\$ 56,170,000	\$ 61,779,000	\$ 59,647,000	\$ 43,378,000	\$ 27,276,000	\$ 28,994,000	
Grant Funded	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
SRF Funded	\$ 52,460,000	\$ 22,480,000	\$ 9,050,000	\$ 1,220,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
WIFIA Funded	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Currently Funded	\$ 12,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Pay-Go Funded	\$ 1,695,173	\$ 2,242,417	\$ 4,243,367	\$ 6,516,352	\$ 6,507,019	\$ 7,634,837	\$ 8,926,049	\$ 10,106,100	\$ 11,236,414	\$ 11,161,746	
Debt Funded	\$ 15,624,827	\$ 36,887,583	\$ 27,536,633	\$ 42,763,648	\$ 49,662,981	\$ 54,144,163	\$ 50,720,951	\$ 33,271,900	\$ 16,039,586	\$ 17,832,254	
Debt Service	\$ 4,523,072	\$ 7,105,821	\$ 10,274,509	\$ 14,930,531	\$ 15,006,968	\$ 17,403,840	\$ 20,078,377	\$ 22,589,814	\$ 24,970,751	\$ 25,023,639	
Net Income	\$ 4,481,651	\$ 1,651,483	\$ 1,248,820	\$ 1,318,607	\$ 1,392,917	\$ 1,471,923	\$ 1,555,660	\$ 1,645,336	\$ 1,746,822	\$ 1,843,069	
Total Cash Balances											
Beginning Total Cash Balance	\$ 25,251,417	\$ 29,733,068	\$ 31,384,552	\$ 32,633,372	\$ 33,951,979	\$ 35,344,896	\$ 36,816,819	\$ 38,372,479	\$ 40,017,815	\$ 41,764,637	
I-Bank Reimbursements	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Calculated Change to Cash Balances	\$ 4,481,651	\$ 1,651,483	\$ 1,248,820	\$ 1,318,607	\$ 1,392,917	\$ 1,471,923	\$ 1,555,660	\$ 1,645,336	\$ 1,746,822	\$ 1,843,069	
Ending Total Cash Balance	\$ 29,733,068	\$ 31,384,552	\$ 32,633,372	\$ 33,951,979	\$ 35,344,896	\$ 36,816,819	\$ 38,372,479	\$ 40,017,815	\$ 41,764,637	\$ 43,607,706	
Beginning Cash Balances by Fund											
Fund 717 (Emergency Reserve)	\$ 3,183,765	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	
Fund 713 (Rate Stabilization)	\$ 8,338,227	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	
Fund 716 (90 Day Operating Reserve)	\$ 6,859,985	\$ 8,069,637	\$ 8,717,681	\$ 9,155,509	\$ 9,618,972	\$ 10,109,798	\$ 10,629,842	\$ 11,181,099	\$ 11,765,715	\$ 12,386,002	
Fund 711 (Water Operations)	\$ 6,869,440	\$ 8,563,431	\$ 9,566,871	\$ 10,377,864	\$ 11,233,007	\$ 12,135,098	\$ 13,086,977	\$ 14,091,381	\$ 15,152,100	\$ 16,278,635	
Changes to Cash Balances by Fund											
Fund 717 (Emergency Reserve)	\$ (83,765)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Fund 713 (Rate Stabilization)	\$ 1,661,773	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Fund 716 (90 Day Operating Reserve)	\$ 1,209,652	\$ 648,044	\$ 437,827	\$ 463,464	\$ 490,826	\$ 520,044	\$ 551,257	\$ 584,617	\$ 620,287	\$ 658,444	
Fund 711 (Water Operations)	\$ 1,693,991	\$ 1,003,440	\$ 810,993	\$ 855,143	\$ 902,091	\$ 951,879	\$ 1,004,403	\$ 1,060,719	\$ 1,126,535	\$ 1,184,625	
Ending Cash Balances by Fund											
Fund 717 (Emergency Reserve)	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	\$ 3,100,000	
Fund 713 (Rate Stabilization)	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	
Fund 716 (90 Day Operating Reserve)	\$ 8,069,637	\$ 8,717,681	\$ 9,155,509	\$ 9,618,972	\$ 10,109,798	\$ 10,629,842	\$ 11,181,099	\$ 11,765,715	\$ 12,386,002	\$ 13,044,445	
Fund 711 (Water Operations)	\$ 8,563,431	\$ 9,566,871	\$ 10,377,864	\$ 11,233,007	\$ 12,135,098	\$ 13,086,977	\$ 14,091,381	\$ 15,152,100	\$ 16,278,635	\$ 17,463,260	
Coverage and Targets											
Debt Service Coverage (W/Out Reserves)	2.02x	1.55x	1.53x	1.52x	1.53x	1.52x	1.52x	1.52x	1.52x	1.52x	
Debt Service Coverage Target	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	1.50x	
Debt Service Coverage (W/Reserves)	8.94x	5.96x	4.71x	3.80x	3.88x	3.64x	3.43x	3.29x	3.19x	3.26x	
Days' Cash (Includes only Funds 711 & 716)	186	189	192	195	198	201	203	206	208	210	
Days' Cash Target	180	180	180	180	180	180	180	180	180	180	

**APPENDIX D EXCERPT OF AWWA M1 MANUAL ON
WATER RATES, FEES AND CHARGES**

M1

Water Rates, Fees, and Charges

Seventh Edition



**American Water Works
Association**

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Chapter **I.1**

Overview of Cost-Based Water Utility Rate-Making

Establishing cost-based rates, fees, and charges is an important component in a well-managed and operated water utility. Cost-based rates provide sufficient funding to allow communities to build, operate, maintain, and reinvest in the water system that provides the community with safe and reliable drinking water and fire protection. Properly and adequately funded water systems also allow for the economic development and sustainability of the local community. The purpose of this manual is to discuss standard practices in financial planning and rate-making that a utility can use to establish cost-based rates, fees, and charges to recover the full costs associated with its water system.

The methods and analyses used to establish cost-based rates, fees, and charges have a long history within the water utility industry. Operators of some of the earliest water systems recognized the need for sufficient funding and rates to properly operate, maintain, and expand their water systems. AWWA appointed the Committee on Water Rates in 1949. As time passed, the utility industry recognized the need for a manual of standard practice. Through the work of this committee, the first AWWA M1 manual, *Water Rates Manual*, was published in 1954. (For a more complete history, see Woodcock 2013.) Many of the same concepts, methodologies, and analyses used in 1954 remain relevant today. As time has passed, AWWA Manual M1 has been updated and expanded to reflect the changing industry and its current financial and rate issues. The development of this seventh edition continues the efforts of many dedicated rate professionals to provide a manual of standard practice for the development and establishment of cost-based water rates, fees, and charges.

As a manual of standard practice, AWWA advocates the use of the generally accepted cost-based principles and methodologies for establishing rates, charges, and fees contained and discussed within this manual. Establishing cost-based and equitable rates is technically challenging and requires, at some level, knowledge and understanding of finance, accounting, budgeting, engineering, system design and operations, customer service,

public outreach and communication, and the legal environment as it may relate to setting rates, fees, and charges.

OBJECTIVES OF COST-BASED RATE-MAKING

Water rates developed using the methodologies discussed in this manual, when appropriately applied, are generally considered to be fair and equitable because these rate-setting methodologies result in cost-based rates that generate revenue from each class of customer in proportion to the cost to serve each class of customer. Water rates are considered fair and equitable when each customer class pays the costs allocated to the class and, consequently, cross-class subsidies are avoided.

While recovery of the full revenue requirement in a fair and equitable manner is a key objective of a utility using a cost-of-service rate-making process, it is often not the only objective. The following list contains the typical objectives in establishing cost-based rates (Bonbright, Danielsen, and Kamerschen 1988):

- Effectiveness in yielding total revenue requirements (full cost recovery)
- Revenue stability and predictability
- Stability and predictability of the rates themselves from unexpected or adverse changes
- Promotion of efficient resource use (conservation and efficient use)
- Fairness in the apportionment of total costs of service among the different ratepayers
- Avoidance of undue discrimination (subsidies) within the rates
- Dynamic efficiency in responding to changing supply-and-demand patterns
- Freedom from controversies as to proper interpretation of the rates
- Simple and easy to understand
- Simple to administer
- Legal and defensible

GENERALLY ACCEPTED RATE-SETTING METHODOLOGY

This manual outlines the methodologies and analyses that are used to establish cost-based rates. As displayed in Figure I.1-1, the generally accepted rate-setting methodology includes three categories of technical analysis. The first is the revenue requirement analysis. This analysis examines the utility's operating and capital costs to determine the total revenue requirements and the adequacy of the utility's existing rates. Next, a cost-of-service analysis is used to functionalize, allocate, and equitably distribute the revenue requirements to the various customer classes of service (e.g., residential, commercial) served by the utility. The final technical analysis is the rate-design analysis. It uses the results from the revenue-requirement and cost-of-service analyses to establish cost-based water rates that meet the overall rate-design goals and objectives of the utility.

Sections of this manual have been dedicated to providing detailed discussions of the three types of analysis. Section II of this manual discusses the various technical components of establishing a utility's revenue requirements. Section III discusses the various methodologies that may be used to conduct a cost-of-service analysis. Finally, section IV reviews the various issues and technical considerations in designing water rates.

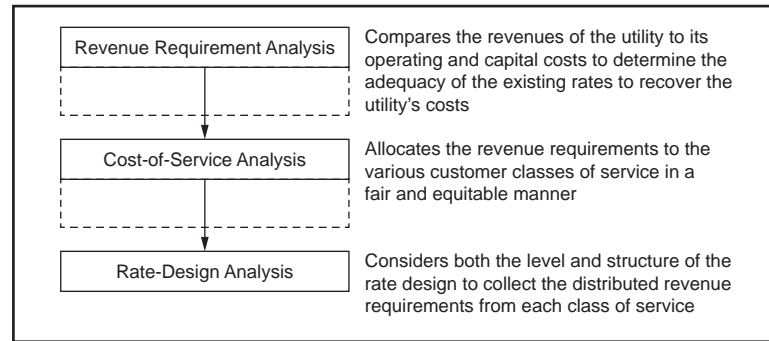


Figure I.1-1 Analytical steps of cost-based rate-making

KEY TECHNICAL ANALYSES OF COST-BASED RATE-MAKING

In establishing cost-based water rates, it is important to understand that a cost-of-service methodology does not prescribe a single approach. Rather, as the first edition of AWWA's Manual M1 noted, "the [M1 manual] is aimed at outlining the basic elements involved in water rates and suggesting alternative rules of procedure for formulating rates, thus permitting the exercise of judgment and preference to meet local conditions and requirements" (AWWA 1954). This manual, like those before it, provides the reader with an understanding of the options that make up the generally accepted methodologies and principles used to establish cost-based rates. From the application of these options within the principles and methodologies, a utility may create cost-based rates that reflect the distinct and unique characteristics of that utility and the values of the community.

Revenue Requirement Analysis

The purpose of the revenue requirement analysis is to determine the adequate and appropriate funding of the utility. Revenue requirements are the summation of the operation, maintenance, and capital costs that a utility must recover during the time period for which the rates will be in place. Two generally accepted approaches for establishing a utility's revenue requirements are discussed in this manual: the cash-needs approach and the utility-basis approach. Section II of the manual provides a detailed discussion and numerical examples about how to establish a utility's revenue requirements using these two approaches, and this section provides a framework for determining how to select between the two approaches.

Cost-of-Service Analysis

The purpose of the cost-of-service analysis is to equitably distribute the revenue requirements between the various customer classes of service served by the utility. The cost-of-service analysis determines what cost differences, if any, exist between serving the various customer classes. The two generally accepted methodologies for conducting the cost-of-service analysis are called the base-extra capacity method and the commodity-demand method. The functionalization, allocation, and distribution process of the base-extra capacity and commodity-demand methodologies are generally considered fair and equitable because both approaches result in the revenue requirements being distributed to each class in proportion to each class's contribution to the system cost components. Discussions of both cost-of-service methodologies, along with numerical examples to illustrate their differences, are provided in section III of this manual.

Rate-Design Analysis

The final technical analysis is the rate-design analysis. This analysis determines how to recover the appropriate level of costs from each customer class of service. There are different rate structures that may be used to collect the appropriate level of revenues from each customer class of service. Section IV of this manual covers the selection and development of rate designs in detail.

OTHER WATER RATE ISSUES AND CONSIDERATIONS

In addition to the topics previously discussed, this manual also contains guidance on a variety of other water rate and cost recovery issues, capacity and development charges, and water rate implementation issues. These topics are discussed in sections V through VIII.

Section V provides an overview of many distinct situations and pricing considerations that utilities may need to address. It is not unusual for a utility to face situations where a customer or group of customers has unique characteristics and circumstances. These situations include reuse rates and charges, standby rates, drought and surcharge rates, low-income affordability rates, negotiated contract and economic development rates, indexed rates, price elasticity, marginal cost pricing, and miscellaneous and special charges. Regardless of the distinctive situation and pricing considerations, the cost-based principles and methodologies as discussed within this manual should be adapted for the cost analysis to provide proper support for the rates.

Section VI is devoted to the development of rates for customers outside a municipality that owns the system. It has been expanded to include an overview of setting rates for outside customers, with chapters on wholesale (or bulk) charges and retail sales.

In recent years, the cost of system expansion and customer growth has had a significant financial impact on utilities. The development of cost-based connection fees, system development charges, or dedicated capacity charges are the topics reviewed in section VII.

Finally, while cost-of-service principles for rate-making and related fees and charges rely on significant amounts of financial analysis, engineering analysis, and policy decisions, it is necessary to engage the public. These topics, along with the data needs for developing cost-based rates, are discussed in section VIII of the manual.

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- AWWA. 1954. Manual M1. *Water Rates Manual*, 1st ed. Denver, Colo.: AWWA. p. 1.
- Bonbright, J.C., A.L. Danielsen, and D.R. Kamerschen. 1988. *Principles of Public Utility Rates*, 2nd ed. Arlington, Va.: Public Utilities Reports. pp. 383–384.
- Woodcock, C.P.N. 2013. A Brief History of Water Rates Manuals and Publications. *Journal of the New England Water Works Association*, December.

APPENDIX E SUMMARY TABLE FROM 2021 LONG RANGE DEMAND FORECAST

YEAR		2015	2020	2025	2030	2035	2040	2045
		Actual	Actual	Forecast	Forecast	Forecast	Forecast	Forecast
Service								
Units	Units							
SFR	Households	19,029	19,119	19,249	19,380	19,511	19,644	19,777
MFR	Households	16,146	16,861	17,991	18,584	18,857	19,052	19,173
BUS	Services	1,897	1,874	1,955	1,993	2,015	2,037	2,055
IND	Services	40	38	38	38	38	38	38
MUN	Services	217	219	219	219	219	219	219
IRR	Services	460	440	448	455	463	471	479
GOLF	Services	6	3	3	3	3	3	3
UC Coastal	Services	2	2	2	2	2	2	2
UC Main	Services	9	9	9	9	9	9	9
Avg Use								
Units	Units							
SFR	CCF/HH	59	67	66	66	66	66	66
MFR	CCF/HH	45	47	45	43	42	42	42
BUS	CCF/SVC	342	276	344	326	307	299	299
IND	CCF/SVC	1,435	1,362	1,302	1,302	1,302	1,302	1,302
MUN	CCF/SVC	214	404	329	312	289	284	284
IRR	CCF/SVC	133	233	229	203	169	164	164
GOLF	CCF/SVC	19,339	17,309	19,441	17,988	15,964	15,608	15,608
UC Coastal	CCF/SVC	2,931	2,933	6,604	10,276	13,947	17,618	17,618
UC Main	CCF/SVC	23,154	15,688	22,610	29,532	36,453	43,375	43,375
Sales								
Units	Units							
SFR	MG	835	952	954	952	958	966	974
MFR	MG	538	588	601	600	596	601	606
BUS	MG	485	388	503	485	462	456	460
IND	MG	43	39	37	37	37	37	37
MUN	MG	35	66	54	51	47	47	47
IRR	MG	46	77	77	69	59	58	59
GOLF	MG	87	39	44	40	36	35	35
UC Coastal	MG	4	4	10	15	21	26	26
UC Main	MG	156	106	152	199	245	292	292
Total	MG	2,228	2,257	2,431	2,450	2,461	2,518	2,536
MISC/LOSS	MG	223	348	197	199	200	204	206
Coastal Irr.	MG	34	6	12	12	12	12	12
Production	MG	2,486	2,612	2,640	2,660	2,673	2,734	2,753
Rounded	MG	2,500	2,600	2,600	2,700	2,700	2,700	2,800
2015 UWMP								
Production	MG		3,385	3,350	3,389	3,442		
Rounded	MG		3,400	3,400	3,400	3,400		

APPENDIX F PROPOSED WATER RATES AND FEES FOR FY 2023- FY 2027

The tables below were excerpted from a more complete presentation on water rates and charges prepared for and presented to the Santa Cruz Water Commission on August 23, 2021. (See presentation provided with Water Commission Agenda item for 8/23/2021 – content will ultimately be repackaged and included here for the Council agenda item on 9/21/21)

WORKING DRAFT

Back Cover

WORKING DRAFT

APPENDIX G JULY 2021 SUMMARY STATE AND FEDERAL INFRASTRUCTURE FUNDING INITIATIVES AND OPPORTUNITIES

Working with the Water Commission over the last year, Water Department staff has been heavily focused on financial planning and water rate development work. Together with ongoing development of the Department’s Capital Investment Program (CIP) the financial planning work paints a vivid picture of the financial challenges ahead for Santa Cruz water service rate payers.

During the 2014 – 2015 Water Supply Advisory Committee (WSAC) process, the cost of water supply augmentation was certainly a focus of the Committee’s discussion, but those discussions lacked the context of the system’s larger need for capital investment and reinvestment. Although the April 2015 State of the Water System report introduced WSAC to the larger system’s needs and infrastructure challenges, it wasn’t until the June 2016 Long Term Financial Plan laid out the implications of and strategy for meeting the system’s infrastructure and water supply needs that the implications for water service customer rates began to come into focus.

Weather conditions since 2014 have further and consistently demonstrated the vulnerabilities and challenges the system faces on both the infrastructure and supply reliability fronts. The current drought, the prospects of another La Nina winter coming up, as well as the sobering analysis of current customer water use characteristics and customer water use curtailment strategies developed in the process of updating the Water Shortage Contingency Plan, have further underscored the critical need to begin moving forward on supply augmentation projects as soon as we possibly can. This means funding becomes an even more critical element to supply planning, and that consideration and active pursuit of funding options is a high priority. It also means that being opportunistic is both desirable and necessary if the City is to take advantage of some of the funding resources that are or could become available through state or federal infrastructure legislation.

City Priorities for Capital Funding:

As ongoing water rate development work is clearly showing, funding for capital projects is driving water rate increases. The good news is that state and federal infrastructure initiatives are much more likely to be the source of one-time funding than ongoing funding for operations. Santa Cruz is well lined up to compete for grant or low- interest loan funding for capital projects such as the Graham Hill Water Treatment Plant Facility Improvement Project, Newell Creek Pipeline Replacement, and water supply augmentation project(s). These projects represent about \$300 M in additional capital expenditures and are the Department’s highest priorities for funding. They are also projects that are highly aligned with funding opportunities by state and

federal infrastructure initiatives that focus on climate adaptation and infrastructure resiliency to extreme weather scenarios, which Santa Cruz experiences. These projects are the City's priorities for capital funding.

State and Federal Infrastructure Funding Initiatives:

Given this, Department staff has been carefully following infrastructure funding initiatives at both the state and federal level. The main purpose of this summary is to highlight those funding opportunities that could be a significant source of money to help move system improvement work for either infrastructure improvements or supply augmentation. Following are some details:

AB/SB 129 – California Legislature

Status – Passed by both the Assembly and the State Senate, based on agreement with Governor Newsom.

Provisions – Includes both 2021 as well as future year funding for drought relief, funding for COVID 19 utility bill arrearages, and other water supply reliability related work.

- \$663 million to the Department of Water Resources for the following projects and programs
- \$200 million for small community drought relief
- \$100 million for urban community drought relief
- \$200 million for multi-benefit projects
- \$60 million for SGMA implementation
- \$100 million for conveyance projects
- \$3 million for immediate drought support
- \$1.385 billion to the State Water Resources Control Board for the following projects and programs.
- \$650 million for drinking water projects with priority given to disadvantaged communities
- \$650 million for wastewater projects with priority given to septic-to-sewer conversions with local investment for wastewater projects
- \$85 million for groundwater cleanup and recycled water projects
- \$985 million to the State Water Board for water arrearages due to COVID-19

AB 129 also includes a section that proposes additional funding that is **contingent upon the enactment of future legislation**. This contingent proposal would appropriate \$2.5 billion from the General Fund for the following purposes:

- \$730.7 million for a water and drought resilience package

- \$440 million for a climate resilience package
- \$200 million for an agricultural package
- \$65 million for a circular economy package
- \$200 million for local parks grants
- \$258 million for a wildfire prevention and forest resilience package
- \$500 million for supporting affordable student housing projects for the University of California, the California State University, and the California Community Colleges, as well as for support of campus expansions for the University of California and the California State University
- \$4.68 million for a climate-related service program
- \$67.5 million for the California Access to Justice program

Although details of many of these initiatives are still somewhat fluid, from the details that are available, the items in the lists above that are highlighted in yellow are of specific interest to the City. Whether the topic is wildfire prevention, Sustainable Groundwater Management Act implementation, water and drought resilience or climate resilience, the Water Department's CIP and Operating budgets have projects or programs that are likely eligible for funding, and more importantly, are likely more ready for implementation than many projects that may serve the purposes identified in this legislation. Santa Cruz's investment in project development and analytical work such as pilot testing ASR in the Mid-County Groundwater Basin, positions it well to move projects further along their pathway to completion.

On the federal side, the Biden administration has played an active role in development of infrastructure legislation up to this point, starting with its release of the American Jobs Plan in late March 2021.

In the Senate, negotiations on an infrastructure package are ongoing. Levels of funding for water and other infrastructure investments have been reduced from those included in American Jobs Plan, and water and wastewater elements of the legislation currently under discussion are pegged at \$55 billion. The July 26th edition of the Association of Metropolitan Water Agencies' Monday Morning Briefing includes the following report of progress:

The situation (with respect to the federal infrastructure bill) has remained fluid as negotiations (in the Senate) have continued, but congressional staff has recently said that the \$55 billion for drinking water and wastewater priorities in the bill would include, at a minimum, \$35 billion for programs approved by the Senate in April as part of the Drinking Water and Wastewater Infrastructure Act (S 914), as well as additional funds for lead service line replacement and PFAS remediation. What remained unclear as of late last week was what portion of the funding would come in the form of new above-baseline spending, as opposed to program reauthorizations that would require a subsequent appropriation to receive funding.

Excerpts of the water and wastewater focus areas and funding amounts from S 914 are appended here, and much of what is presented in these details is highly aligned with the work Santa Cruz is seeking funding for. However, clearly the at \$55 billion funding level, the amount that will be available under the federal infrastructure initiative currently under discussion will be less than anticipated in either S 914 and the American Jobs Plan.

In addition to action in the Senate, the House of Representatives has also taken action on infrastructure legislation. HR 3684, Investing in a New Vision for the Environment and Surface Transportation in America Act” or the “INVEST in America Act,” was approved in the House of Representatives on July 1, 2021 by a 221 to 201 vote. Details of HR 3684 are also appended following the material on the Senate approved infrastructure Act.

WORKING DRAFT

U.S. Senate Passes \$1.2 Trillion Infrastructure Bill: On Tuesday, August 10, the U.S. Senate voted 69 to 30 to pass the Infrastructure Investment & Jobs Act (H.R. 3684). This bill provides nearly \$1.2 trillion in funding for the nation’s infrastructure and includes almost \$55 billion in water infrastructure funding and several policy provisions that will benefit the nation’s water infrastructure.

The bill includes almost \$55 billion in water infrastructure funding and several policy provisions that will benefit the nation’s water infrastructure. The water infrastructure section in the Senate package is fairly similar to what was passed by the Senate in April in the Drinking Water & Wastewater Infrastructure Act ([S. 914](#)).

Key Water Provisions

Below is a list of the key water provisions in the infrastructure package.²⁶

- Clean Water State Revolving Fund (SRF) and Drinking Water SRF each receive \$11.7 billion over five years (\$2.4B/FY22; \$2.7B; \$3.0B; \$3.2B; \$3.2B)*
- \$1 billion will be provided in grants through the Clean Water SRF to address emerging contaminants.*
- \$4 billion will be provided in grants through the Drinking Water SRF to address PFAS in drinking water.
- \$15 billion in loans and grants will be provided through the Drinking Water SRF for lead service line replacement.
- The Water Infrastructure Finance and Innovation Act (WIFIA) will receive \$250 million over the next five years and facilities applying will be required to have only one ratings agency opinion letter (instead of two).*
- The U.S. Environmental Protection Agency Sewer Overflow & Stormwater Reuse Municipal Grant Program will receive \$1.4 billion over the next five years. Not less than 25% of the fund will go to rural and financially disadvantaged communities.*
- The Alternative Source Water Pilot Program will get \$125 million over the next five years.*
- The Rural and Low-Income Water Assistance Pilot Program will establish a new U.S. Environmental Protection Agency program to provide 40 grants per year to utilities to assist low-income ratepayers.*
- The Wastewater Energy Efficiency Grant Pilot Program will get \$100 million over the next five years.*
- The Clean Water Infrastructure Resiliency and Sustainability Grant Program will get \$125 million over the next five years.*
- The Small Publicly Owned Treatment Works Efficiency Grant Program will be established with funding levels to be determined.*
- The connection of homes and communities to Publicly Owned Treatment Works Grant Program will get \$200 million over the next five years.*

²⁶ * = WEF supported provision

- The Water Infrastructure and Workforce Investment Grant Program will get \$25 million over the next five years. *
- The Stormwater Infrastructure Technology Program will get \$25 million to create five Stormwater Centers of Excellence and \$50 million for stormwater infrastructure planning/development and implementation grants.*
- Buy America requirements will expand in SRF and WIFIA to include “manufactured goods,” in addition to the existing iron and steel Buy America requirements.

Next Steps

After the Senate passes the bill, it is unclear how the package will proceed. President Joe Biden has indicated that he might be willing to sign it without it being negotiated with the House-passed INVEST Act.

House Transportation & Infrastructure Committee Chair Peter Defazio (D-Ore.) has expressed a desire for a conference committee to reconcile the differences between the Senate bill and the INVEST Act, which calls for nearly double the amount of funding for water infrastructure. Speaker Pelosi will need to decide if she wants to delay the process for several months by calling for a conference committee or to move forward to get the infrastructure package done.

INVEST in America Act Provisions related to Drinking Water Infrastructure & Assistance: \$117 billion

- Authorizes \$53 billion for the Drinking Water State Revolving Fund, the primary source of federal funding for safe drinking water infrastructure.
- Authorizes \$45 billion to fully replace lead service lines throughout the nation. As many as 10 million lead service lines are currently in use, including an estimated 400,000 schools and child facilities with lead components.
- Strengthens drinking water standards and improves the Environmental Protection Agency’s ability to set those standards. It directs EPA to set health-protective national standards for PFAS, 1,4-dioxane, and microcystin toxin within two years.
- Provides assistance to low-income Americans with their water bills by creating two permanent assistance programs and authorizing them at \$8 billion.
- Promotes near-term customer debt relief by authorizing \$4 billion to reduce or eliminate debt incurred since March 2020 and prohibiting water systems receiving this funding from disconnecting the service of eligible residential customers as a result of non-payment for a five-year period.
- Wastewater Infrastructure: \$51.25 billion
- Authorizes \$40 billion for the Clean Water State Revolving Fund, the primary source of federal funding for clean water infrastructure.

- Includes \$2 billion for projects to capture, treat, or reuse sewer overflows or stormwater—helping keep pollution out of local rivers and lakes—and \$2.5 billion for state water pollution control programs.
- Permanently codifies the clean water “green reserve” to prioritize investments in green infrastructure, water- and energy-efficiency, and other efforts to make utilities more resilient to climate change. Also dedicates \$1 billion toward alternative water source and water recycling projects to augment existing water supplies.
- Provides critical technical assistance to small, rural, and Tribal communities that often struggle to afford the costs of planning new infrastructure projects and to address local water quality challenges.
- Establishes a new clean water grant program to invest in communities with failing septic systems and prioritizes funding to those communities that lack access to adequate sewage treatment systems.

This bill addresses provisions related to federal-aid highway, transit, highway safety, motor carrier, research, hazardous materials, and rail programs of the Department of Transportation (DOT), and includes in separate Divisions H and I water quality and water infrastructure by incorporating the Water Quality Protection and Job Creation Act of 2020 (Division H) and the Assistance, Quality and Affordability Act of 2021 (Division I). The sub-titles of Divisions H and I are appended to this summary for your information. While not providing the kind of detail that is available from the details of S 914, the information provided on HR 3684 provides links to many of the sections of the legislation that may ultimately become sources of funding for Water Department projects.

When the final Senate infrastructure bill is adopted and it is time for a House/Senate Conference Committee, HR 3684 will be the House legislation involved in the development of an agreed upon piece of final legislation that will be considered by both houses and then sent to the President for action.

WORKING DRAFT

City of Santa Cruz

Water Cost of Service and Rate Study

Water Commission Meeting

August 23, 2021



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Agenda

1. Rate Study Overview and Recap
2. Proposed Water Rate Structure
3. Proposed Water Rates
4. North Coast Ag Rate Options
5. Drought Rates
6. Next Steps

Rate Study Overview and Recap



Rate Study Process

- The preliminary results in this presentation are based on the cost of service (COS) analysis, which is:
 - › Revenue neutral (collects same amount of revenue as current rates)
 - › Cost of service analysis utilizes the FY 2021 Budget
 - › Based on customer consumption data from FY 2019
- The COS rates are based on the above assumptions

- Financial requirements are then layered onto the COS rates
 - › Rates will be increased across the board based on required revenue adjustments

To start evaluating rate structure options, preliminary rates were developed for two scenarios. One of the scenarios is revenue neutral and based on FY 2021 rates and FY 2019 customer data (the "representative year" of data, determined during the kick-off meeting of this study). The financial requirements developed by city staff and use the PFM financial model and pro forma results (See Draft Long Range Financial Plan). These forward-looking revenue requirements used for developing rates for the proposed FY 2023 through FY 2027 period.

Overview

- “Revenue neutral” requirement is \$39.3 million
 - › \$9 million or 23% is for infrastructure/capital-related costs
 - › Does not include Rate Stabilization Fee revenues
 - › No differential between Inside and Outside City rates
 - Currently Outside pays 14.5% surcharge
 - Based on a prior analysis (all else equal), Inside will go up ~4% and Outside will decrease by ~8%

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Based on FY 2019 customer data and FY 2021 water rates, the total rate revenues less Rate Stabilization Fee revenues is equal to \$39.3 million. \$9 million of this revenue requirement is related to infrastructure or capital related costs and is equal to the amount of cash funded capital plus debt service. The preliminary rates do not have a rate differential between Inside and Outside City customers – meaning that Inside City customers' rates will increase and Outside City customers' rates will decrease based on this change.

Financial Plan Update

- IRF collects PAYGO and debt service
- O&M portion collects remaining (less RSF)
- Revenue adjustments smoothed out for FY 2024 through FY 2027

Financial Plan	COS	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
O&M	\$30,197,959	\$32,696,061	\$34,069,032	\$36,018,421	\$37,980,397	\$40,168,470
IRF	\$9,136,232	\$9,348,238	\$14,517,877	\$21,446,883	\$21,513,987	\$25,038,677
Total Rev. Req.	\$39,334,191	\$42,044,299	\$48,586,908	\$57,465,304	\$59,494,385	\$65,207,147
% Change		6.9%	15.6%	18.3%	3.5%	9.6%
Adjustment %						
Based on Rev. Req.		6.9%	15.6%	18.3%	3.5%	9.6%
Smoothed		6.9%	16.2%	16.2%	6.9%	6.9%

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The revenue requirement is broken into two portions: IRF and O&M. The total revenue requirement is the amount of rate revenue to be collected from the City's water customers and is based on the financial analysis provided by City staff using the PFM model. The total adjustment percentage is applied to the COS rates for FY 2023 through FY 2027. Although the revenue adjustments vary year to year, the average annual adjustment is approximately 10.8%.

COS Revenues (\$39.3M) are the rates in FY 2021 multiplied by the FY 2019 consumption. FY 2019 consumption was before any COVID impacts.

Proposed Water Rate Structure



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Current Rate Structure

Fixed Components

- Ready-to-Serve (RTS) Charge
 - › Based on meter size
- Private Fire RTS Charge
 - › Flat charge per month

An Outside City surcharge of 14.5% is applied to all components, except for the Rate Stabilization Fee

Variable Components

- Quantity Charge / Infrastructure Reinvestment Fee (IRF)
 - › Residential: 4 tiers
 - › Commercial, North Coast, UCSC: uniform
 - › Irrigation: 3 tiers based on water budget
- Elevation Surcharge
- Rate Stabilization Fee

Policy Themes

- The following policy themes were identified as Most Important and Very Important objectives
 1. Ensures water for essential use is affordable to all customers
 2. Maintains transparency and equity for capital and water reliability needs
 3. Provides sufficient revenues to meet operating, capital, and customer service level needs

- Concern of staff is administrative ease given limited resources

The policy themes were identified by the Water Commission and further refined by the City Council in their April 6, 2021 discussion. These policy themes are used to help guide us through the rate structure selection process. The Water Commission and City Council identified three themes (affordability, transparency, and revenue sufficiency) while staff identified one theme (administrative ease).

Residential Tiers

- Based on March 1 Water Commission Meeting, Residential customers will have a three-tier rate structure

Residential Tiers	Current	Proposed	Rationale
Tier 1	5	5	Average winter use
Tier 2	7	9	Average summer use
Tier 3	9	10+	
Tier 4	10+		

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The preliminary Residential rates incorporate a three-tier rate structure, and includes one less tier than the 2016 adopted rate structure. Tier 1 is based on average winter use and is a proxy for indoor, essential water use (since irrigation is generally minimal during these months). Tier 2 is based on average summer use and is a proxy for outdoor water use. Tier 3 is any amount of use over Tier 2.

IRF Alternatives

- IRF currently collects \$9 million (23% of costs)
- IRF alternatives explored:
 - **Tiered commodity (current methodology)**
 - ~~Uniform commodity~~
 - ~~RTS charge based on meter size (fixed)~~
 - ~~Property roll based on meter size (fixed)~~
- Based on July 12 meeting, Water Commission provided direction to move forward with the tiered commodity methodology to assess IRF

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In a prior Water Commission meeting, we presented four options to assess the IRF to recover capital/infrastructure related costs. Based on discussions with the Water Commission and with Santa Cruz staff in May and June, and feedback from the customer panels, future water rates were developed for two options and presented at the July 12, 2021 Water Commission meeting: the tiered commodity option (based on the current methodology, but with updated COS allocations and residential rate structure) and the adding IRF revenue requirements to the readiness-to-serve charge based on meter sizes.

Proposed Water Rates



Rate Components

- Two components of revenue requirement: operating and IRF
- **RTS charge (fixed operating)**
 - › Customer service and billing: cost per account
 - › Meter service: cost of replacing a meter
- **Quantity charge (variable operating)**
 - › Base: cost per unit of water
 - › Peaking: based on peaking analysis
 - › Supply: cost per unit of water
 - › Conservation: targeted to upper tiers
- **IRF (variable capital)**

Proposed RTS Charges

Meter Size	Proposed FY 2023 Charge	Current FY 2022 Charge	Difference (\$)	Number of Meters
5/8 inch	\$12.38	\$11.26	\$1.12	21,719
3/4 inch	\$12.61	\$11.56	\$1.05	498
1 inch	\$13.27	\$12.44	\$0.83	1,461
1-1/2 inch	\$14.15	\$13.61	\$0.54	466
2 inch	\$16.55	\$16.85	(\$0.30)	411
3 inch	\$34.33	\$40.71	(\$6.38)	47
4 inch	\$40.91	\$49.55	(\$8.64)	23
6 inch	\$56.26	\$70.16	(\$13.90)	12
8 inch	\$73.81	\$93.73	(\$19.92)	4
10 inch	\$93.57	\$120.24	(\$26.67)	3

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The RTS charges shown here compare the COS (revenue neutral) rate, the proposed FY 2023 charge with revenue adjustments applied, and the current FY 2022 rates. Note that these RTS charges recovers O&M related costs.

Proposed Commodity + IRF

Customer Class	Proposed FY 2023 Charge	Current FY 2022 Charge	Difference (\$)
Residential			
Tier 1	\$9.74	\$9.60	\$0.14
Tier 2	\$14.23	\$11.58	\$2.65
Tier 3	\$18.75	\$13.64	\$5.11
Tier 4		\$16.83	
Commercial	\$11.37	\$11.70	(\$0.33)
UCSC	\$12.07	\$12.06	\$0.01
Irrigation			
Tier 1	\$20.53	\$12.86	\$7.67
Tier 2	\$28.59	\$17.82	\$10.77
Tier 3	\$36.32	\$19.33	\$16.99

Proposed 5-Year Rate Schedule – RTS Charges

Meter Size	Current FY 2022 Charge	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
5/8 inch	\$11.26	\$12.38	\$14.39	\$16.73	\$17.89	\$19.13
3/4 inch	\$11.56	\$12.61	\$14.66	\$17.04	\$18.22	\$19.48
1 inch	\$12.44	\$13.27	\$15.42	\$17.92	\$19.16	\$20.49
1-1/2 inch	\$13.61	\$14.15	\$16.45	\$19.12	\$20.44	\$21.86
2 inch	\$16.85	\$16.55	\$19.24	\$22.36	\$23.91	\$25.56
3 inch	\$40.71	\$34.33	\$39.90	\$46.37	\$49.57	\$53.00
4 inch	\$49.55	\$40.91	\$47.54	\$55.25	\$59.07	\$63.15
6 inch	\$70.16	\$56.26	\$65.38	\$75.98	\$81.23	\$86.84
8 inch	\$93.73	\$73.81	\$85.77	\$99.67	\$106.55	\$113.91
10 inch	\$120.24	\$93.57	\$108.73	\$126.35	\$135.07	\$144.39

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This slide shows the five-year rate schedule for RTS charges under the IRF tiered commodity option. The proposed charges from FY 2023 through FY 2027 are based on the total revenue adjustments previously shown, which are applied to the COS rates.

Proposed 5-Year Rate Schedule – Commodity + IRF

Customer Class	Current FY 2022 Charge	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
Residential						
Tier 1	\$9.60	\$9.74	\$11.33	\$13.17	\$14.09	\$15.07
Tier 2	\$11.58	\$14.23	\$16.54	\$19.23	\$20.57	\$22.00
Tier 3	\$13.64	\$18.75	\$21.80	\$25.34	\$27.10	\$28.98
Tier 4	\$16.83					
Commercial	\$11.70	\$11.37	\$13.23	\$15.38	\$16.45	\$17.60
UCSC	\$12.06	\$12.07	\$14.04	\$16.33	\$17.46	\$18.67
Irrigation						
Tier 1	\$12.86	\$20.53	\$23.87	\$27.75	\$29.68	\$31.74
Tier 2	\$17.82	\$28.59	\$33.24	\$38.63	\$41.31	\$44.17
Tier 3	\$19.33	\$36.32	\$42.22	\$49.07	\$52.47	\$56.10
RSF	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00	\$1.00

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This slide shows the five-year rate schedule for commodity charges under the IRF tiered commodity option. The proposed charges from FY 2023 through FY 2027 are based on the total revenue adjustments previously shown, which are applied to the COS rates.

North Coast Ag Rate Options



Ag Reliability Options

- Compared to all other Santa Cruz customers, North Coast Ag currently has the same level of service (water reliability) but does not require treatment
- The two reliability options include:
 - › **Maintain reliability** – keep the current level of service, subject to curtailment when all other customers are *curtailed*
 - › **Decreased reliability** – water service will be “*seasonally interruptible*” based on water supply conditions in Santa Cruz

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Please see the more detailed discussion on North Coast Ag rate options in the Draft Long Range Financial Plan

Ag Reliability – Operating and Capital

- Operating costs -- Water supply-related costs related to providing raw water to North Coast Ag customers:
 - › Maintain reliability – cost basis for Ag is the same as all other customers and includes its proportionate share of operating costs for raw water storage and infrastructure facilities, including the San Lorenzo, North Coast and Beltz wellfield sources.
 - › Decreased reliability – cost basis for Ag is the proportionate share of operating costs for the North Coast sources and facilities
- Capital costs (IRF)
 - › Maintain reliability – cost basis for Ag is the same as all other customers and includes its proportionate share of capital costs associated with all raw water storage and infrastructure facilities, including the San Lorenzo, North Coast and Beltz wellfield sources.
 - › Decreased reliability – cost basis for Ag is the proportionate share of capital costs for the North Coast sources and facilities – other costs aren't relevant due to the interruptible nature of this level of service.

Summary of Changes

- North Coast Ag rates are decreasing from current due to:
 - › Reduction in annual use (27,000 hcf vs. 9,700 hcf)
 - › Decreased peaking (1.83 vs. 1.78)
 - › Proposed methodology for IRF allocation (based on asset benefit vs. capacity)
- Better asset data was available for this study, so methodology can be refined based on asset benefit

Proposed 5-Year Rate Schedule

North Coast Ag	Current FY 2022 Charge	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
Commodity + IRF						
Maintain Reliability	\$8.98	\$6.45	\$7.51	\$8.74	\$9.35	\$10.00
Decrease Reliability	\$8.98	\$2.88	\$3.36	\$3.92	\$4.20	\$4.50

- RTS Charge for North Coast Ag is the same as all other customers and the same for both reliability options
- North Coast Ag customers have expressed a preference for the maintain reliability option based on August 3, 2021 meeting

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This slide shows the five-year rate schedule for commodity charges under the IRF tiered commodity option. The proposed charges from FY 2023 through FY 2027 are based on the total revenue adjustments previously shown, which are applied to the COS rates.

Drought Rates



What are Drought Rates?

- Drought rates are:
 - › Surcharges tied to specific drought stages, as defined by the Water Shortage Response Plan
 - › Designed to recover lost revenue due to reduction in water usage; and
 - › Are recovered as a fixed charge based on meter size
- The proposed Drought Rates were developed using the same methodology used in the 2016 rate process.
- When drought stages are declared, City Council and the Water Department will implement the corresponding rates, with drought rate surcharges being collected over a full 12 month period.

Drought Stages and Reduction

Class	Baseline	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
% of Baseline Use						
SFR	100%	89%	79%	68%	58%	51%
MFR	100%	92%	84%	76%	68%	59%
Commercial	100%	95%	90%	85%	79%	61%
North Coast	100%	95%	90%	85%	75%	30%
UCSC	100%	91%	81%	72%	62%	55%
Irrigation	100%	75%	50%	25%	0%	0%
Other	100%	95%	90%	90%	90%	90%
Target Reduction						
	0%	10%	20%	30%	40%	50%

Drought Rate Calculation

- Lost revenue due to drought is recovered by meter size
 - › Larger meters have more capacity and therefore are responsible for more drought costs
 - › Provides revenue stability for the City due to already low volume of customer use

Drought Rate	Baseline	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
Lost Revenue	\$0	\$5,040,794	\$8,917,575	\$12,791,748	\$16,181,633	\$19,515,179
Equivalent Meters	35,304	35,304	35,304	35,304	35,304	35,304
Drought Rate per EMU	\$0.00	\$11.90	\$21.05	\$30.19	\$38.20	\$46.06

Drought Rate by Meter Size

Meter Size	Number of Meters	AWWA Ratio	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
5/8 inch	21,719	1.00	\$11.90	\$21.05	\$30.19	\$38.20	\$46.06
3/4 inch	498	1.50	\$17.85	\$31.57	\$45.29	\$57.29	\$69.10
1 inch	1,461	2.50	\$29.75	\$52.62	\$75.49	\$95.49	\$115.16
1-1/2 inch	466	5.00	\$59.49	\$105.25	\$150.97	\$190.98	\$230.32
2 inch	411	8.00	\$95.19	\$168.39	\$241.55	\$305.57	\$368.51
3 inch	47	17.50	\$208.22	\$368.36	\$528.40	\$668.42	\$806.12
4 inch	23	31.50	\$374.80	\$663.05	\$951.11	\$1,203.16	\$1,451.02
6 inch	12	65.00	\$773.40	\$1,368.21	\$1,962.61	\$2,482.72	\$2,994.18
8 inch	4	140.00	\$1,665.78	\$2,946.91	\$4,227.17	\$5,347.39	\$6,449.00
10 inch	3	210.00	\$2,498.68	\$4,420.36	\$6,340.75	\$8,021.09	\$9,673.50

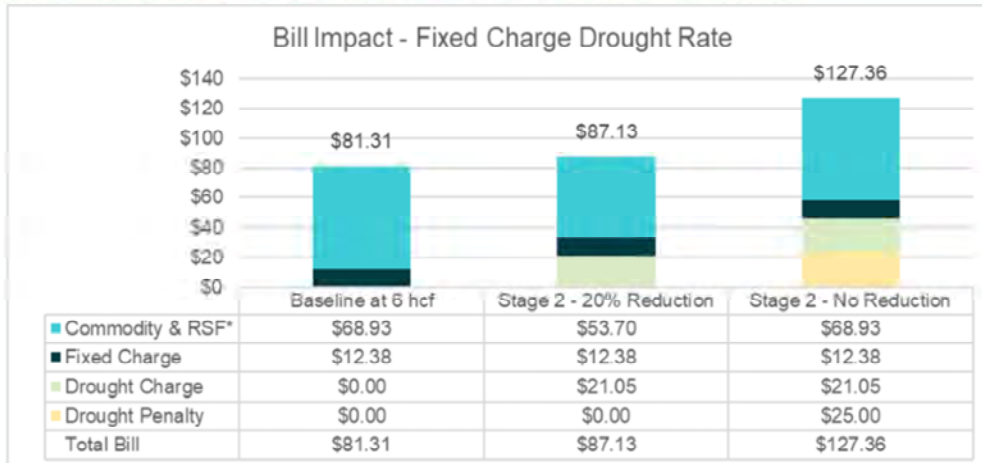
Multi-Year Drought Rates

- Drought rates for each stage are adjusted based on increase in revenues from financial plan
- Proposition 218 notice will show a five-year rate schedule for each drought stage
- Next slide shows the five-year schedule for Stage 2 only

Proposed 5-Year Drought Rates (Stage 2)

Meter Size	Proposed FY 2023 Charge	Proposed FY 2024 Charge	Proposed FY 2025 Charge	Proposed FY 2026 Charge	Proposed FY 2027 Charge
5/8 inch	\$21.05	\$24.46	\$28.42	\$30.38	\$32.48
3/4 inch	\$31.58	\$36.70	\$42.64	\$45.58	\$48.73
1 inch	\$52.63	\$61.16	\$71.06	\$75.97	\$81.21
1-1/2 inch	\$105.25	\$122.30	\$142.11	\$151.92	\$162.40
2 inch	\$168.40	\$195.68	\$227.38	\$243.07	\$259.84
3 inch	\$368.37	\$428.05	\$497.39	\$531.71	\$568.40
4 inch	\$663.06	\$770.48	\$895.29	\$957.07	\$1,023.11
6 inch	\$1,368.21	\$1,589.86	\$1,847.42	\$1,974.89	\$2,111.16
8 inch	\$2,946.91	\$3,424.31	\$3,979.05	\$4,253.60	\$4,547.10
10 inch	\$4,420.37	\$5,136.47	\$5,968.58	\$6,380.41	\$6,820.66

Bill Impacts for Average SFR Customer (5/8" meter using 6 CCF of water per month)



* RSF: Rate Stabilization Fee

This slide shows 3 scenarios for a 6 CCF customer: 1) cost for normal service for 6 CCF; 2) Cost for a customer meeting their 5 CCF stage 2 allocation and paying the Drought Cost Recovery Fee; and 3) Cost for a customer not meeting their 5 CCF allocation but maintaining 6 CCF of usage, paying both a excess use penalty for 1 unit and the Drought Cost Recovery Fee.

Next Steps



Next Steps

- Rate study next steps, after Raftelis receives direction from Water Commission:
 - › Develop and finalize five-year rate schedule for the Proposition 218 notice
 - › Write the administrative record (report)
- Important dates:
 - › City Council meeting – September 21
 - › Public Hearing – November 23
 - › Rates implemented – July 1, 2022



Thank you!

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