Climate Resilient Santa Cruz

Water Treatment Plant Improvement Project

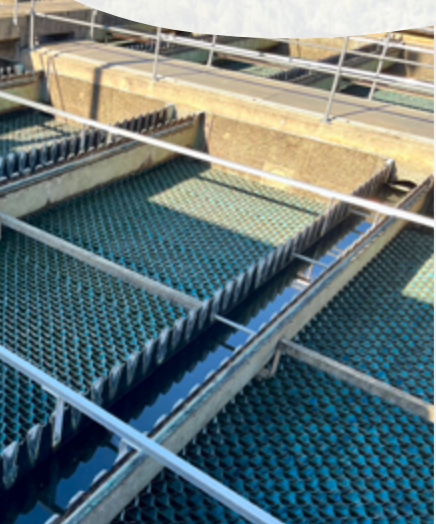
Community Guide

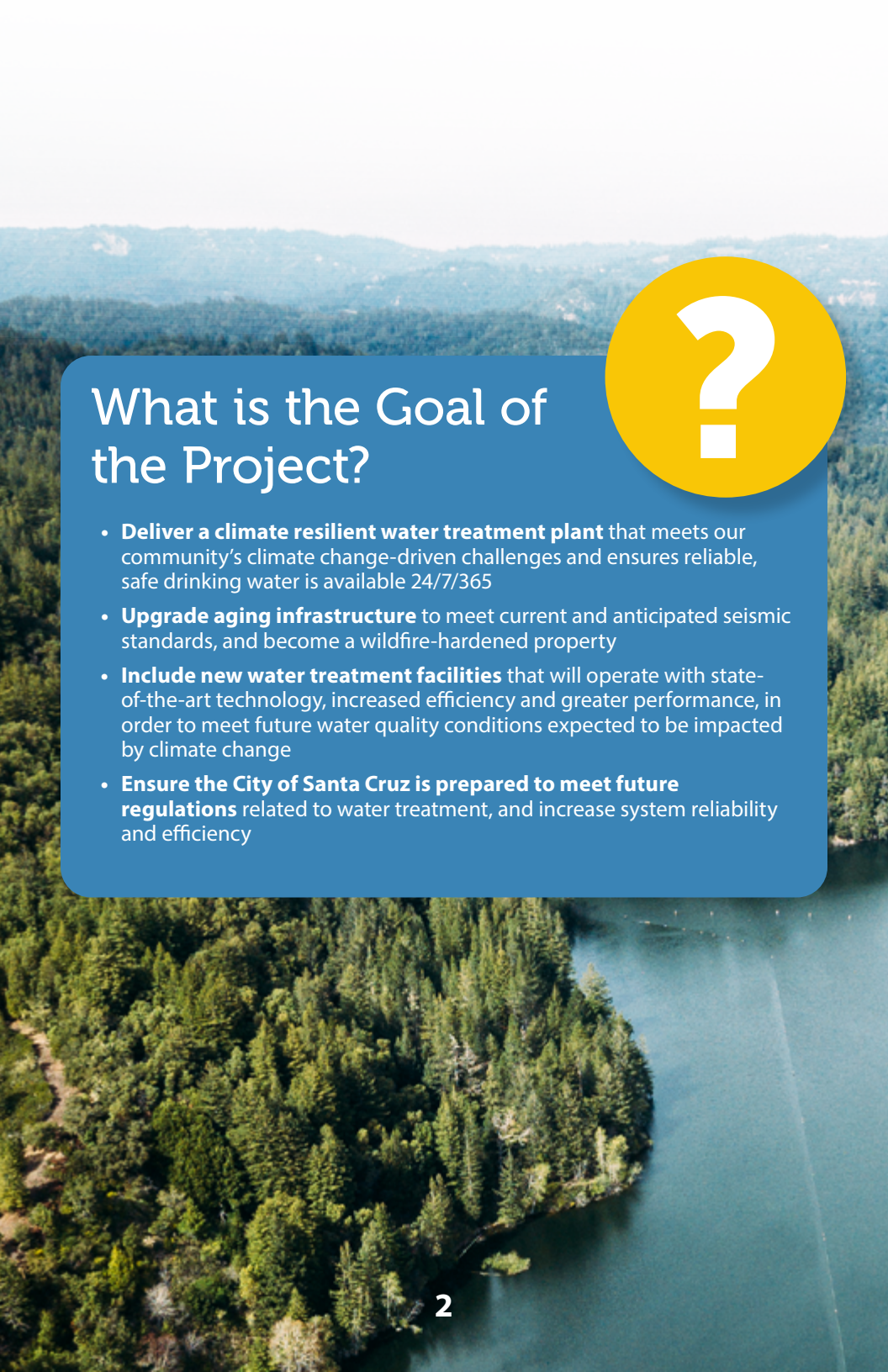
In response to severe wildfires, longer droughts, record rainfall years and other signs of climate change, the Santa Cruz Water Department is prioritizing critically important, climate-resilient projects.

The Graham Hill Water Treatment Plant Improvement Project will include the ability to operate with increased efficiency and greater performance, in order to meet future water quality conditions expected to be impacted by climate change, including the effects of weather whiplash that are anticipated to swing between droughts and rain deluges.

Climate Resilient Santa Cruz is an ongoing initiative of the City of Santa Cruz that aims to respond to anticipated future impacts from climate change.

CITY OF SANTA CRUZ
Water Department





What is the Goal of the Project?

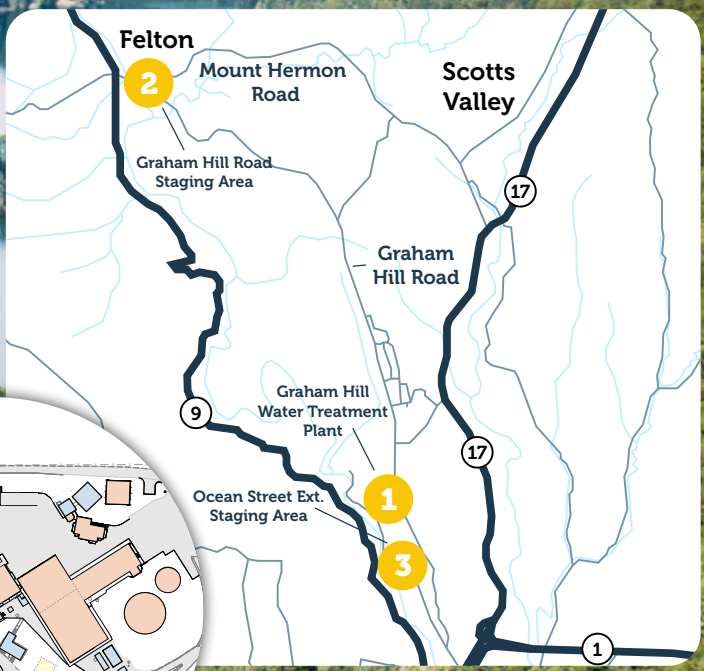
- **Deliver a climate resilient water treatment plant** that meets our community's climate change-driven challenges and ensures reliable, safe drinking water is available 24/7/365
- **Upgrade aging infrastructure** to meet current and anticipated seismic standards, and become a wildfire-hardened property
- **Include new water treatment facilities** that will operate with state-of-the-art technology, increased efficiency and greater performance, in order to meet future water quality conditions expected to be impacted by climate change
- **Ensure the City of Santa Cruz is prepared to meet future regulations** related to water treatment, and increase system reliability and efficiency

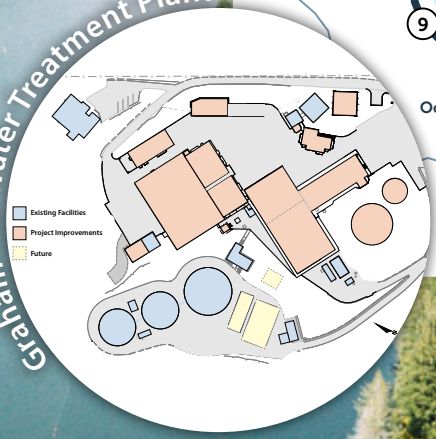
Where is the Project Located?

Project Site

The primary project improvements would be located at the existing Graham Hill Water Treatment Plant (GHWTP). Ancillary improvements may occur along a utility corridor between the GHWTP parcel and the San Lorenzo River via Ocean Street Extension as well as a portion of the Graham Hill Road right-of-way near the GHWTP entrance. The project may utilize staging areas on:

1. Graham Hill Water Treatment Plant
2. Graham Hill Road and Mount Hermon Road in Felton
3. Ocean Street Extension in Santa Cruz.





Where does our water supply come from?

The City of Santa Cruz provides drinking water to residents of the City and surrounding areas, serving approximately 28,000 connections and roughly 98,000 people.

The City's water supply system relies primarily on local surface water sources, including two diversions on the San Lorenzo River (the Felton Diversion and the Tait Street Diversion) and four diversions on local North Coast streams (Laguna Creek, Reggiardo Creek, Liddell Spring and Majors Creek).

Loch Lomond Reservoir provides water storage for the Santa Cruz Water Department. Loch Lomond has a storage capacity of 2.8 billion gallons. The reservoir helps the Water Department meet dry-season water demand and provides a backup supply during winter storms, when turbidity issues impact river diversions.

Collectively, these surface water sources make up approximately 95% of the annual supply. The remaining 5% of the water supply comes from groundwater wells located in the southeast portion of the city area served.

Responding to Anticipated Water Shortage Issues

Building on the recommendations of the Water Supply Advisory Committee (2015), the Saving Our Water Future Policy adopted by City Council in November 2022 provides guidance and direction for development and implementation of water supply augmentation projects and strategies needed to resolve Santa Cruz's long-standing water supply reliability issue.

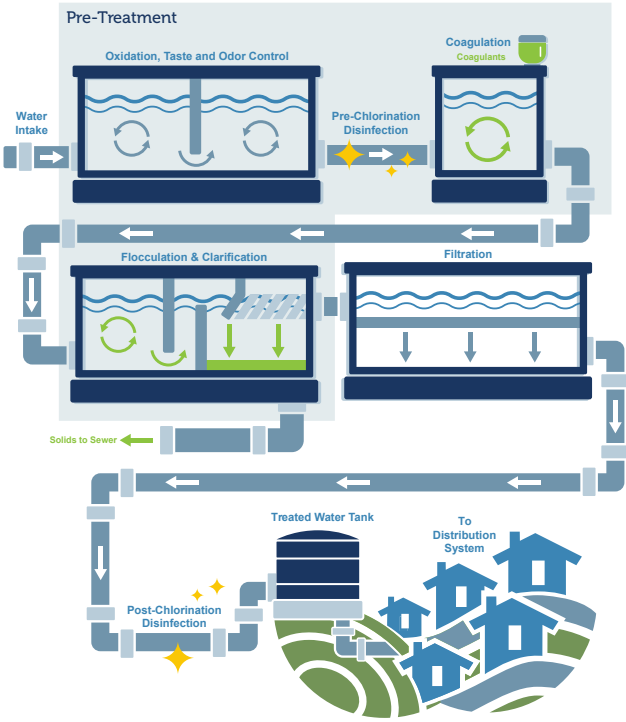
Projects and strategies include:

- Additional water conservation with a goal of reducing demand by an additional 200 to 250 million gallons per year through expanding water conservation programs
- Passive recharge of regional aquifers by working to develop agreements for delivering surface water to the Soquel Creek Water District and/or the Scotts Valley Water District
- Active recharge of regional aquifers by using existing infrastructure and potential new infrastructure in the Purisima aquifer in the Santa Cruz Mid-County Groundwater Basin, the Santa Margarita Groundwater Basin, or in both to store water that can be available for use by the City in dry periods
- A potable water supply using advanced-treated recycled water as its source as a supplemental or replacement supply in the event the groundwater storage strategies described above prove insufficient to meet the goals of cost-effectiveness, timeliness, or yield

Implementation of the Water Treatment Plant Improvement Project would support passive and active water supply recharge. Specifically, the Project would support conjunctive management of surface and groundwater supplies to improve water supply.

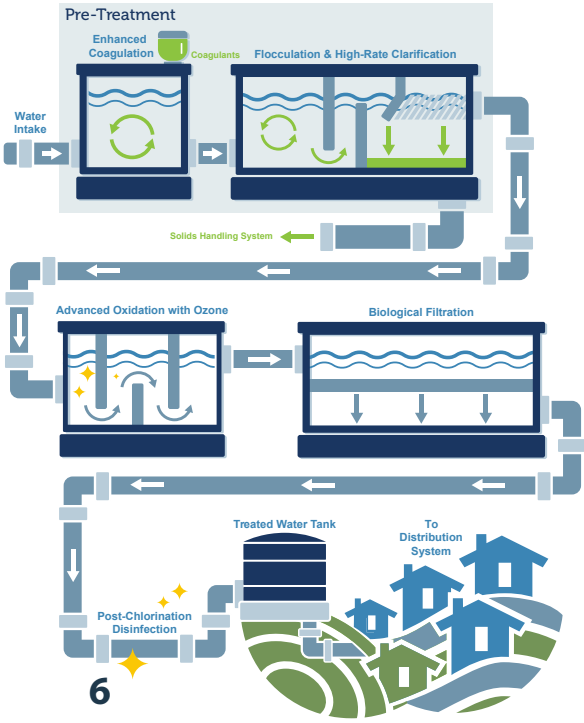
In general, this involves the storage of water in local aquifers or delivery to regional water agencies during times when water is available, facilitating the return of stored water from the aquifer to the City during droughts or other shortages. Passive and active recharge strategies would involve treating increased volumes of winter or wet season surface water. Wet season storm events increase the availability of supply for conjunctive use projects but the storms impacted river flows usually have high levels of suspended sediments, or turbidity, that are higher than can be treated in the City's existing surface water treatment plant. The upgraded water treatment plant would remove this constraint, making significant additional water available for conjunctive use.

How the Project Improves the Water Treatment Process



Existing Process

Proposed New Process



Climate Change Impacts

Climate models for California predict that the state will experience increases in severe flooding events and more variability from multi-year dryness to extreme wet years as a result of climate change.

With more droughts, intense rain and wildfires anticipated, it is important that the City consider the following impacts:

- **More Intense Rains** will increase source water turbidity beyond the City's current ability to effectively treat and may do so for longer periods of time.
- **Extended Droughts** will impact water quality during drought conditions through increased potential for algal blooms at Loch Lomond, increased reliance on groundwater and potential for seawater intrusion. The first rainfall after an extended drought will likely lead to higher levels of contaminants and introduce those high concentrations into the local water bodies, which serve as surface water sources for the Santa Cruz Water Department.
- **Wildfires** can have significant impacts on the chemical, microbiological and physical properties of source water and therefore affect the City's water treatment processes. Post-fire runoff and debris flows from burned areas can pick up and transport large amounts of fire-related debris, sediment, and chemicals (such as fire retardants) that significantly affect the water quality and treatability of water for drinking water purposes. The burned areas and tributaries that flow into source water may transport ash, sediment, metals and suspended solids, all of which need to be treated by the City.

The above predictions underline the need to improve the treatment process capability at GHWTP, building in flexibility and adaptability to address reasonably anticipated future conditions.

Environmental Review

If the project is approved to continue, construction will begin in 2025 and continue through 2029.

Under the requirements of the California Environmental Quality Act, the City has prepared a Draft Environmental Impact Report (EIR) for the proposed project. A Draft EIR is an informational document used to inform the general public and public agency decision makers about the project. It includes a detailed description of the proposed project, an analysis of potential impacts of the proposed project, and proposed mitigation measures to reduce impacts that can't be avoided. Other topics covered in the Draft EIR include an analysis of alternatives to the proposed project, and an analysis of cumulative impacts of the proposed project in relationship with other past, present, or reasonably foreseeable future projects.

Following the close of the public comment period on the Draft EIR, responses will be prepared for all timely comments received that raise significant environmental issues regarding the proposed project. The Final EIR will include written responses to such comments and will also include any text changes to Draft EIR that become necessary after consideration of public comments.

Online review of the Draft EIR is encouraged. The Draft EIR and Notice of Availability, including information on how to comment, are available for review online at: **bit.ly/DraftEIR**

Copies of the documents are also available at local libraries and by appointment at the Santa Cruz Water Department engineering counter.

Timeline:

December 7, 2023

- Public review period begins

January 2024

- Two public information meetings regarding the Proposed Project and Draft EIR will be held. The content provided at both meetings will be the same.
- **January 17:** 5:30-6:30 p.m. at the Santa Cruz Police Community Room 155 Center Street in Santa Cruz
- **January 18:** 2-3 p.m., virtual, meeting log-in information can be found at the project website

February 5, 2024

- Public review period ends

September 2024

- Santa Cruz City Council to consider certification of Final EIR and project approval at a public City Council meeting