**City of St. Helena**
**Water and Wastewater Advisory Committee Regular Meeting**
**Thursday, July 9, 2026 @ 10:30 AM**
**City Hall Main Conference Room**
**1088 College Avenue, St. Helena CA**

**PLEASE NOTE:** Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of four minutes.

Members of the public and other parties are welcome to email their comments to the Staff Liaison at rwhite@cityofsthelena.gov. All public comments must be received three hours prior to the meeting. Public comments received after the deadline will be attached to the item the next business day or soon thereafter. Public comments will not be read out loud but will be publicly available and attached to the online agenda.

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1. CALL TO ORDER

2. ROLL CALL

   Chair: Brent Randol Vice Chair: Garry Rose Committee Members: Jay Kouba, Mario Trinchero, Peter White
   Alternate Member: Carl Myers
   Staff Liaison: Joe Leach, Assistant City Manager/Director of Public Works/City Engineer

3. PUBLIC FORUM

   An opportunity for the public to directly address the Committee on items of interest to the public that are not listed on the agenda. Any person addressing the Committee should provide his or her name and address, and limit comments to four minutes. Because of restrictions imposed by the Brown Act, the Committee may not engage in substantive discussion, nor take action on matters not described on the agenda.

4. REPORTS BY STAFF/COMMITTEE

   Reports by staff and/or committee on items of general interest. Brief questions for clarification may be posed and answered, and Committee may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the Water and Wastewater Advisory Committee.

   4.1. Water/Wastewater Operations Update

      Prepared by: Michele Ferrell, CPO & Carlos Uribe, Interim Operations Manager

5. CONSENT ITEMS

5.1. Special Water and Wastewater Advisory Committee Meeting Minutes of June 18, 2026

6. OLD BUSINESS

7. NEW BUSINESS

7.1. Geotechnical Exploration Proposal for Division of Safety of Dams

Prepared By: Scott Alman, Haley & Aldrich

7.2. Review and Discussion of Draft Water Management Plan Chapters 2 & 4

Prepared By: Monique Day, West Yost

7.3. Review of the High-Velocity Water Main Flushing Pilot Program

Prepared By: Bruce Zaeni, Project Manager

7.4. Review of Napa County Civil Grand Jury's Report on City of St. Helena Water Quality

Prepared by: Joe Leach

8. SUBCOMMITTEE UPDATES

8.1. Water Quality

Prepared By: Jay Kouba & Peter White

8.2. Water Security

Prepared By: Jay Kouba

8.3. Preparation of Water and Wastewater Rate Study

Prepared By: Garry Rose & Mario Trinchero

9. FUTURE AGENDA ITEMS

9.1. Discussion of Decommissioning of Lower Reservoir

9.2. Discussion of Alternate Energy Options at Water and Wastewater Facilities

9.3. Water Management Plan Chapter Reviews (August 2026 Meeting)

9.4. St. Helena Community Forest Discussion (August 2026 Meeting)

10. ADJOURNMENT

The next Regular Water and Wastewater Advisory Committee meeting is scheduled for August, 13, 2026.

This agenda was posted at City Hall, 1088 College Avenue, St. Helena on July 6, 2026.

Rebecca White, Administrative Assistant

In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call the City Clerk’s Office (707) 967-2792. Notification 72 hours prior to the meeting as required by Section 202 of the Americans with Disabilities Act will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

**MINUTES**
**City of St. Helena**
**Special Water and Wastewater Advisory Committee Meeting**
**Thursday, June 18, 2026 @ 10:30 AM**
**City Hall - Main Conference Room**
**1088 College Ave, St. Helena CA**

1. CALL TO ORDER

   Vice Chair Garry Rose called the meeting to order at 10:30am.

2. ROLL CALL

   Chair: Brent Randol Vice Chair: Garry Rose Committee Members: Jay Kouba, Mario Trinchero, Peter White
   Alternate Member: Carl Myers
   Staff Liaison: Joe Leach, Assistant City Manager/Public Works Director/City Engineer
   **Present:** Vice Chair Garry Rose, Member Jay Kouba, Member Mario Trinchero, Member Peter White, Alternate Member Carl Myers
   **Absent:** Chair Brent Randol

3. PUBLIC FORUM

   An opportunity for the public to directly address the Committee on items of interest to the public that are not listed on the agenda. Any person addressing the Committee should provide his or her name and address, and limit comments to four minutes. Because of restrictions imposed by the Brown Act, the Committee may not engage in substantive discussion, nor take action on matters not described on the agenda.
   Public comment was opened and no comments were received. Public comment was closed.

4. REPORTS BY STAFF/COMMITTEE

   Reports by staff and/or committee on items of general interest. Brief questions for clarification may be posed and answered, and Committee may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the Water and Wastewater Advisory Committee.

4.1. Water/Wastewater Operations Update

Prepared By: Michele Ferrell, CPO - Water & Carlos Uribe, Interim Operations Manager

Carlos Uribe provided an update on operations, including water leaks.
Issam Najm presented on the ferric pilot program and provided the results of the program.
Bruce Zaeni discussed the high-velocity water main flushing program.

5. CONSENT ITEMS

5.1. Water and Wastewater Advisory Committee Meeting Minutes of May 21, 2026

Member Kouba moved to approve the minutes of the May 21, 2026, Water and Wastewater Advisory Committee meeting.
Member White seconded the motion.
All voted in favor of approving the minutes.

6. OLD BUSINESS

6.1. Water & Wastewater Capital Improvement Projects Disposition

Prepared By: Joseph Leach, Director of Public Works

Joe Leach discussed the disposition of CIP projects with the committee.

7. NEW BUSINESS

7.1. SCADA Assessment Report

Prepared By: Bruce Zaeni, Project Manager

Bruce Zaeni and David Noellsch presented about the SCADA assessment report for the City's water system.
Public comment was opened and comments were received from Tom Belt.
Public comment was closed.

7.2. Resident Notification Protocols for Water System Operations

The committee discussed the notifications that were made available to the public during the high-velocity water main flushing and the public's awareness and understanding of the event. The committee also discussed implementing a standardized protocol, such as a Management of Change process, to ensure consistent public notification for future events.

8. SUBCOMMITTEE UPDATES

8.1. Water Quality

Prepared By: Members Jay Kouba and Peter White

This subcommittee had no report.

8.2. Water Security

Prepared By: Member Jay Kouba

The subcommittee had no report.

8.3. Preparation of Water and Wastewater Rate Study

Prepared By: Vice Chair Garry Rose and Member Mario Trinchero

Vice Chair Rose and Member Trinchero discussed an upcoming meeting with the consultant who prepared the previous rate study to help prepare for the City's upcoming rate study.

9. FUTURE AGENDA ITEMS

9.1. Discussion of Decomissioning of Lower Reservoir

9.2. Discussion of Alternate Energy Options at Water and Wastewater Facilities

9.3. Water Management Plan Chapter Reviews

10. ADJOURNMENT

The next Water and Wastewater Advisory Committee Meeting is scheduled for TBD.
Vice Chair Rose adjourned the meeting at 12:28p.m.

**APPROVED:** **ATTEST:**

_____ _____

Brent Randol, Chair Joe Leach, PE, Staff Liasion

**LIST OF TABLES**

## LIST OF FIGURES



## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| Safe Yield Update | 2026 Water Supply Safe Yield Update |
| AF | Acre-Feet |
| cfs | Cubic Feet Per Second |
| CIP | Capital Improvement Program |
| County | Napa County |
| Draft EIR | Draft Environmental Impact Report |
| DSOD | Division of Safety of Dams |
| DWR | California Department of Water Resources |
| FY | Fiscal year |
| GP Update | General Plan Update 2040 |
| gpm | Gallons Per Minute |
| gpcd | Gallons per capita per day |
| GSA | Groundwater Sustainability Agency |
| GSP | Groundwater Sustainability Plan |
| IUMP | Integrated Utility Master Plan |
| LSWTP | Louis Stralla Water Treatment Plant |
| mgd | Million Gallons Per Day |
| NCGSA | Napa County Groundwater Sustainability Agency |
| NRW | Non-revenue water |
| PVC | Polyvinyl chloride |

| | |
|---|---|
| SGMA | Sustainable Groundwater Management Act |
| Subbasin | Napa Valley Subbasin |
| WMP | Water Management Plan |
| WY | Water Year |
| 2023 Rate Study | Water and Wastewater Cost of Service and Rate Design Study |

# CHAPTER 2
# Current Supplies and Existing and Projected Demands

This chapter discusses the City's existing water supplies and current and projected water demands. The information shown in this chapter is primarily from the City's 2026 Water Supply Safe Yield Update (Safe Yield Update) and the City's 2021 Integrated Utility Master Plan (IUMP). Water production and consumption data through 2025 have been included to reflect the City's most recent water use and supply trends. This chapter includes the following key sections:

- Water Supply Overview
- Summary of Safe Yield
- Water Production and Demands
- Future Water Demand Projections

## 2.1 WATER SUPPLY OVERVIEW

The City currently has three potable water supply sources**:**

- Treated surface water from Bell Canyon Reservoir (treated at the City's Louis Stralla Water Treatment Plant)
- Groundwater from the City's Stonebridge Wells No. 1 and 2 (treated at the Stonebridge Well Complex)
- Purchased water from the City of Napa

Figure 2-1 shows the City's water system and potable water supply sources. The City's non-potable supply sources are also shown on Figure 2-1, which include the Lower Reservoir, former Upper Reservoir, and Cemetery Well Site. The City also has an irrigation well located near Stonebridge Wells No. 1 and 2 that is used to supply untreated water for landscape irrigation in nearby areas.

The following sections describe each of the City's potable water supply sources as well as the estimated annual safe yield of each supply source based on the findings of the City's Safe Yield Update. The annual safe yield of the City's water supply system was defined in the City's Safe Yield Update as the quantity of water that can be reliably delivered on an annual basis through most rainfall years, including a Dry Year,[1] without undue hardship on water customers through water shortage restrictions. The City's non-potable water supply sources and historical potable water supply sources are also discussed in the following sections.

[1] Refer to Table 2-2 for the definition of Dry Year conditions.

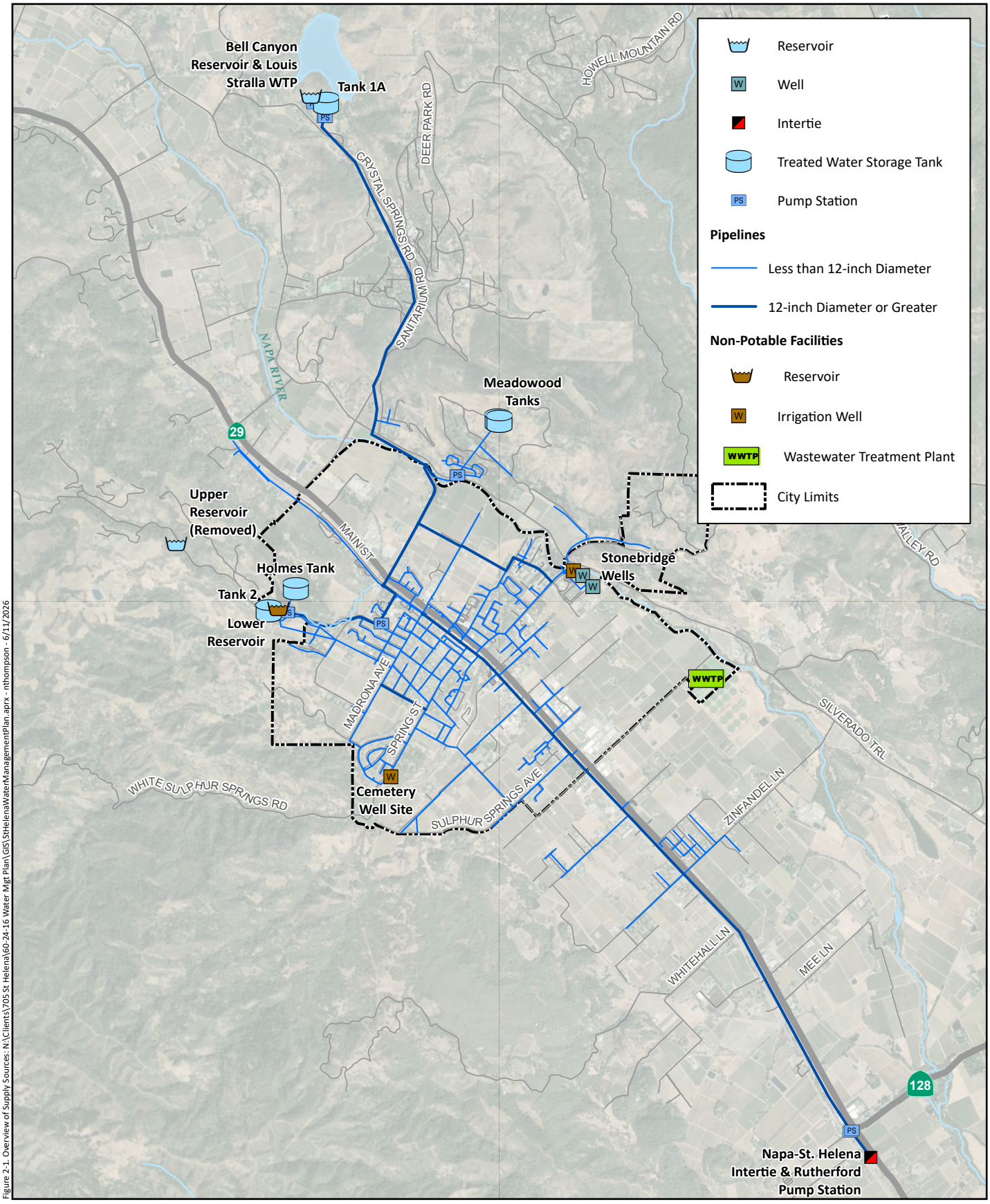



Figure 2-1. Overview of Supply Sources: N:\Clients\705 St Helena\60-24-16 Water Mgt Plan\GIS\StHelenaWaterManagementPlan.aprx - nthompson - 6/11/2026

Prepared by:

WEST YOST

0 2,250 4,500 Feet

Prepared for:

City of St. Helena
*Water Management Plan*

**Overview of Water Supply Sources**

**Figure 2-1**

## 2.1.1 Bell Canyon Reservoir

Bell Canyon Reservoir has historically been the City's primary water supply source. The Bell Canyon Reservoir was created in 1959 by the impoundment of Bell Creek (also known as Howell Creek), which is tributary to the Napa River. The reservoir is located 4 miles north of the City and has a storage capacity of approximately 2,400 AF. Currently, 25 percent of the reservoir capacity is reserved for fire storage. Water supplies from the Bell Canyon Reservoir are dependent on local rainfall and runoff within the drainage area, which is approximately 2,600 acres.

The water delivered from Bell Canyon Reservoir is treated to potable water quality standards at the City's Louis Stralla Water Treatment Plant (LSWTP) prior to delivery to the City's water customers. The LSWTP began operations in 1980 and was upgraded in 1994. The plant has a maximum capacity of 4.3 million gallons per day (mgd) (6.7 cubic feet per second [cfs]), with an average flow of approximately 0.6 mgd (1.0 cfs). The LSWTP provides conventional surface water treatment through a combination of flocculation-sedimentation, filtration, and disinfection.

### *2.1.1.1 Water Right Permits*

The City maintains water right permits 9157 and 14810 for Bell Canyon Reservoir/Bell Creek, which are summarized below.

- **Permit 9157** (Application 11816, filed April 8, 1947)
  - Application indicates that Bell Canyon Reservoir, once constructed, would have a capacity of 1,800 AF and a dam height of 75 feet (from streambed to spillway level).
  - Allows the City to directly divert 1 cfs for immediate use from January 1 to December 31 of each year.
  - Allows the City to divert to storage for future use up to 1,800 AF between November 15 of each year to April 15 of the succeeding year (150 days).
    - The 1 cfs diverted for immediate use does not count towards the 1,800 AF storage limit.
- **Permit 14810** (Application 20625, filed February 21, 1962)
  - Application indicates that Bell Canyon Reservoir storage capacity would be expanded to 3,800 AF by increasing the dam height to 105 feet (from streambed to spillway level).
    - The actual reservoir capacity at the spillway level was estimated in 1997 to be approximately 2,384 AF by James C. Hanson Consulting Civil Engineer. The actual dam height appears to be roughly 95 feet (10 feet less than the height given in Application 20625).
    - It appears there were plans to increase the height of the dam and increase storage to 3,800 AF. This work apparently did not occur; however, a project was completed in the mid-1970s that raised the spillway elevation approximately 7 feet and increased the reservoir storage capacity from 1,800 AF to 2,384 AF.[2]

[2] City of St. Helena, prepared by Mike Podlech and Matt O' Connor. January 2018. *Interim Bypass Plan for Bell Canyon Reservoir, Napa County, California*.

- Allows the City to divert and store an additional 2,000 AF per year (AFY) between November 15 of each year to April 15 of the succeeding year (for a total allowed annual storage of 3,800 AFY).

Water right permits 9157 and 14810 were amended on September 7, 1989, by the California Department of Fish and Wildlife to include reservoir bypass flows to improve fish habitat. Table 2-1 shows the required bypass flows into Bell Creek. If flow from Bell Creek into the reservoir is less than the required bypass, the required stream bypass is set equal to the flow into the reservoir. Exceptions to the required bypasses could be made during severe drought years. During the period of April 16 to November 14 (non-diversion season), 100 percent of the flow into the reservoir must be bypassed into Bell Creek.

**Table 2-1. Required Bypasses for Fish Habitat**

| Bypass Period | Required Flow Rate, cfs[(a)] | Volume, AF |
|---|---|---|
| December 1 – January 31[(b)] | 4 | 492 |
| February 1 – February 29 | 2 | 111 |
| March 1 – April 15 | 1 | 91 |
| April 16 – November 14 | Equal to 100% of Bell Creek Inflow | Varies |
| **Total[(c)]** | — | **694** |

(a) If flow into the reservoir is less than the required bypass, the required stream bypass is set equal to the flow into the reservoir. Exceptions to the required bypasses could be made during severe drought years.

(b) Note that the current permit conditions do not specify a bypass flow requirement for the period of November 15 through November 30, during which time the City is authorized to divert and store water under permits 9157 and 14810. Under the assumption that the omission of the November 15-30 diversion period from the bypass flow requirement schedule was an inadvertent oversight, the City has been operating Bell Canyon Reservoir under a self-imposed 4 cfs bypass flow threshold during the November 15-30 period since at least 2009.

(c) Total bypass volume shown does not include the volume that must be bypassed during the non-diversion season, as this varies annually based on Bell Creek flows.

### *2.1.1.2 Safe Yield Estimate of Bell Canyon Reservoir*

Bell Canyon Reservoir's annual supply is dependent on runoff for replenishment and carry-over storage from previous years. As part of the City's 2010 Water Supply Plan, a safe yield estimate for the City's Bell Canyon Reservoir was developed under various hydrologic conditions using a spreadsheet-based reservoir yield model. The 2026 Safe Yield Update updated the reservoir yield model using available reservoir operations and hydrologic data through July 2023.

The estimated safe yield of the Bell Canyon Reservoir is summarized in Table 2-2, per the Safe Yield Update. The safe yield is defined for various hydrologic conditions, which correspond to a minimum annual rainfall amount or the probability of exceeding this amount of rainfall on any given year. As shown in Table 2-2, the safe yield is estimated to be between 390 AF and 895 AF, dependent on hydrologic conditions.

| Table 2-2. Estimated Safe Yield of Bell Canyon Reservoir[(a)] | | | |
|---|---|---|---|
| Condition | Minimum Rainfall, inches | Estimated Safe Yield, AF | Probability of Exceedance |
| Wet Years | 36.4 | 895 | Corresponds to 40 percent Exceedance |
| Normal Year | 29.5 | 733 | Corresponds to 60 percent Exceedance |
| Below Normal Year | 24.8 | 557 | Corresponds to 80 percent Exceedance |
| Dry Year | 20.8 | 476 | Corresponds to 90 percent Exceedance |
| Critical Dry Year | 6.0 | 390 | Corresponds to 100 percent Exceedance |

(a) Source: City of St. Helena, prepared by West Yost. April 2026. *City of St. Helena Water Supply Safe Yield Update. Attachment A Bell Canyon Reservoir Yield Update.*

Bell Canyon Reservoir's safe yield was defined in the Safe Yield Update to be the average of the Below Normal and Dry Year safe yields, equivalent to 516 AF. This represents a 26 percent reduction compared to the 2010 Water Supply Plan's safe yield estimate of 700 AF. This reduction in safe yield is primarily due to the severe drought conditions that occurred during the years that the Safe Yield Update encompasses (the 2010 Water Supply Plan used data from 1988 through 2009, while the Safe Yield Update used available data from 2010 through July 2023).

### 2.1.2 Stonebridge Wells

The City constructed the Stonebridge Wells No. 1 and 2 in 1989 and 1996, respectively. The wells were constructed to supplement the City's surface water supply and meet increasing water demands. Both wells are located approximately 100 feet from the Napa River, south of Pope Street in the northeastern part of the City. The groundwater produced from these wells is treated at a small treatment plant called the Stonebridge Well Complex which uses greensand media filtration to remove iron and manganese. The current production capacity of Stonebridge Well No. 1 is 220 gallons per minute (gpm) and the current production capacity of Stonebridge Well No. 2 is 200 gpm. The City typically operates both wells at the same time. Key characteristics of the Stonebridge Wells No. 1 and 2 are provided in Table 2-3.

| Table 2-3. Stonebridge Wells No. 1 and 2 Construction and Operations Information | | |
|---|---|---|
| | Stonebridge Well No. 1[(a)] | Stonebridge Well No. 2[(b)] |
| Year Constructed | 1989 | 1996 |
| Casing Diameter and Material | 8 inches; Class 200 PVC | 12 inches; Carbon Steel |
| Total Depth | 420 feet | 700 feet |
| Sanitary Seal Depth | 50 feet | 101 feet |
| Screened (Perforated) Interval | 71 to 163 feet<br>185 to 224 feet<br>246 to 284 feet<br>304 to 416 feet | 135 to 190 feet<br>210 to 330 feet<br>350 to 430 feet<br>470 to 550 feet<br>570 to 660 feet |
| Typical Pumping Rate[(c)] | 220 gpm | 200 gpm |

(a) Stonebridge Well No. 1 Water Well Drillers Report, March 1989. Well diameter, depth, screened intervals and casing material confirmed by November 2022 survey performed by Dr. Well, Water Well Services, Inc.

(b) Summary of Operations Report for City of St. Helena Stonebridge Well No. 2, prepared by Richard C. Slade & Associates, January 1997.

(c) The typical pumping rate is based on pumping data between January and May 2023 provided to Luhdorff & Scalmanini Consulting Engineers for the City's April 2026 Water Supply Strategy Analyses report.

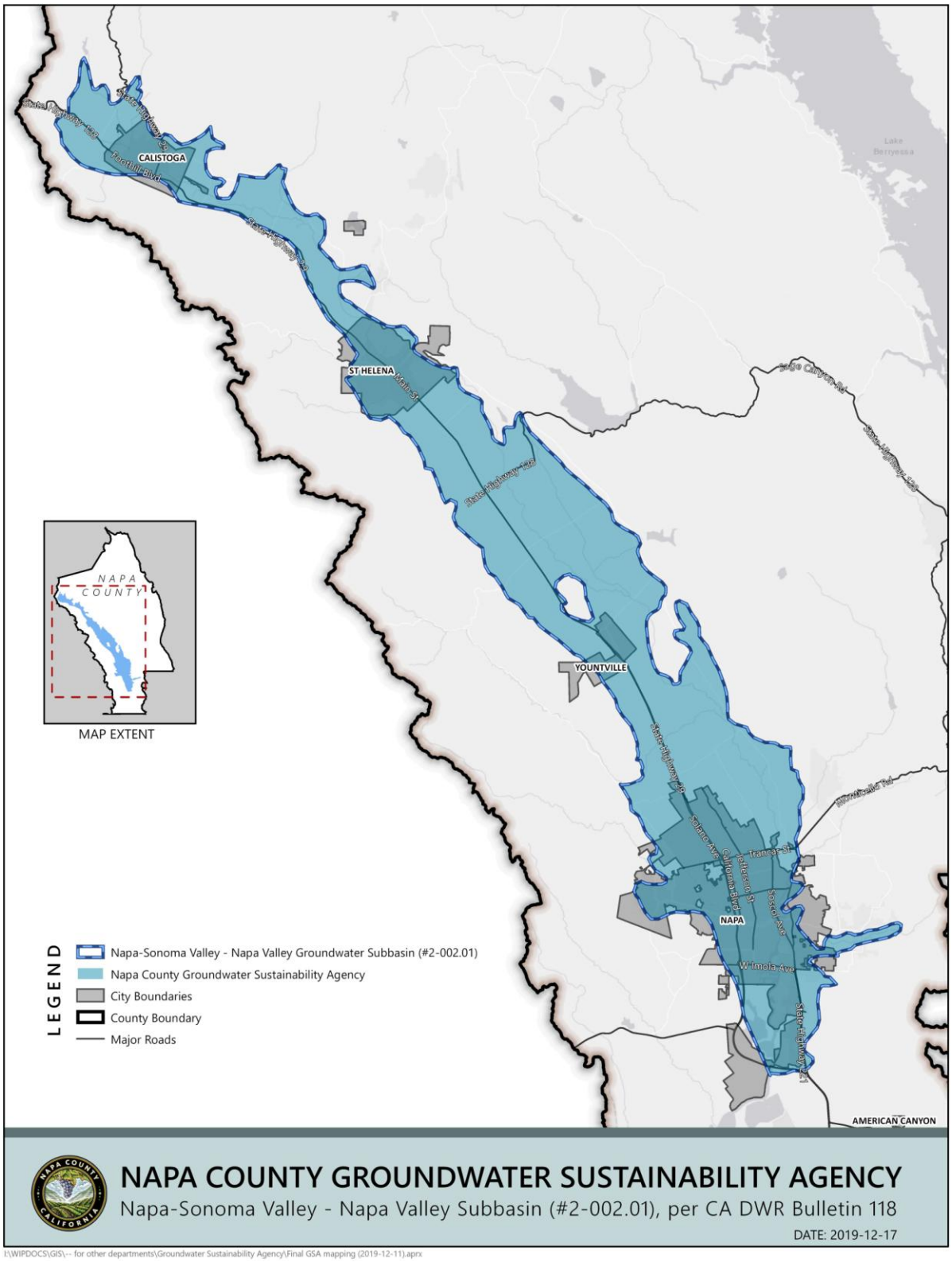
### *2.1.2.1 Groundwater Basin Description*

The City's Stonebridge wells draw from the underlying Napa Valley Subbasin (Basin Number 2-2.01) of the larger Napa-Sonoma Valley Basin. The Napa Valley Subbasin (Subbasin) occupies a northwest trending structural depression in the central Coast Ranges, approximately 40 miles northeast of San Francisco. The Subbasin is bounded to the north, east, and west by portions of the Coast Ranges and on the south by the Napa-Sonoma Marshes Wildlife Area. The Subbasin extends roughly from the city of Napa in the south, to the city of Calistoga in the north, a distance of about 35 miles. Figure 2-2 shows the boundaries of the Subbasin in respect to the City of St. Helena and other cities.

The Napa River flows southeast from the Coast Ranges, through the Napa Valley Subbasin and Napa-Sonoma Valley Lowlands Subbasin before entering San Pablo Bay at the City of Vallejo. Several intermittent and perennial streams flow through the Subbasin and feed into the Napa River. These tributaries contribute recharge to the Subbasin, some of which likely support low-flow conditions in the Napa River as dry season baseflow.[3]

The characteristic hydrologic pattern of streamflow in the Napa River watershed has been defined as influenced primarily by peak runoff generated by winter storms, where streamflows may not persist through drier months. Additionally, reaches of the Napa River along its lower streambed surface have over many decades (since the 1930s) experienced low to no-flow conditions during the fall as groundwater discharge into the stream channel decreases as a function of seasonal fluctuations of the water table and fall groundwater declines.

[3] Luhdorff & Scalmanini Consulting Engineers. January 2022. *Napa Valley Subbasin Groundwater Sustainability Plan*.




*Source: County of Napa, Groundwater Sustainability. Accessed at: https://www.countyofnapa.org/3077/About-the-Subbasin.*

**Figure 2-2. Napa Valley Subbasin Boundaries**

### 2.1.2.2 Groundwater Management

In September 2014, Governor Edmund G. Brown Jr. signed the Sustainable Groundwater Management Act (SGMA), a three-bill legislative package now codified in Section 10720 et seq. of the California Water Code. Effective in California on January 1, 2015, SGMA provided a framework for the sustainable management of groundwater resources. SGMA encourages groundwater management at the local level. Local agencies formed Groundwater Sustainability Agencies (GSAs) to develop and implement Groundwater Sustainability Plans (GSPs) to guide sustainable management of state-defined groundwater basins.

The Subbasin is classified as a high priority basin by the California Department of Water Resources (DWR) and was therefore required to develop a GSP in accordance with SGMA requirements. The Subbasin is categorized as high priority primarily due to the amount of irrigated lands, the density of wells, and the degree to which people rely on groundwater in the Subbasin. The Napa Valley Subbasin is the only groundwater basin in Napa County (County) that is required to develop a GSP at the time of this WMP.

The Napa County GSA (NCGSA) was formed in December 2019 to manage groundwater resources for the Subbasin, consistent with SGMA. The Napa County GSP Advisory Committee was subsequently established in June 2020 to act as advisors for the development of the Napa Valley Subbasin GSP and is made up of representatives of various beneficial uses of groundwater in the Subbasin, including the City. The committee provided general input, reviewed draft GSP content, defined sustainable management criteria, and provided input on next steps for GSP implementation. The GSP was completed in January 2022, and the City continues to collaborate with the NCGSA.

Implementation of the GSP is ongoing and includes a number of projects and management actions, as well as continued groundwater monitoring and modeling activities to track and evaluate the impact of projects and management actions on conditions in the Subbasin. These projects and management actions include the following:

- Vineyard and winery water conservation
- Managed aquifer recharge
- Expanded recycled water use
- Pumping reductions
- Groundwater ordinance and new well permit conditions

DWR-designated groundwater basins do not cover all of the County. For purposes of local planning, understanding, and studies, the County has defined additional groundwater subareas outside of the DWR-designated groundwater basins to track and report on groundwater conditions. These subareas were delineated based on major watersheds, groundwater basins, and the County's environmental resource planning areas. Groundwater management in the areas outside of the DWR-designated Subbasin fall under the purview of the County and other municipalities and are not managed by a GSA.

### 2.1.2.3 Groundwater Use in Subbasin

As shown in Table 2-4, the majority of groundwater pumping in the Subbasin is from agriculture and vineyards (76 percent of total groundwater pumping). Domestic and other small water systems, which generally refers to rural residential water users with private domestic wells, account for approximately 18 percent of total groundwater pumping. The City of St. Helena is the only municipal groundwater user in the Subbasin and makes up only 2 percent of the total groundwater pumping within the Subbasin.

| Table 2-4. Groundwater Use in Subbasin[(a)] | | |
|---|---|---|
| Groundwater Use Sector | Average Annual Groundwater Pumping from 2015-2022, AF | Percent of Total Annual Groundwater Pumping |
| Agriculture and Vineyards | 13,780 | 76 |
| Domestic and Other Small Water Systems | 3,230 | 18 |
| Wineries | 790 | 4 |
| Municipal | 350 | 2 |
| **Total Groundwater Use** | **18,150** | **100** |

(a) Source: March 2024. *Napa County Groundwater Sustainability Agency Groundwater Pumping Reduction Workplan: Napa Valley Subbasin.* Table 2-1.

### *2.1.2.4 GSP Constraints on Groundwater Pumping*

On October 14, 2021, the Groundwater Sustainability Plan Advisory Committee discussed and approved Management Action #2, which imposes groundwater pumping reductions for all non de minimis groundwater users in the Subbasin.[4] Management Action #2 specifically calls for a 10 percent reduction in groundwater pumpage compared with the average annual historical pumping from 2005 to 2014. The purpose of the Management Action is to meet the GSP's sustainable management criteria for "depletions of interconnected surface water," which is one of the GSP's sustainability indicators. Successful attainment of this objective would increase the volume of groundwater in storage and reduce the potential for undesirable results.

### *2.1.2.5 City Policy on Groundwater Production*

The City has a long-standing policy to reduce its withdrawal of groundwater in non-drought years, limiting production from Stonebridge Wells No. 1 and 2 to no more than 20 percent of the City's total annual water demand, except in Phase II or greater water shortage emergencies. During drier years, when less surface water is available, the City's groundwater use generally increases slightly.

As shown in Table 2-5, years between 2010 and 2025 with higher groundwater production generally correspond to Below Average, Dry or Very Dry years. For the same period, groundwater production averaged 19 percent of the total water production in Wet and Very Wet years, while groundwater production averaged 24 percent of the total water production in Below Average, Dry and Very Dry years.

[4] California Water Code §10726.4 specifies that a GSA has the authority to implement pumping reduction.

**Table 2-5. Historical Groundwater Production in Various Water Year Types**

| Water Year[a] | Water Year Type[b] | Annual Groundwater Production, AF[c] | Annual Groundwater Production as a Percent of Total Water Production |
|---|---|---|---|
| 2010 | Wet | 325 | 20 |
| 2011 | Wet | 227 | 13 |
| 2012 | Normal (Below Average) | 182 | 10 |
| 2013 | Normal (Below Average) | 526 | 28 |
| 2014 | Dry | 317 | 20 |
| 2015 | Normal (Below Average) | 244 | 16 |
| 2016 | Normal (Below Average) | 285 | 19 |
| 2017 | Very Wet | 293 | 18 |
| 2018 | Dry | 267 | 15 |
| 2019 | Wet | 261 | 16 |
| 2020 | Very Dry | 423 | 24 |
| 2021 | Very Dry | 543 | 38 |
| 2022 | Normal (Below Average) | 448 | 33 |
| 2023 | Wet | 329 | 27 |
| 2024 | Normal (Below Average) | 507 | 37 |
| 2025 | Normal (Below Average) | 283 | 25 |
| **Average Groundwater Production in Above Average, Wet and Very Wet Years** | | **287** | **19%** |
| **Average Groundwater Production in Below Average, Dry and Very Dry Years** | | **366** | **24%** |

(a) A "Water Year" is the period between October 1 and September 30 (E.g. Water Year 2010 is October 1, 2009 through September 30, 2010).

(b) Water Year Types as defined for the Napa County GSP (from Table 2-5 of the Napa County Groundwater Sustainability Annual Report – Water Year 2024, dated March 2025). 2025 Water Year Type defined in the Napa County Groundwater Sustainability Annual Report – Water Year 2025, dated March 2026.

(c) Annual groundwater production data (from Table 7-8 of the Napa County GSP, January 2022) and supplemented with City of St. Helena water production data for water years 2020 to 2025.

### *2.1.2.6 Safe Yield Estimate of Stonebridge Wells*

As described in Section 2.1.2.4, one of the management actions included in the GSP is to reduce groundwater pumpage throughout the Subbasin by 10 percent from the average annual historical pumping from 2005 to 2014. The City's average groundwater use from 2005 to 2014 was 388 AFY, somewhat higher than the City's average groundwater use in the last 16 years (see Table 2-5). A 10 percent reduction in pumpage compared to the 2005 to 2014 average pumping would reduce the average annual safe yield of the City's groundwater supply to about 350 AF. The City could pump more groundwater in dry years if needed to meet water demands. However, long-term pumping exceeding 350 AFY would violate the reduced pumpage provision in the GSP.

### 2.1.3 City of Napa Water Supply Agreement

In September 2000, the City acquired 1,000 AF of State Water Project water entitlements from the Kern County Water Agency under a contract with the Napa County Flood Control and Water Conservation District. However, the City did not have an entitlement to capacity in the North Bay Aqueduct system, nor sufficient treatment or transmission facilities to convey said water entitlements to its water customers.

Therefore, in September 2006, the City entered into a long-term Water Supply Agreement with the City of Napa (2006 Agreement). Per the 2006 Agreement, the City of Napa purchased the 1,000 AF of State Water Project water entitlements from the City and agreed to provide a long-term water supply of up to 400 AFY to the City (with a minimum annual delivery of 200 AF). The 2006 Agreement has subsequently been amended to increase the amount of water delivered to the City, as shown below:

- Amendment No. 1, approved in April 2009, increased the supply amount to the City up to 600 AFY (with a minimum annual delivery of 400 AF).
- Amendment No. 2, approved in January 2011, addressed water that was not delivered in 2010.
- Amendment No. 3, approved in November 2011, increased the minimum annual delivery to the City to 600 AF with an option to request an additional 200 AF of water annually.

The quantity of water to be made available and delivered each fiscal year to the City per paragraph 4 of the 2006 Agreement (per Amendment No. 3), and is still in effect today, is as follows:

- **Base Supply:** The City of Napa shall deliver and the City shall accept 600 AF of water annually.
- **Optional Supply:** The City may request an additional 200 AF of water annually. If, in the City of Napa's sole discretion, water supply is available to fulfill the request, the City of Napa will deliver the requested quantity of water to the City.[5]

Amendment No. 4, approved in April 2022, allowed the City to take beneficial use of unused water from Fiscal Year (FY) 2020-21 over the succeeding five fiscal years. Water availability was reduced in FY 2020-21 due to operational constraints.

Similarly, Amendment No. 5, approved in May 2022, allowed the City to temporarily reduce the base supply in FY 2021-22 and FY 2022-23 to 400 AF and 550 AF, respectively, due to operational constraints on the City's water system. The difference in the amount of base supply in these years compared to the typical 600 AF base supply will be available to the City's use in future years (200 AF from FY 2021-22 and 55 AF from FY 2022-23).

[5] If supplies are not available and if the City of Napa attempts to acquire supplemental dry-year water on a single year basis from an outside source; the City of Napa will add the City's requested quantity to the total quantity requested. The City of Napa makes no guarantees that dry-year water will be available or purchased in any given year. The City of Napa reserves the exclusive right to determine the terms of purchase and to avoid such purchase if the terms are unacceptable or if the City of Napa's need for the water is alleviated. If the City of Napa executes a supplemental dry-year water purchase on a single year basis, the City agrees to purchase the requested amount or a proportional share thereof at the rate described in the amended agreement.

The term of the existing Agreement ends on December 31, 2035, which coincides with the City of Napa's State Water Project entitlement expiration. The City is currently in discussion with the City of Napa to request an amendment to the Agreement to increase the minimum annual delivery from 600 AF to 800 AF, as well as extend the Agreement beyond 2035.

#### *2.1.3.1 Constraints Affecting City of Napa Water Supply*

This water is received by the City from the City of Napa water transmission system at the City of St. Helena's Rutherford Pump Station. The City has had difficulties receiving the City of Napa water supplies due to hydraulic constraints at the City of St. Helena's Rutherford Pump Station and within the Napa Intertie Transmission Main, as well as low suction pressure resulting from the City of Napa's Dwyer Road Pump Station which is in need of permanent improvements. These operational issues have made utilizing the full amount of supply from the City of Napa (generally above 600 AF) difficult.

The City of Napa has implemented temporary improvements to the Dwyer Road Pump Station that boosts system pressure in the short term. Chapter 4 provides additional details on St. Helena and Napa's planned and on-going efforts to improve delivery pressures.

### 2.1.4 Historical Supply Sources

The City's original water system was built in the late 1800s by the privately-owned St. Helena Water Company and included a "Lower" off-stream reservoir and an "Upper" on-stream reservoir for potable water supply, both on York Creek adjacent to Spring Mountain Road (see Figure 2-1). In 1922, the system was purchased by the City of St. Helena from the St. Helena Water Company. While the dam impounding the Upper Reservoir was removed and no longer exists, the City still uses the Lower Reservoir for non-potable uses.

#### *2.1.4.1 Lower Reservoir*

The City's Lower Reservoir was constructed in 1878 to supply potable water to the City and surrounding vineyards. The Lower Reservoir is impounded by a 44-foot high earthen embankment dam and is supplied by a small ephemeral drainage extending off the main York Creek drainage. The drainage area for the Lower Reservoir is approximately 67 acres. The Lower Reservoir was previously supplied by diversion facilities on York Creek; however, the City removed the diversion facilities in 2020.

The Lower Reservoir was initially constructed with a storage capacity of approximately 40 million gallons (125 AF). In 1935, the capacity was enlarged to approximately 75 million gallons (230 AF). The City claims a pre-1914 water right to store up to 160 AFY in the Lower Reservoir. With certain conditions, the State Water Resources Control Board (State Water Board) has agreed not to challenge this claim but offers no opinion regarding its validity.[6]

The City's Municipal Code Section 13.04.080 specifies that the City can provide untreated (raw) water from the Lower Reservoir for grading, dust control, street, pipeline, or similar construction activities, new pool filling as well as for irrigation. Raw water can only be used within the City limits, except for raw water users that entered into agreements with the City prior to November 2016. The City currently maintains

[6] City of St. Helena, prepared by West Yost. May 2003. *City of St. Helena 2003 Urban Water Management Plan*.

two agreements for raw water from Lower Reservoir: one with Spring Mountain Winery for up to 25 AFY and one with St. Helena Unified School District for up to 10 AFY.[7]

The City is currently working with the DWR Division of Safety of Dams (DSOD) on permitting efforts for continued operations on the Lower Reservoir. In 2016, the DSOD restricted the maximum storage level at 405.2 feet, or 12.1 feet below the crest of the dam.[8] This is equivalent to a maximum storage volume of approximately 105 AF.[9]

Seismic analyses and other facility improvements are needed before DSOD would consider adjusting the reservoir restrictions. The City plans to make improvements to the Lower Reservoir as part of Capital Improvement Program (CIP) Project No. W-108 for FY 2024-25 and FY 2026-27 which include:

- Rehab Lower York Creek Dam as required by the DSOD
- Repair 12-inch diameter gate in the outlet tower and 24-inch diameter spillway gate
- Geotechnical investigation and stability analysis
- Seismic stability analysis of intake tower
- Survey and rehab 12-inch diameter low level outlet pipe

#### *2.1.4.2 Upper Reservoir*

To supplement water supply from the Lower Reservoir and meet increasing water demands in the region, the St. Helena Water Company constructed the Upper Reservoir in 1900. The Upper Reservoir was an on-stream reservoir located on York Creek approximately 1.5 miles northwest of the City, on the south side of Spring Mountain Road. The Upper Reservoir was constructed with the Upper York Creek Dam, an earthen dam impounding York Creek, near the head of York Canyon.

The Upper Reservoir had not been utilized for some time, as sediment from the upstream watershed filled the reservoir. The City completed the Upper York Creek Ecosystem Restoration and Aquatic Habitat Enhancement Project in 2020 to remove the Upper York Creek Dam with the objectives to:

- Restore fish passage and habitat connectivity for steelhead trout (Oncorhynchus mykiss), a federally threatened species that relies on York Creek and similar tributaries to the Napa River for spawning and rearing,
- Reduce potential for future downstream degradation through low-flow fine sediment releases and their associated fish kills, and

[7] City of St. Helena Resolution No. 2018-8 Approving a Raw Water Use Agreement between the City of St. Helena and Spring Mountain Vineyard, Incorporated.

[8] Department of Water Resources Division of Safety of Dams. February 2016. Letter to City of St. Helena.

[9] Department of Water Resources Division of Safety of Dams. October 2013. *Construction History of St. Helena Lower Dam (Memorandum).*

- Allow for the restoration of approximately three acres of degraded riparian and aquatic habitat surrounding the dam and reservoir, including restoration of roughly two acres of native riparian forest.[10]

## 2.2 SUMMARY OF SAFE YIELD

The City's overall safe yield estimate is based on the sum of the estimated safe yield from the Bell Canyon Reservoir, groundwater from the City's Stonebridge Wells, and supplies from the City of Napa, minus the City's non-revenue water. Non-revenue water (NRW) is the difference between the metered quantity of water produced or purchased by the City and the metered quantity of water sold to City customers. NRW is described further in Section 2.3.5.

Table 2-6 provides a summary of the safe yield estimate for the City's water system. As shown in Table 2-6, the City's updated total safe yield estimate is 1,666 AF. Accounting for the City's NRW, the City's updated net safe yield estimate is 1,366 AF. Both of these estimates are reduced from the 2010 Water Supply Plan, which had a safe yield estimate of 1,950 AF and a net safe yield estimate of 1,658 AF. The reduction is due to the lower estimated safe yield from Bell Canyon Reservoir from recent prolonged drought periods and more stringent bypass flow requirements for fish habitat, as well as the reduced groundwater pumpage in compliance with the GSP.

**Table 2-6. Summary of Annual Safe Yield Estimate[(a)]**

| Supply Source | Annual Safe Yield Estimate, AF | Notes |
|---|---|---|
| Bell Canyon Reservoir | 516 | Average of Below Normal and Dry Year Safe Yield Estimates; 2024 updated estimate is based on available data through FY 2022-23 (see Table 2-2) |
| Groundwater (Stonebridge Wells No. 1 and 2) | 350 | Estimate is based on reduced groundwater pumpage per the GSP (10 percent reduction from 2005 to 2014 average groundwater pumpage); the City could pump more groundwater in dry years if needed to meet water demands, however, long-term pumping above 350 AFY would violate the reduced pumping provision in the GSP |
| City of Napa Supply | 800 | Based on full contractual amount from the City of Napa and assuming the Rutherford Pump Station and the Napa Intertie Transmission Main are operating at capacity |
| **Total Annual Safe Yield Estimate** | **1,666** | Sum of Bell Canyon Reservoir, groundwater, and City of Napa supplies |
| Non-Revenue Water | (300) | Based on 18 percent NRW (average for FY 2019-20 through FY 2023-24), consistent with the Safe Yield Update |
| **Net Annual Safe Yield Estimate** | **1,366** | Total Annual Safe Yield Estimate minus Non-Revenue Water |

(a) Source: City of St. Helena, prepared by West Yost. April 2026. *City of St. Helena Water Supply Safe Yield Update.*

[10] City of St. Helena. "Upper York Creek Ecosystem Restoration Project." Accessed at https://www.cityofsthelena.gov/348/Upper-York-Creek-Ecosystem-Restoration-P on January 29, 2025.

## 2.3 WATER PRODUCTION AND DEMANDS

This section summarizes the City's historical potable water production and metered water consumption records, discusses recent water use trends, and presents future water demand projections.

### 2.3.1 Historical Potable Water Production

The City's annual use of its potable water supply sources since Water Year[11] (WY) 1988 is presented on Figure 2-3. More recent water production trends (since WY 2010) are presented in Table 2-7.

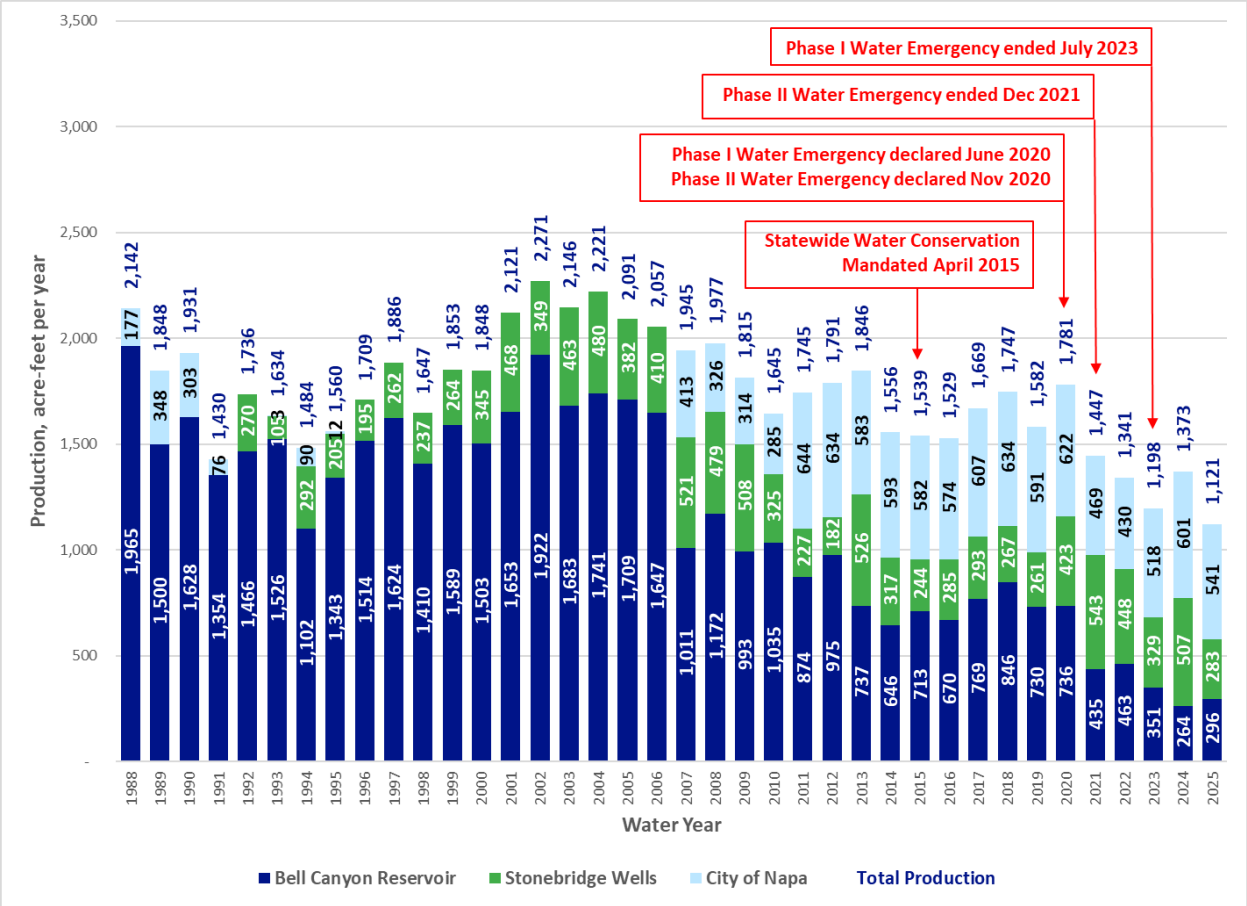
As shown on Figure 2-3, Bell Canyon Reservoir has historically been the City's main supply source, comprising up to 95 percent of the City's annual water supply. As of 2007, Bell Canyon Reservoir supply has been reduced, as the City began purchasing water from the City of Napa and has prioritized using this available supply. As shown in Table 2-7, over the last 16 years, supplies from Bell Canyon Reservoir made up about 42 percent of the City's annual water supply.

As shown in Table 2-7, the average annual water production between 2010 and 2025 was 1,557 AF. Average water production during this period has been lower than the City's historical annual average of 1,744 AF (from 1988 through 2025). This reduction is primarily due to Statewide mandated water conservation, changes to customer behavior from implementation of water metering, and local water emergency declarations during this period, as indicated on Figure 2-3. While Phase 1 emergency restrictions were rescinded in 2023, water production has remained at low levels through 2025.

The recent three-year average production for each supply source from 2023 through 2025, the period since the emergency restrictions were lifted, is also provided in Table 2-7. In the past three years, total average production was 1,230 AFY, and City of Napa supplies represented 45 percent of the City's total water supplies. Bell Canyon Reservoir supplies only accounted for 25 percent of total supply during the past three years.

The reduced volume of water delivered from the City of Napa in 2021 and 2022 was due to a pump failure at the Rutherford Pump Station, exacerbated by low delivery pressure from City of Napa. The City was unable to operate the Rutherford Pump Station for several weeks while the pump was being repaired. Therefore, delivery volumes from the City of Napa for 2021 and 2022 are not representative of normal operations. Excluding these years, City of Napa supplies have remained relatively consistent at approximately 600 AF since WY 2011, when the minimum annual delivery volume was increased to 600 AF.

[11] Consistent with the Napa County GSP, the term "water year" is used to refer to the period from October 1 through the following September 30, with the year designated according to the calendar year in which it ends (i.e., water year 2023 spanned from October 1, 2022 through September 30, 2023).




*Source: Napa Valley Subbasin GSP (Table 7-8) supplemented with City monthly water production data for water years 2020 to 2025.*

**Figure 2-3. Historical Potable Water Production by Source from 1988 to 2025**

**Table 2-7. Potable Water Production by Source from 2010 to 2025**

| Water Year | Bell Canyon Reservoir, AF[a] | Groundwater, AF[b] | City of Napa, AF[a] | Total Production, AF |
|---|---|---|---|---|
| 2010 | 1,035 | 325 | 285 | 1,645 |
| 2011 | 874 | 227 | 644 | 1,745 |
| 2012 | 975 | 182 | 634 | 1,791 |
| 2013 | 737 | 526 | 583 | 1,846 |
| 2014 | 646 | 317 | 593 | 1,556 |
| 2015 | 713 | 244 | 582 | 1,539 |
| 2016 | 670 | 285 | 574 | 1,529 |
| 2017 | 769 | 293 | 607 | 1,669 |
| 2018 | 846 | 267 | 634 | 1,747 |
| 2019 | 730 | 261 | 591 | 1,582 |
| 2020 | 736 | 423 | 622 | 1,781 |
| 2021 | 435 | 543 | 469 | 1,447 |
| 2022 | 463 | 448 | 430 | 1,341 |
| 2023 | 351 | 329 | 518 | 1,198 |
| 2024 | 264 | 507 | 601 | 1,373 |
| 2025 | 296 | 283 | 541 | 1,121 |
| **WY 2010-2025 Average** | **659** | **341** | **557** | **1,557** |
| **WY 2010-2025 Average (as a percentage of total supply)** | **42%** | **22%** | **36%** | **100%** |
| **Recent Three-Year Average[b] (WY 2023-2025)** | **304** | **373** | **553** | **1,230** |
| **Recent Three-Year Average (as a percentage of total supply)** | **25%** | **30%** | **45%** | **100%** |

(a) Annual production data from Table 7-8 of the Napa County GSP, January 2022 and supplemented with City monthly water production data for water years 2020 through 2025.

(b) The recent three-year average, from WY 2023 through WY 2025, is presented because this period represents typical current production trends as these years did not include water emergency conditions and the Rutherford Pump Station pump failure was not a factor as it had been in 2021 and 2022.

## 2.3.2 Per Capita Water Use

The City's total per capita water use and residential per capita water use from WY 2013 through WY 2025 are presented in Table 2-8 and Figure 2-4. Tracking per capita water use trends allows the City to better evaluate the effectiveness of its demand management measures and water conservation measures (discussed in Chapter 3).

Total per capita water use is based on total water production for the City's water service area (including residential, commercial, industrial, and institutional uses) divided by the City's water service area population. Residential per capita water use is based on residential water consumption divided by the City's water service area population. Residential per capita water use is useful for assessing the effectiveness of the City's water conservation measures for its residents, as it does not account for water use from commercial and industrial water uses.

**Table 2-8. Total and Residential Per Capita Water Use**

| Water Year | Annual Production[a], AF | Service Area Population[b] | Total Per Capita Water Use, gpcd | Residential Per Capita Water Use[c], gpcd |
|---|---|---|---|---|
| 2013 | 1,846 | 6,473 | 255 | 124 |
| 2014 | 1,556 | 6,584 | 211 | 110 |
| 2015 | 1,539 | 6,679 | 206 | 100 |
| 2016 | 1,529 | 6,726 | 203 | 93 |
| 2017 | 1,669 | 6,703 | 222 | 103 |
| 2018 | 1,747 | 6,704 | 233 | 109 |
| 2019 | 1,582 | 6,701 | 211 | 102 |
| 2020 | 1,781 | 5,996 | 265 | 132 |
| 2021 | 1,447 | 5,981 | 216 | 120 |
| 2022 | 1,341 | 5,906 | 203 | 81 |
| 2023 | 1,198 | 5,889 | 182 | 88 |
| 2024 | 1,373 | 5,926 | 207 | 107 |
| 2025 | 1,121 | 5,939 | 168 | 94 |
| **Recent Five-Year Average (WY 2021 through 2025)** | | | **195** | **98** |

(a) Water production data is based on the Napa Valley Subbasin GSP (Table 7-8) supplemented with City monthly water production data for water years 2020 through 2025.

(b) Service area population is based on estimates from State of California Department of Finance Tables E-5 Historical Population Estimates for Cities, Counties, and the State, plus a population estimate of 600 persons outside of City limits but within the water service area per the City's General Plan Update 2040 Draft Environmental Impact Report, October 2018, Table ES-1.

(c) Residential per capita use was calculated based on the City's total annual residential consumption (single-family and multi-family residential) divided by the service area population. Source for residential consumption data: *monthly water consumption data (water summary FY 2006-current.xls)* for Water Years 2013 through 2022, and *Annual Drought Reports to the State Water Resources Control Board* for Water Years 2023 through 2025.

The City's annual production and per capita water use has generally decreased since WY 2013. Total per capita water use in WY 2013 was 255 gallons per capita per day (gpcd), compared to the recent five-year average of 195 gpcd.

As shown on Figure 2-4, residential per capita water use has also generally decreased since WY 2013 and is mostly consistent with total per capita water use trends. Residential per capita water use was highest in WY 2020, which was likely due to impacts from the COVID-19 pandemic and shelter-in-place orders mandated for most of 2020. There was a slight rebound in residential per capita water use in WY 2024 to 107 gpcd, compared to a low of 81 gpcd in WY 2022. Overall, the reduction in total per capita water use since WY 2013 highlights the effectiveness of water conservation measures undertaken by the City and its residents.

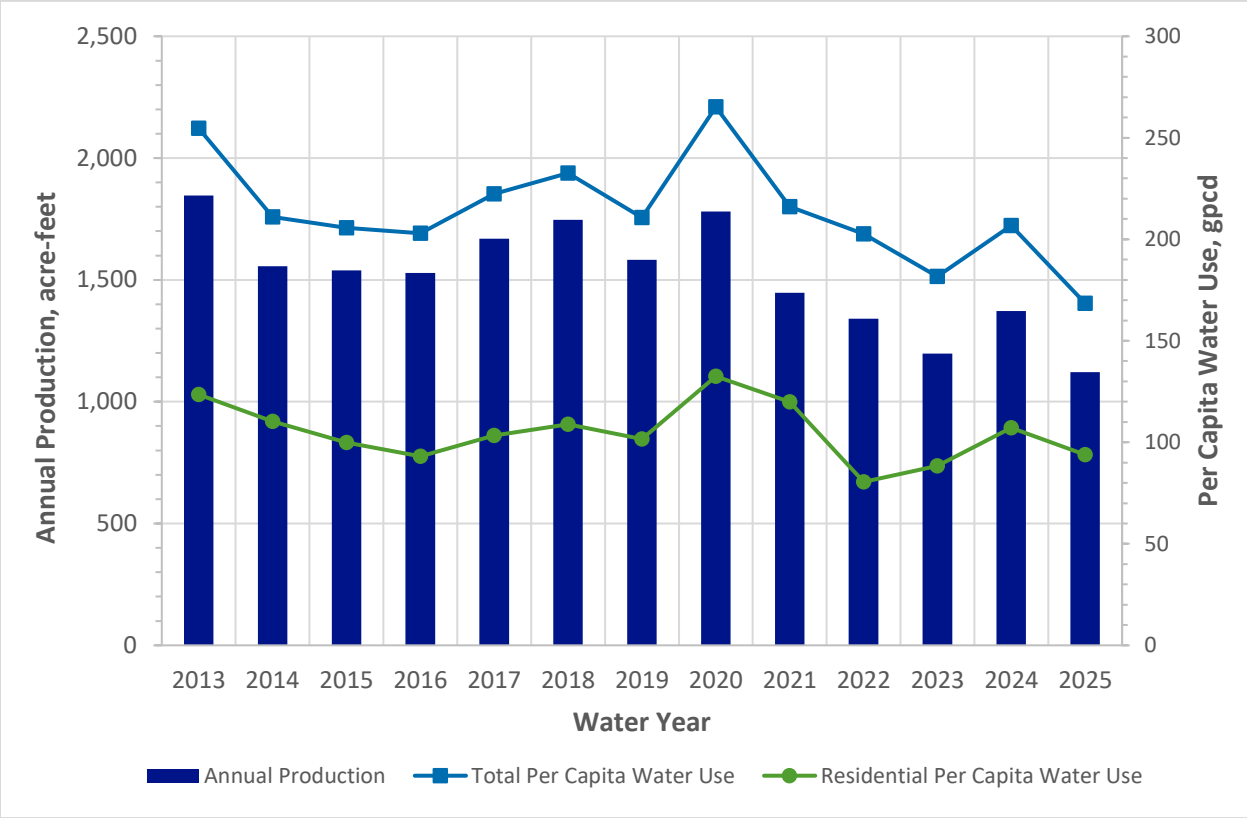



**Figure 2-4. Total and Residential Per Capita Water Use**

### 2.3.3 Water Use by Customer Type

The City's water use by customer type is summarized below. Understanding the City's major water users allows the City to more appropriately select and compare the effectiveness of proposed demand management measures, as discussed in Chapter 3.

Table 2-9 shows the distribution of customer types served by the City's water system and the percent of the City's total water demand for each customer type during WY 2025. The majority of the City's water demands are from single-family residential customers, with the remainder being multi-family residential, commercial/institutional, industrial, and landscape irrigation customers.

Residential water use makes up approximately 67 percent of the City's total water demand. Commercial, institutional, and industrial customers make up approximately 31 percent of the City's total water demand. Most of the City's industrial customers are wineries. Landscape irrigation meter accounts, excluding irrigation for residential customers, make up only 2 percent of the City's total potable water demand.

| Table 2-9. Water Use by Customer Type for Water Year 2025 | | |
|---|---|---|
| Customer Type | Annual Potable Water Demand[(a)], AF | Percent of Total Water Demand |
| Residential | | |
| Single-Family Residential | 495 | 53 |
| Multi-Family Residential | 130 | 14 |
| **Residential Subtotal** | **625** | **67%** |
| Non-Residential | | |
| Commercial & Institutional | 196 | 21 |
| Industrial | 80 | 8 |
| Landscape Irrigation[(b)] | 22 | 2 |
| Other | 17 | 2 |
| **Non-Residential Subtotal** | **315** | **33%** |
| **Total** | **940** | **100%** |

(a) Source: City of St. Helena. California State Water Resources Control Board Drought Report for Calendar Year 2024 and Calendar Year 2025. Provided by the City on June 3, 2026. Values are based on metered consumption.

(b) Landscape irrigation customer type includes dedicated landscape irrigation meters for Commercial, Institutional, and Industrial landscapes and excludes residential landscape irrigation.

## 2.3.4 Water Service Agreements

The City has established water service agreements with a variety of customers, including wineries, educational institutions, hotels, and other commercial and institutional users. These agreements govern service to properties located outside the city limits and/or formalize water allocations for large or non-standard users. The agreements specify a maximum annual limitation, and under these agreements, the City has also committed to serve each customer up to that maximum value. The City monitors water use to ensure compliance with these limits.

Table 2-10 summarizes potable water use under the City's 21 active potable water service agreements from 2021 through 2025. The City's five raw water agreements for landscape irrigation customers are not included in Table 2-10. Inactive water agreements are also excluded.

The total contracted annual allocation of the 21 potable service agreements is approximately 333 AF. During the most recent five-year period, total annual use ranged from 70 AF in 2021 to 92 AF in 2025. The recent five-year average use was approximately 78 AF, which represents about 23 percent of the total allocations.[12] Approximately 255 AFY remained unused when compared to the annual limits in the past five years.

[12] Some customers have exceeded their agreement's annual limitation, but the City is not under any obligation to provide water supply above the annual limitation, so that additional usage has not been accounted for in this five-year average.

## Table 2-10. Summary of Potable Water Service Agreements,[a] AF

| Agreement[a] | Annual Limitation | Annual Water Use | | | | | Annual Water Use (Five-Year Average) | Unused Allocation (Five-Year Average) | Percent Utilization[b] (Five-Year Average) |
|---|---|---|---|---|---|---|---|---|---|
| | | 2021 | 2022 | 2023 | 2024 | 2025 | | | |
| 1 | 62.9 | 0.0 | 19.9 | 21.0 | 19.0 | 14.8 | 14.9 | 48.0 | 24 |
| 2 | 58.3 | 0.5 | 0.2 | 0.8 | 2.3 | 0.3 | 0.8 | 57.5 | 1 |
| 3 | 38.7 | 0.0 | 0.1 | 0.8 | 0.2 | 0.5 | 0.3 | 38.4 | 1 |
| 4 | 36.8 | 7.1 | 6.2 | 7.0 | 4.9 | 4.1 | 5.8 | 31.0 | 16 |
| 5 | 24.6 | 11.8 | 12.4 | 15.2 | 4.2 | 10.1 | 10.7 | 13.8 | 44 |
| 6 | 21.2 | 10.3 | 14.9 | 3.1 | 4.6 | 26.7 | 11.9 | 9.3 | 56 |
| 7 | 19.0 | 0.4 | 0.1 | 0.4 | 0.4 | 0.3 | 0.4 | 18.6 | 2 |
| 8 | 17.8 | 9.5 | 8.3 | 11.2 | 10.0 | 10.5 | 9.9 | 7.9 | 56 |
| 9 | 8.3 | 3.9 | 0.9 | 2.1 | 2.0 | 2.5 | 2.3 | 6.0 | 28 |
| 10 | 6.6 | 4.7 | 4.5 | 3.1 | 3.1 | 5.4 | 4.1 | 2.5 | 63 |
| 11 | 6.6 | 0.8 | 0.5 | 0.0 | 0.2 | 0.1 | 0.3 | 6.3 | 4 |
| 12 | 6.6 | 0.5 | 0.5 | 0.0 | 0.4 | 0.1 | 0.3 | 6.3 | 4 |
| 13 | 5.3 | 4.1 | 7.4 | 5.1 | 6.8 | 2.8 | 5.2 | 0.1 | 98 |
| 14 | 4.8 | 2.9 | 1.7 | 2.2 | 0.9 | 1.2 | 1.8 | 3.0 | 37 |
| 15 | 4.3 | 1.9 | 0.1 | 0.1 | 0.1 | 0.1 | 0.4 | 3.9 | 10 |
| 16 | 4.2 | 6.4 | 8.3 | 8.6 | 8.6 | 7.7 | >4.2 | <0.0 | >100 |
| 17 | 3.7 | 2.1 | 2.0 | 2.5 | 3.8 | 2.8 | 2.6 | 1.0 | 72 |
| 18 | 1.7 | 2.4 | 1.4 | 0.8 | 1.3 | 0.9 | 1.4 | 0.3 | 83 |
| 19 | 0.8 | 0.5 | 0.5 | 0.3 | 0.5 | 0.7 | 0.5 | 0.3 | 60 |
| 20 | 0.7 | 0.0 | 0.1 | 0.1 | 0.0 | 0.1 | 0.1 | 0.6 | 8 |
| 21 | 0.6 | 0.0 | 0.0 | 0.1 | 0.0 | 0.5 | 0.1 | 0.4 | 21 |
| **Total** | **333** | **70** | **90** | **84** | **73** | **92** | **78[b]** | **255[b]** | **23%[b]** |

(a) Annual limitations and actual water use are based on the City's "Water Agreements Compliance - Confidential" spreadsheet provided by City on May 11, 2026. The name of the Water Service Agreement customer is excluded to protect customer confidentiality. Non-potable water service agreements are not included in this table.

(b) Totals shown exclude the volume used beyond each agreement's annual limitation. Percent utilization is the average annual water use over the past five years, divided by the annual limitation.

Total water use under these potable water agreements has declined substantially since 2020. For comparison, average use within the annual allocations was approximately 149 AFY between 2014 and 2019, compared to 78 AFY over the past five years. This reduction may be related to changes in operations due to the COVID-19 pandemic that affected many large water users such as hotels, schools, and wineries. Despite recent low utilization, demand could increase in the future, and would be allowed under the existing agreements. The City may consider coordinating with water users that have a high unused water allocation to better understand whether their water use is expected to rebound, to help the City better project overall future water demands.

### 2.3.5 Non-Revenue Water

NRW is the difference between the metered quantity of water produced or purchased by the City and the metered quantity of water sold to City customers. NRW includes unbilled authorized consumption (e.g., firefighting and system maintenance including flushing of hydrants), unauthorized consumption, apparent losses (e.g., billing and metering inaccuracies), and real losses (e.g., pipeline leaks and breaks).

As shown in Table 2-11, the City has had a significant amount of NRW in recent years, up to 24 percent of total water production in WY 2022. The City attributes the majority of NRW to its aging distribution system (i.e., leakage), aging customer water meters that under-register flow, and the need to frequently flush portions of the distribution system due to water quality issues (i.e., brown water).

The City recently completed a water meter replacement project in May 2026, which replaced approximately 85 percent of its existing customer water meters with advanced metering infrastructure (AMI). The City anticipates a reduction in NRW due to improved metering accuracy associated with the AMI meter upgrades. Additionally, the City plans to continue replacing aging water mains on an annual basis as part of its CIP, which is expected to reduce leakage. A discussion of the City's efforts to address discolored water events is provided in Chapter 3.

**Table 2-11. Non-Revenue Water, AF**

| Water Year | 2021 | 2022 | 2023 | 2024 | 2025 | Recent Five-Year Average |
|---|---|---|---|---|---|---|
| Annual Water Production[(a)] | 1,447 | 1,341 | 1,198 | 1,373 | 1,121 | 1,296 |
| Annual Water Consumption[(b)] | 1,171 | 1,019 | 954 | 1,112 | 940 | 1,039 |
| **Non-Revenue Water** | **276** | **322** | **244** | **261** | **181** | **257** |
| **Non-Revenue Water (as a percent of total production)** | **19%** | **24%** | **20%** | **19%** | **16%** | **20%** |

(a) Water production data is based on the City's monthly water reports downloaded from the City's website at https://www.cityofsthelena.gov/Archive.aspx?AMID=63. Non-potable water production (e.g., untreated groundwater and Lower Reservoir supply) is excluded.

(b) Metered water consumption is from the City's monthly water consumption data (water summary FY 2006-current.xls) and supplemented with the City's Annual Drought Reports to the State Water Board for Calendar Years 2023 through 2025. Metered raw water (i.e. non-potable water) use is excluded from the water consumption records.

## 2.4 FUTURE WATER DEMAND PROJECTIONS

Future water demand projections are discussed in this section to quantify future water supply needs. Table 2-12 shows the City's water demand projections through 2040 based on recent water demand trends and projected growth defined in the IUMP. Because these projections reflect recent demand trends, they differ from prior demand projections in the 2021 IUMP and General Plan Update 2040 (GP Update) Draft Environmental Impact Report (Draft EIR). Section 2.4.2 provides a comparison to these prior demand projections.

Based on the recent three-year average production from WY 2023 through 2025 as shown in Table 2-7, the City's existing water demand is approximately 1,230 AFY. Future water demand in 2040 is projected to be 1,421 AFY, based on the projected increase in water demand defined in the City's 2021 IUMP. The IUMP projected future water demand growth through 2040 based on planned development projects within the City as of 2021, and other growth within the City's service area consistent with the City's GP Update. Future water demand projections include non-revenue water.

Table 2-12 also shows the volume of water from the City's potable water service agreements that is currently not being utilized. As shown in Table 2-10, the City has 21 active potable water service agreements that total up to a maximum allocation of approximately 333 AFY. Based on total average usage from these agreements over the past five years, approximately 78 AFY has been used, resulting in an unused allocation of 255 AFY. The City's existing water demand plus these unused allocations are equal to 1,485 AFY. Future water demand in 2040 plus these unused allocations are equal to 1,676 AFY.

**Table 2-12. Existing and Projected Future Water Demand Through 2040**

| Demand Type | Projected Demand, AFY |
|---|---|
| Existing Demands | |
| Existing Water Demand[(a)] | 1,230 |
| Existing Water Agreements – Unused Allocations[(b)] | 255 |
| **Subtotal – Existing Demand (with Unused Allocations)** | **1,485** |
| Projected Growth and Future Demands | |
| Planned Developments[(c)] | 146 |
| Study Area Growth[(c)] | 45 |
| **Total Projected 2040 Demand (without Unused Allocations)** | **1,421** |
| **Total Projected 2040 Demand (with Unused Allocations)** | **1,676** |

(a) Existing water demand is based on the recent three-year average annual production from WY 2023 through WY 2025 and includes non-revenue water. Note that the recent three-year average is used to represent existing water demand because these years did not include water emergency conditions and the Rutherford Pump Station pump failure was not a factor as it had been in 2021 and 2022.
(b) Refer to Section 2.3.4 for discussion on unused allocations of the City's potable water agreements.
(c) Future demands from planned developments and study area growth are based on Table 4.5 of the City's 2021 IUMP. Study area growth is based on the City's General Plan Draft EIR.

For the purposes of long-range water supply planning, future water demands were extrapolated through year 2050 in this WMP. Based on the projected growth shown in Table 2-12, future water demands were linearly extrapolated through year 2050 for this WMP, yielding a future water demand of 1,548 AFY (without the unused allocations) and 1,803 AFY (with the unused allocations). These demand projections were subsequently used to quantify future water supply needs in the following section.

## 2.4.1 Comparison of Supplies to Existing and Future Demands

Figure 2-5 compares historical and projected water demands to the updated safe yield estimate of 1,666 AF. The existing and projected 2040 demands shown are consistent with the values presented in Table 2-12. The figure also illustrates projected future demand under two scenarios: (1) including unused allocations from the City's potable water service agreements, and (2) excluding those unused allocations (i.e. assuming water agreement holders continue to use a similar amount of water they have used in the past five years, which is 77 percent below their supply allowance).

As shown on Figure 2-5, the City currently has surplus supply based on recent three-year demand trends, even when unused allocations are included. Under the scenario that includes unused allocations, the projected 2040 demand is 1,676 AFY, exceeding the safe yield estimate of 1,666 AFY. This projected demand results in a projected deficit of 10 AFY by 2040, increasing to approximately 137 AFY by 2050.

In contrast, excluding the unused allocations results in a projected 2040 demand of 1,421 AFY, remaining below the safe yield estimate of 1,666 AFY. This projection scenario results in a projected surplus of 245 AFY by 2040, decreasing to approximately 118 AFY by 2050. To improve the accuracy of future demand projections, the City may consider coordinating with water users that have a high unused water allocation to better understand whether their water use is expected to increase over time.

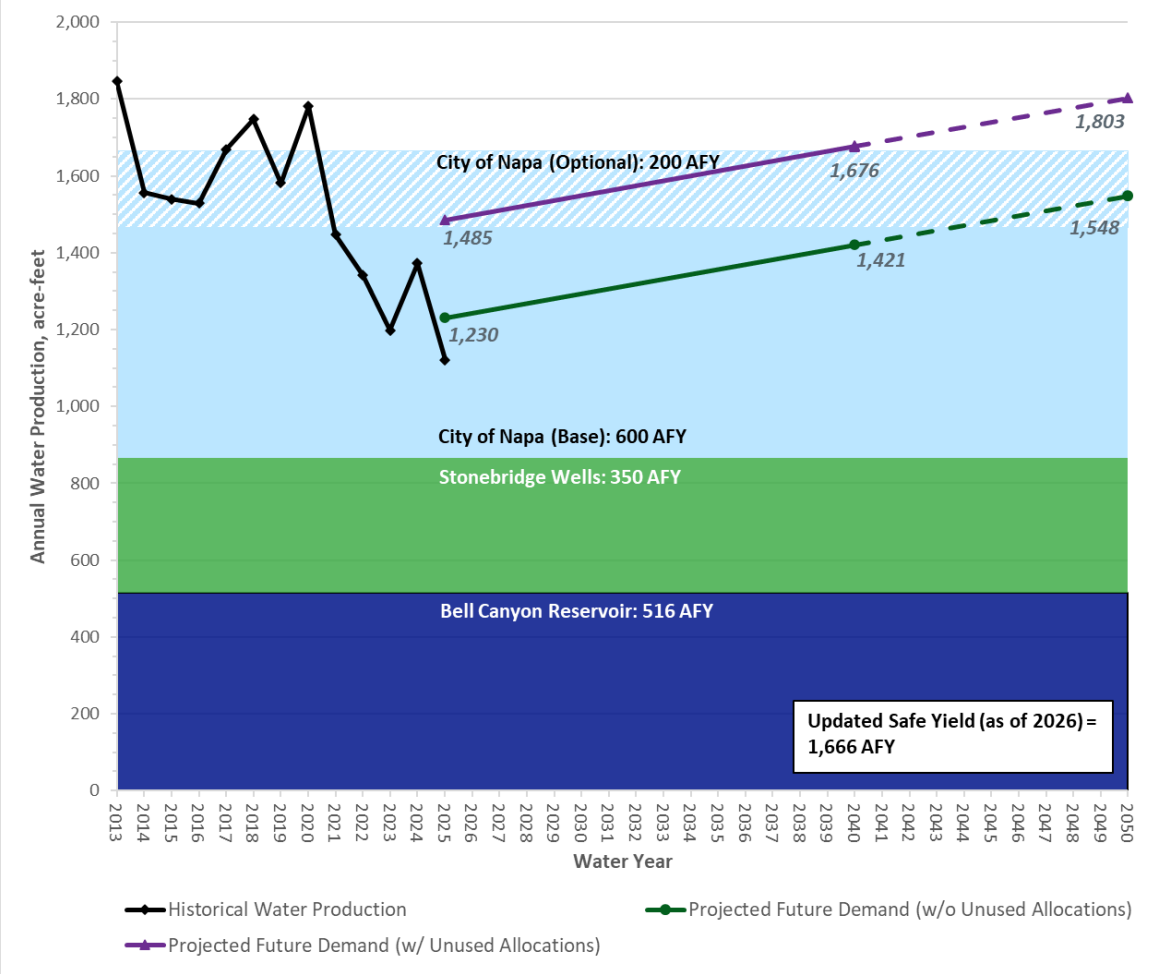



**Figure 2-5. Projected Future Water Demands versus Safe Yield**

## 2.4.2 Comparison to Prior Demand Projections

This section compares the demand projections developed for this WMP with those from the 2021 IUMP and the City's Water and Wastewater Cost of Service and Rate Design Study (2023 Rate Study). Because these prior projections were prepared for different purposes, they are not directly comparable without considering differences in the planning horizon and whether the values represent water production or metered consumption. This section also discusses the GP Update Draft EIR, which documents existing metered water use and evaluates future water demand qualitatively.

### *2.4.2.1 2021 Integrated Utility Master Plan*

Figure 2-6 compares the 2021 IUMP demand projections to the WMP demand projections shown on Figure 2-5. The IUMP used an existing or baseline demand of 1,624 AFY, based on average water production from 2013 through 2017. The projected increase above existing demand consisted of 146 AFY for planned developments and 45 AFY for study area growth, consistent with assumptions from the City's GP Update. This older baseline data and set of assumptions resulted in a projected total 2040 demand of 1,815 AFY.

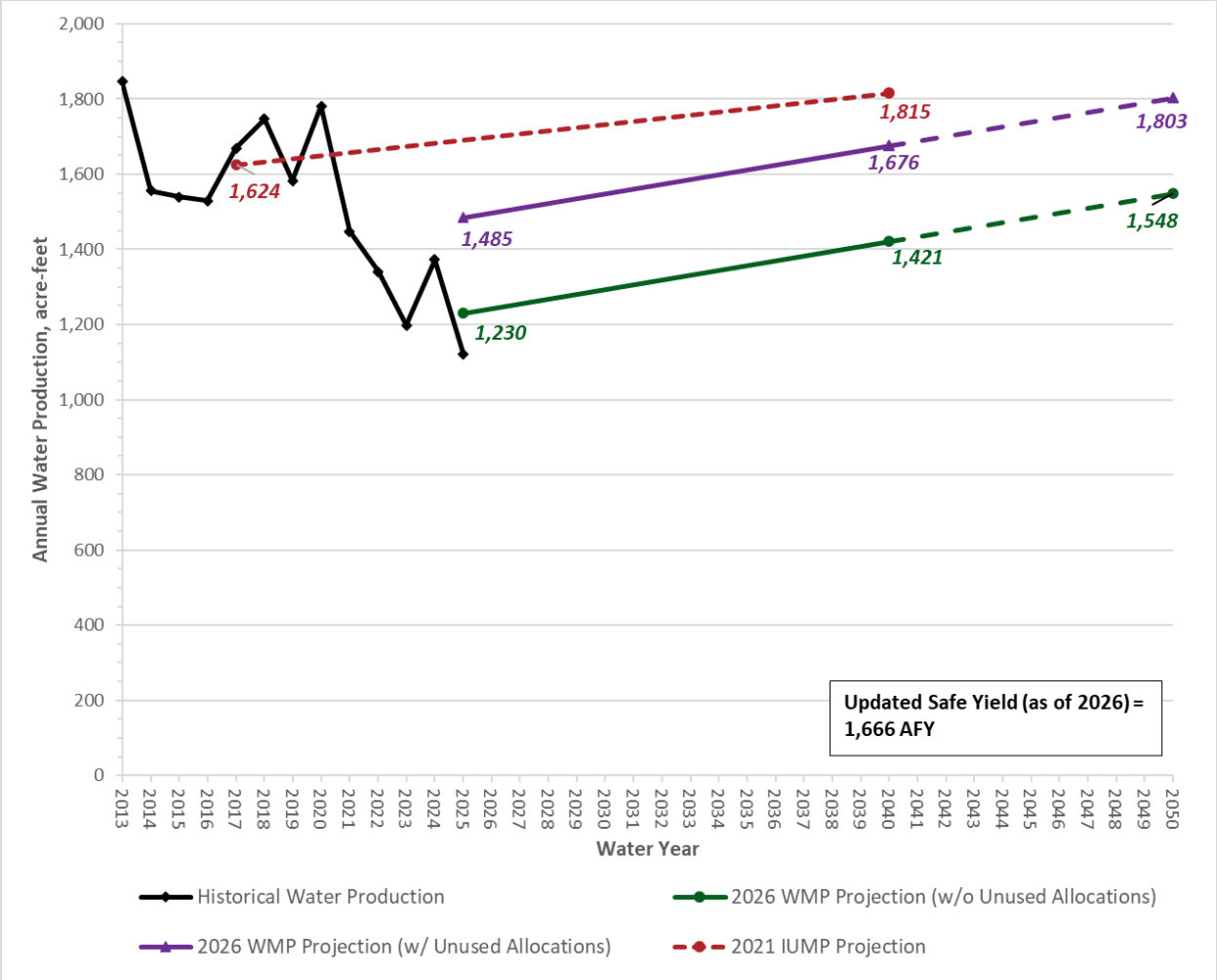



**Figure 2-6. Comparison to the 2021 IUMP Future Demand Projections**

The updated WMP projection uses a more recent existing baseline demand. Recent water production has remained below the IUMP baseline demand level following the City's 2020 to 2023 Phase I and Phase II Water Emergency conditions and ongoing conservation. Therefore, the WMP uses the recent three-year average production from WY 2023 through WY 2025, or 1,230 AFY, as the existing baseline demand.

Adding the IUMP projected growth for planned developments and study area growth to the baseline demand results in a projected 2040 demand of 1,421 AFY without unused water agreement allocations. When unused potable water agreement allocations are included, projected 2040 demand increases to 1,676 AFY.

Table 2-13 compares the 2021 IUMP demand projections to the WMP demand projections, consistent with Figure 2-6. This table also shows the potential existing and future supply shortfalls or surpluses through Year 2040 based on the updated safe yield estimate of 1,666 AFY.

**Table 2-13. Potential Water Supply Shortfalls or Surpluses, AFY**

| | 2021 Integrated Utility Master Plan Projections | 2026 WMP Projections (with Unused Water Agreement Allocations) | 2026 WMP Projections (without Unused Water Agreement Allocations) |
|---|---|---|---|
| Existing (Baseline) Water Demand | 1,624[(a)] | 1,485[(b)] | 1,230[(b)] |
| Updated Safe Yield Assessment[(c)] | 1,666 | 1,666 | 1,666 |
| **Existing Surplus (Shortfall)** | **42** | **181** | **436** |
| Projected Future (2040) Demand | 1,815[(a)][(d)] | 1,676[(e)] | 1,421[(e)] |
| Updated Safe Yield Assessment[(c)] | 1,666 | 1,666 | 1,666 |
| **Future Surplus (Shortfall)** | **(149)** | **(10)** | **245** |

(a) IUMP existing water demand based on average water production from 2013 through 2017.
(b) Refer to Table 2-12 for description of baseline existing water demand.
(c) Refer to 2026 Safe Yield Update.
(d) Future demands from planned developments and study area growth are based on Table 4.5 of the City's 2021 IUMP. Study area growth is based on the City's General Plan Draft EIR.
(e) Refer to Table 2-12 for description of projected future (2040) demand.

### *2.4.2.2 2023 Water and Wastewater Rate Study*

The 2023 Rate Study prepared demand projections from Fiscal Year (FY) 2023 through FY 2028 for rate-setting and financial planning. These projections are based on metered water use and exclude NRW and therefore cannot be directly compared to total production requirements used in this WMP. The projections also included metered raw water use, although this component is minimal.

The 2023 Rate Study projected metered consumption of 1,125 AFY in FY 2023, increasing gradually to 1,313 AFY by FY 2028. These projections are significantly lower than those used in the City's prior water rate study, which assumed a baseline demand of approximately 1,500 AFY.

The 2023 Rate Study relied on FY 2019 as the last "normal" demand year and blended historical demands, recently witnessed rebounds in demands, and conservative assumptions related to development growth

to arrive at this projected demand. The projections were developed using lower water use trends related to recent drought conditions and drought restrictions, COVID-19 impacts, and observed reductions in per capita water use seen through 2022.

Despite these conservative assumptions, actual metered water consumption through 2025 has been lower than the 2023 Rate Study projections. As previously shown in Table 2-11, the five-year average metered potable water use from WY 2021 through 2025 was 1,039 AFY, with a low of 940 AFY in WY 2025. These values remain below the 1,313 AFY projection in the 2023 Rate Study.

#### *2.4.2.3 General Plan Update Draft Environmental Impact Report*

The GP Update Draft EIR, prepared in October 2018, documented the estimated existing water demand in WY 2017 of approximately 1,733 AFY. The GP Update Draft EIR does not directly project future water demand through 2040. Instead, it refers to the City's Water Neutrality Policy, which requires new development to offset its incremental demand. Therefore, the WMP demand projections are not compared directly to the GP Update Draft EIR. The land use assumptions used in the GP and GP Update Draft EIR were generally used for the City's 2021 IUMP demand projections.

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## LIST OF TABLES



## LIST OF FIGURES

## LIST OF ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ASR | Aquifer storage and recovery |
| CalVet | State Department of Veterans Affairs |
| DPR | Direct potable reuse |
| DSP | Downtown Specific Plan |
| FEMA | Federal Emergency Management Agency |
| IPR | Indirect potable reuse |
| Jamieson Canyon WTP | Edward I. Barwick Jamieson Canyon Water Treatment Plant |
| M | Million |
| MBR | Membrane biological reactor |
| Napa County FCWCD | Napa County Flood Control and Water Conservation District |
| NBA | North Bay Aqueduct |
| Sonoma Water | Sonoma County Water Agency |
| SWP | State Water Project |
| TM | Technical Memorandum |
| USBR | United States Bureau of Reclamation |
| WWTP | Wastewater treatment plant |

# CHAPTER 4
# Future Supply Options

This chapter explores various future water supply options for the City. The scope of each supply option is defined at a conceptual level. The supply options described in this chapter are not recommendations but represent a range of supply options available for consideration. Chapter 7 provides further evaluation and comparison of selected supply options. The supply options discussed in this chapter are grouped into the following categories:

- Water Transfers or Purchases
- Groundwater
- Recycled Water
- Local Surface Water
- Stormwater
- Desalination
- Supply Integration and Seasonal Optimization

Groundwater and recycled water supply options are briefly summarized in this chapter and are described in more detail in Chapter 5 and Chapter 6, respectively. A summary of the future supply options considered in this chapter, and whether they warrant further evaluation in Chapter 7, is provided in Section 4.8.

## 4.1 WATER TRANSFERS OR PURCHASES

Water transfers or purchases may include long-term or short-term transfers or sales of water rights or water. The future supply options considered that relate to water transfers or purchases include:

- Increasing City of Napa water purchases to 800 AFY
- Increasing City of Napa water purchases beyond 800 AFY
- Other State Water Project water from the North Bay Aqueduct
- Rector Reservoir
- Intertie with City of Calistoga
- Solano Project Water
- Sonoma County Water Agency
- Adventist Health Hospital

### 4.1.1 Increasing City of Napa Water Purchases to 800 AFY

As described in Chapter 2, the City currently has an agreement to receive a base supply of 600 AFY of water from the City of Napa, with the option for the City to request an additional 200 AFY if the City of Napa determines that additional supply is available. The City is currently in discussion with the City of Napa to request an amendment to the agreement to increase the minimum annual delivery from 600 AF to 800 AF, as well as to extend the agreement beyond 2035.

However, existing hydraulic constraints have made it difficult to receive annual deliveries above 600 AF from the City of Napa. These constraints include limitations at the City's Rutherford Pump Station and low delivery pressures from the City of Napa. Currently, pressures in the Rutherford pipeline south of the

Rutherford Pump Station are reduced to between 20 and 25 psi when the City of Napa's Hennessey WTP and Dwyer Pump Station are not in service.[1]

The City of Napa, along with the Cities of St. Helena and Calistoga, are currently working to secure federal funding for the Dwyer Road Pump Station Project to improve delivery pressures (Project No. W-80 for City's Capital Improvement Program [CIP] FY 2024-25). The Dwyer Road Pump Station is a shared facility between the cities of Napa, St. Helena, and Calistoga for moving water north through the Napa Valley. The project will help deliver more consistent pressure to the Rutherford Pump Station and help the City's ability to receive its full purchased supply from the City of Napa.

The City of Napa has implemented temporary improvements to the Dwyer Road Pump Station that boosts system pressure in the short term. In order for the City to reliably receive Napa water in excess of 600 AFY, the City of Napa would have to make these improvements permanent. These improvements to the Dwyer Road Pump Station would be in addition to the improvements to Rutherford Pump Station discussed in this chapter.

The permanent improvements to the Dwyer Road Pump Station will be conducted by the City of Napa with a 10 percent cost share from the City of St. Helena (estimated to be $900,000).[2] The City of Napa has received notification of a grant award through the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program, which, if awarded, would lower the City of St. Helena's contribution. The City of Napa is currently working on securing the funding agreement with FEMA.

The City also plans to make improvements at the Rutherford Pump Station to be able to reliably receive up to 800 AFY from City of Napa (CIP Project No. W24-02). The replacement project includes design and construction of a permanent pump station to replace the current structure that was intended to be temporary when originally built. Design of the Rutherford Pump Station improvements is currently underway. Total project cost is estimated to be $13.1 million (M) with implementation planned for FY 2028-29.[1]

As the timing for completion of the Dwyer Road Pump Station Project is uncertain, the City may consider sizing the future Rutherford Pump Station based on the existing low suction pressures in the Napa Intertie Transmission Main.

[1] Water system pressure measurements were taken by City staff in November 2021.

[2] City of St. Helena. September 2024. *Five-Year Capital Improvement Program FY 2024-25 to FY 2028-29.*

### 4.1.2 Increasing City of Napa Water Purchases Beyond 800 AFY

One future supply option is possibly purchasing more water beyond 800 AFY from the City of Napa. This supply option would require detailed study and negotiation, environmental approval, and significant infrastructure upgrades compared to the City of Napa water purchase up to 800 AFY. If the City were to pursue purchasing additional water beyond 800 AFY from the City of Napa in the future, the City would need to evaluate the hydraulic capacity of the:

- Rutherford Pump Station, and
- Napa Intertie Transmission Main, including from the City of Napa to the Rutherford Pump Station (suction side), and from the Rutherford Pump Station (discharge side) to the City's distribution system.

As mentioned in Section 4.1.1, the City plans to replace the Rutherford Pump Station around FY 2028-29. Additionally, the City plans to replace a portion of the Napa Intertie Transmission Main as part of its Napa Intertie Pipeline (CIP Project No. W25-01) with implementation planned for FY 2028-29. This intertie project will replace the 12-inch diameter pipeline from the Rutherford Pump Station to the connection to the City's distribution system at the intersection of State Route (SR) 29 and Dowdell Lane (19,700 lineal feet) based on recommendations in the City's 2021 Integrated Utility Master Plan (IUMP). Total project cost for the intertie pipeline replacement is estimated to be $6.5M.[1] If the City were to consider purchasing beyond 800 AFY from City of Napa, it would be recommended to incorporate the anticipated increased supply into the design of the future Rutherford Pump Station and Napa Intertie Pipeline.

Due to the significant effort required to evaluate feasibility and negotiate Napa's participation in this water supply option, along with the anticipated environmental permitting hurdles and significant infrastructure upgrades, the City does not consider this option viable at this time.

### 4.1.3 Other State Water Project Water from the North Bay Aqueduct

Water transfers or purchases related to using other State Water Project (SWP) water supplies are another set of water supply options to consider. To use SWP water as a future water supply option, the City would need water rights for the SWP via a purchase or transfer agreement and a method for conveying and treating SWP water from the North Bay Aqueduct (NBA) to the City.

The Napa County Flood Control and Water Conservation District (Napa County FCWCD) acts as the SWP contract administrator on behalf of SWP users in Napa County. As discussed in Chapter 2, the City previously held rights to 1,000 AFY of SWP water via a transfer agreement between Napa County FCWCD and Kern County Water Agency completed in 2000. This water right was sold to the City of Napa in 2006 as part of the 2006 Agreement.

The SWP diverts water from the Sacramento-San Joaquin Delta at the Barker Slough Pumping Plant east of the City of Vacaville and conveys the water approximately 21 miles via the NBA to Cordelia Forebay to serve contractors in Napa and Solano counties. From the Cordelia Forebay, SWP water for Napa, Calistoga, and American Canyon is pumped an additional 6 miles to the NBA terminal reservoirs, which are located at the City of Napa's Edward I. Barwick Jamieson Canyon Water Treatment Plant (Jamieson Canyon WTP). SWP water for the cities of Napa and Calistoga is treated at the Jamieson Canyon WTP, while the SWP water for the City of American Canyon is treated at the adjacent American Canyon WTP.

The following cities in Napa County and Solano County either currently use (or can use in the future) SWP water from the NBA:

- **Napa County:** American Canyon, Napa, and Calistoga
- **Solano County:** Benicia, Dixon, Fairfield, Suisun City, Vacaville, Vallejo, and Rio Vista

The City of Napa treats the City of Calistoga's SWP water at the Jamieson Canyon WTP and delivers it to Calistoga. The City of Napa also has emergency interties to provide treated SWP water to the Town of Yountville and the California Veterans Home. Figure 4-1 provides a regional overview of the local water supply sources and the major WTPs within the Napa Valley.

If the City were able to acquire SWP water rights via a purchase or long-term transfer agreement, the most cost-effective method of receiving the water would be to use existing infrastructure. This could include a wheeling agreement with the City of Napa and/or City of Calistoga to treat and deliver the water via the existing Napa-St. Helena intertie or via a future intertie along an existing transmission pipeline. It would not be economically viable to construct a new surface WTP to treat NBA water for the City's relatively small water demands, meaning the City would need to receive treated water from an existing WTP like the City of Napa's Jamieson Canyon WTP. Constructing a new pipeline to deliver SWP water from the NBA or from any other NBA contractors besides Napa and Calistoga would also not be economically viable due to the significant distance from the City of St. Helena.

### 4.1.4 Rector Reservoir

Rector Reservoir is the primary water source for the California Veterans Home in Yountville as well as the Town of Yountville. The State Department of Veterans Affairs (CalVet) owns and operates Rector Reservoir and the associated surface water treatment plant. Rector Reservoir is located approximately three miles north-east of the Town of Yountville as shown on Figure 4-1. The reservoir was constructed in 1946 by an impoundment of Rector Creek, a tributary to the Napa River.[3] Rector Reservoir has a maximum storage volume of 4,535 AF and is currently underutilized, meaning that there is excess water supply in Rector Reservoir compared to the Veterans Home and Town of Yountville's combined water demand.

CalVet is interested in transferring ownership and operations of Rector Reservoir and the associated water treatment plant to another entity. However, transferring ownership of these facilities would require formal legislative action, which is not expected to occur in the near future. The City will continue to follow discussions with CalVet and regional partners, including the City of Napa, about potential changes in ownership. Because such a transfer is unlikely, this WMP does not include further consideration of Rector Reservoir as a future water source.

[3] CalVet. Rector Reservoir. Accessed at https://www.calvet.ca.gov/VetHomes/Pages/Rector-Reservoir.aspx on May 22, 2025.

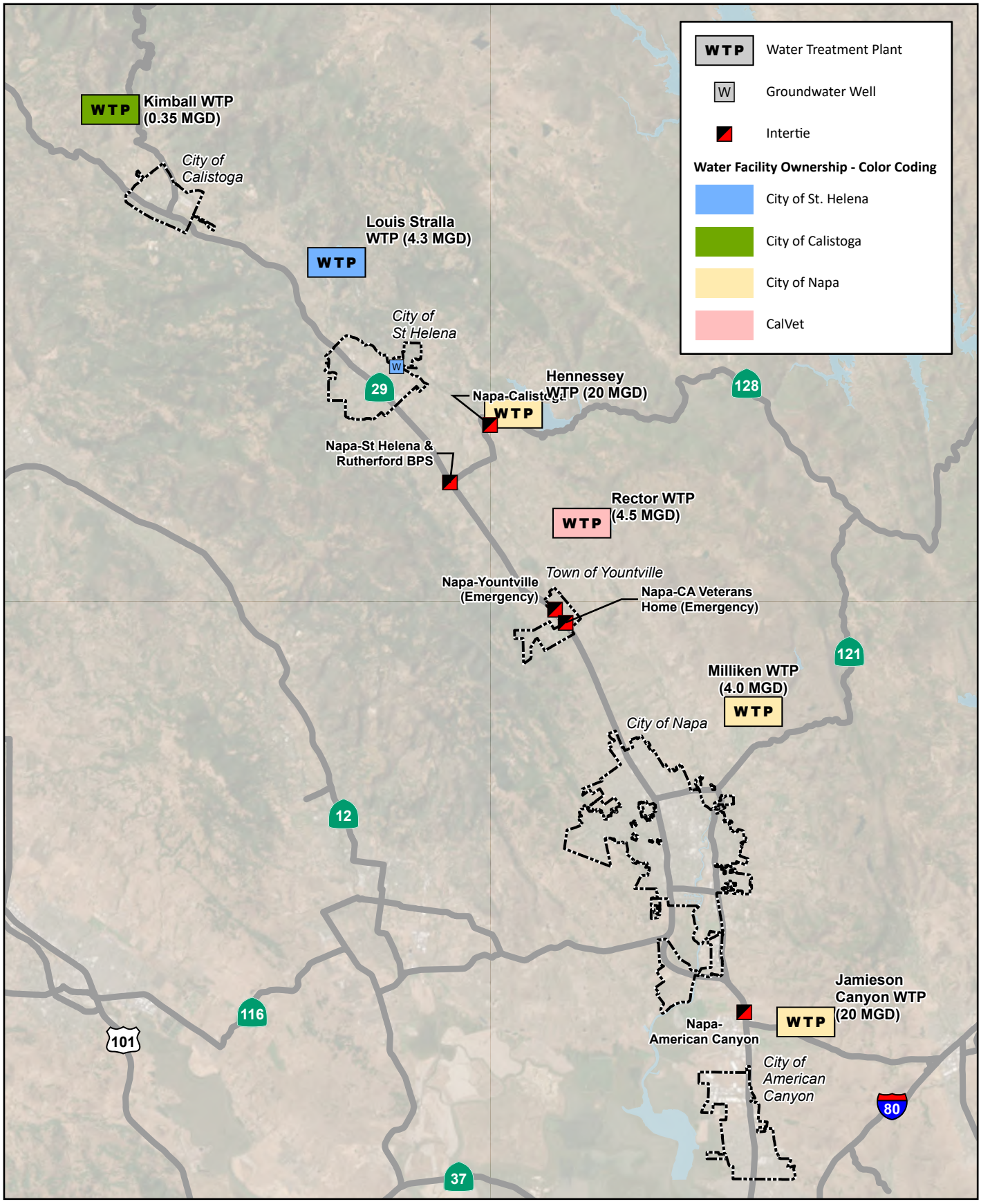


Figure 4-1 Overview of Region's Water Suppliers and Major Facilities: N:\Clients\705 St Helena\60-24-16 Water Mgt Plan\GIS\StHelenaWaterManagementPlan.aprx - nthompson - 5/22/2025

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N

0 4 Miles

Prepared for:

**City of St. Helena**
*Water Management Plan*

**Regional Overview of Water Suppliers and Local Supply Sources**

**Figure 4-1**

### 4.1.5 Intertie with City of Calistoga

Another water supply option to consider is construction of a future intertie between the City's Bell Canyon Reservoir treated water pipeline and the City of Calistoga's North Valley pipeline. Under this concept, the City's Bell Canyon Reservoir treated water pipeline would be interconnected with Calistoga's North Valley pipeline which sends water from Napa to Calistoga. These two existing pipelines overlap near the northern boundary of St. Helena at the intersection of Deer Park Road and Silverado Trail. An intertie may allow for the City of St. Helena to deliver treated Bell Canyon Reservoir water to the City of Calistoga, as well as for Calistoga to deliver treated SWP water to St. Helena.

The City of Calistoga's two water supply sources are SWP water and Kimball Reservoir, which stores water collected from Kimball Creek. Since the City of Calistoga does not have a direct connection to the NBA, it entered into an agreement in 1982 with the Napa County FCWCD and the City of Napa to treat the SWP water at the City of Napa's Jamieson Canyon WTP and deliver it through an interconnected pipeline to Calistoga. The City of Calistoga's maximum SWP entitlement is 1,925 AFY and includes:

- Original agreement with DWR for 500 AF through the year 2035
- Water transfer/purchase with the City of American Canyon for 500 AF
- Water transfer/purchase with Kern County Water Agency for 925 AF[4]

Per the City of Calistoga's General Plan Infrastructure Element 2020 Update, Calistoga's SWP allocation varies annually and has averaged 52 percent of its maximum entitlement over the past ten years, equivalent to a firm SWP supply of 1,001 AFY. Kimball Reservoir has an annual yield of 287 AF.[3] Combined, the City of Calistoga estimated its total firm water supply to be approximately 1,288 AFY. Calistoga estimated it had an available remaining supply (i.e., water supply surplus) of approximately 504 AF in 2019, based on annual water demand and approved development. Surplus water supply was also projected for 2035 based on anticipated development and ranged between 296 and 335 AFY.[3]

The Napa-Calistoga pipeline interconnection ranges from 12 inches in diameter (before Calistoga's Dunaweal Pump Station) to 10 inches in diameter (after the Dunaweal Pump Station) and is sized such that flow is limited to approximately 0.9 mgd.[3] The City of Calistoga struggles to use its full SWP allocation due to the hydraulic constraints and low pressures from the North Valley pipeline and pumping facilities, especially when the City of Napa's Hennessey WTP is offline. The City of Calistoga expects some improvements in SWP delivery capabilities upon completion of the Dwyer Road Pump Station Project.

An intertie between the City of St. Helena and the City of Calistoga could benefit both cities by providing more diversified water supplies and providing an alternate water supply in case of emergencies (e.g., transmission main breaks, WTP maintenance, or significant reductions in SWP deliveries).

The City of Calistoga could benefit from the proposed intertie by purchasing water stored in Bell Canyon Reservoir from the City of St. Helena during dry years when Calistoga's SWP allocations are significantly reduced, if St. Helena deems it has adequate supply available. However, during dry years, the City of St. Helena is unlikely to have surplus Bell Canyon Reservoir supplies available. The City of Calistoga could

[4] City of Calistoga. May 2020. *City of Calistoga General Plan Infrastructure Element 2020 Update*. *Chapter 7 Infrastructure Element.*

also benefit by receiving treated Bell Canyon Reservoir supplies at higher pressures compared to the City of Napa's existing delivery pressure when Napa's Hennessey WTP is offline.[5]

The City of St. Helena may be able to benefit from the proposed intertie by purchasing excess SWP water from Calistoga during normal or wet years when Calistoga has excess supplies. The City could then reduce groundwater pumping during normal or wet years. This may allow the City to use more groundwater during drier years, while still meeting the GSP's management actions of reducing long-term pumping rates.

As delivery pressures in the Napa-Calistoga pipeline near St. Helena currently vary substantially depending on Napa's WTP operations, additional pump station facilities would likely be needed for the proposed intertie, particularly to supply water from Calistoga's North Valley pipeline into the City's system. Planned improvements at the Rutherford Pump Station and Dwyer Road Pump Station would be recommended to be incorporated into future hydraulic evaluations to better understand anticipated hydraulic performance in both cities' transmission pipelines before further evaluation of this water supply option. Further investigation would also be needed on the potential legal ramifications of purchasing or trading SWP water from the City of Calistoga.

Due to the initial improvements needed at the Rutherford Pump Station and Dwyer Road Pump Station, the City does not consider the extensive evaluation and infrastructure needs for the proposed intertie with the City of Calistoga to be a near-term supply option, but may consider the option in the future.

### 4.1.6 Solano Project Water

Water transfers or purchases related to Solano Project water were considered. The Solano Project is a federal water project in the Sacramento River Valley built by the United States Bureau of Reclamation (USBR) during the 1950s and early 1960s. The Solano Project, which includes Lake Berryessa, Lake Solano, Putah South Canal, and Terminal Reservoir, was created primarily for agricultural irrigation in Solano County. The secondary purposes were for municipal and industrial uses in Solano County.

The Napa County FCWCD has a contract with the USBR for up to 1,500 AF of water annually from Lake Berryessa.[6] Lake Berryessa is located approximately 14 miles east of the City. However, the Napa County FCWCD contractually can only use this water for communities in the Putah Creek watershed upstream of Monticello Dam, such as the small rural communities of Berryessa Highlands and Spanish Flat. Therefore, Solano Project water cannot be transported to the Napa Valley or the City of St. Helena. No further evaluation of this supply option is warranted.

### 4.1.7 Sonoma County Water Agency

Water transfers or purchases from Sonoma County Water Agency (commonly referred to as Sonoma Water) were considered. Sonoma Water is a water wholesaler that supplies treated Russian River water supplies to ten cities and water districts in Sonoma and Marin counties. Sonoma Water's service area is mostly concentrated within cities along Highway 101 and SR 12 as shown on Figure 4-2.

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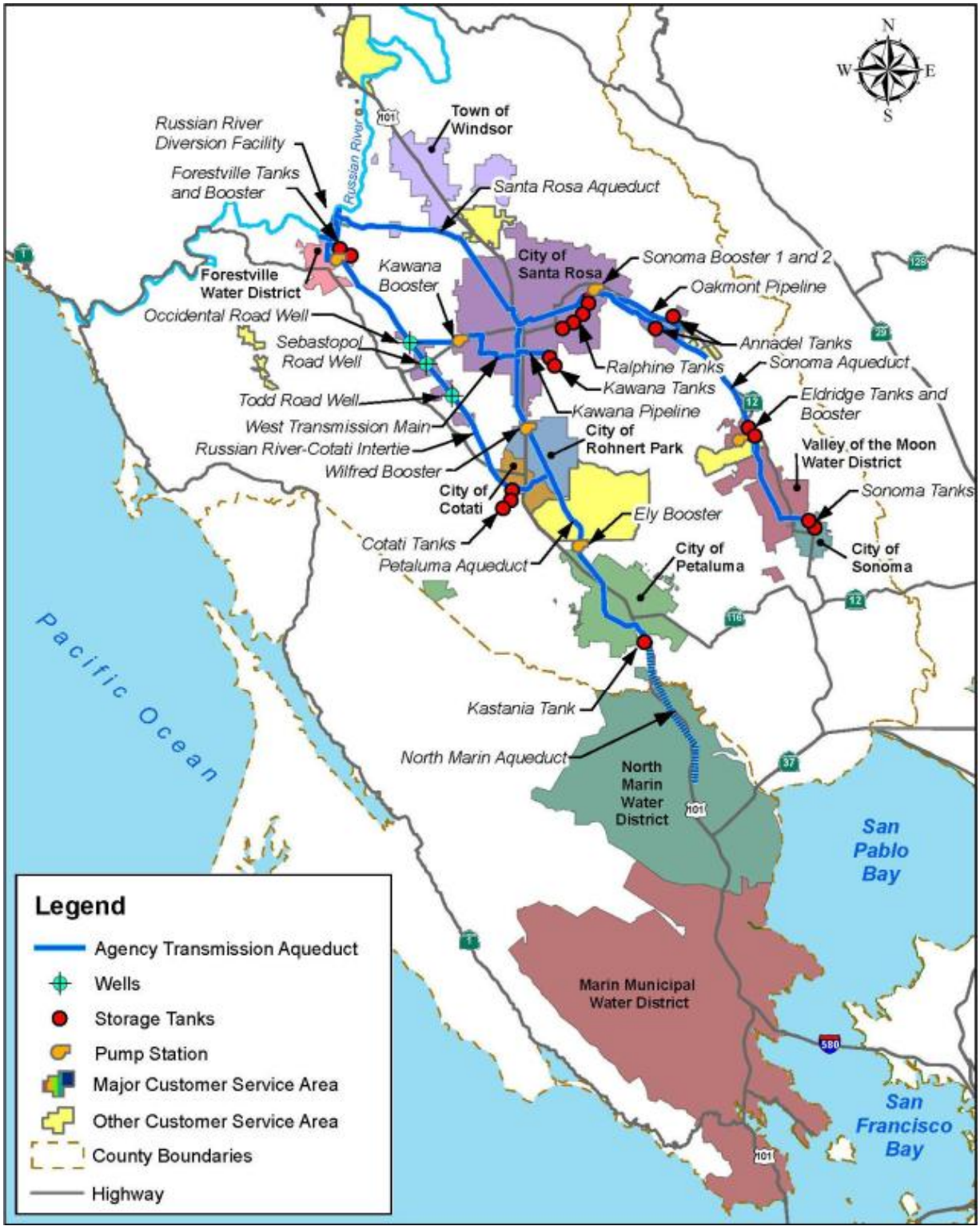
[5] Per the City of Calistoga's *General Plan Infrastructure Element 2020 Update*, typical pressures at Calistoga's Pope Street BPS are approximately 75 psi when Napa's Hennessey WTP is online and approximately 20 psi when it is offline and the system is supplied only by Napa's Jamieson Canyon WTP.

[6] The long-term water service contract between USBR and Napa County FCWCD for Solano Project water supply was renewed in March 2024.




Source: Brown and Caldwell. June 2021. *2020 Urban Water Management Plan.* Prepared for Sonoma Water.

**Figure 4-2. Sonoma Water Service Area**

The City of St. Helena is over 22 miles east of Sonoma Water's Russian River Diversion Facility and approximately 11 miles northeast of Sonoma Water's Ralphine Tanks in the City of Santa Rosa which fill from the Santa Rosa Aqueduct. Additionally, Sonoma Water's existing transmission system is physically separated from the City of St. Helena by the Mayacamas Mountains, which are part of California's Coast Range and reach elevations up to 2,730 feet. Due to the distance and mountainous terrain between Sonoma Water's existing transmission system and the City, a physical connection between the City and Sonoma Water is not economically viable and therefore does not warrant further evaluation.

### 4.1.8 Adventist Health Hospital

The City considered the potential for a water supply purchase, transfer, or consolidation with the Adventist Health St. Helena Hospital (Adventist Health Hospital), which is located in the Deer Park community north of St. Helena near Deer Park Road and Sanitarium Road. The hospital is outside of the City limits and operates its own water system, which is supplied by groundwater wells in upland areas above the Napa Valley floor. Because these wells are located outside the Napa Valley Subbasin, they are not subject to pumping regulations under the Napa Valley Subbasin GSP, which governs groundwater use only within the Subbasin boundary.

This supply source could provide supplemental supply for the City if there is mutual interest from the Adventist Health Hospital. Groundwater supply from the hospital's well site could potentially be connected to the City's existing 24-inch transmission pipeline along Sanitarium Road. This pipeline conveys treated surface water from Bell Canyon Reservoir, and a potential connection would allow for integration of the hospital's system into the City's water distribution system. A consolidation arrangement could also benefit the hospital by reducing its responsibility for operation and maintenance of its well facilities and water system.

City staff made multiple attempts to contact hospital representatives to assess water availability and potential interest in coordination but were unsuccessful in establishing communication or obtaining relevant information. Due to the lack of engagement and unknown supply availability, this option is not carried forward for further evaluation in this WMP.

## 4.2 GROUNDWATER

Future groundwater supply options are briefly summarized in this section and described in more detail in Chapter 5. As discussed in Chapter 2, long-term pumping above 350 AFY would violate the reduced pumping provision (Management Action #2) in the Napa Valley Subbasin GSP. To potentially increase groundwater use beyond 350 AFY on a long-term basis, the City may consider either:

1. Development of a new well outside of the Napa Valley Subbasin, or
2. Collaboration with the Napa County GSA on a transfer agreement with local groundwater users to receive a "credit" for additional groundwater supply via,
    a. providing recycled water to agricultural users to use for irrigation in lieu of using groundwater, or
    b. providing financial assistance for the Napa County GSA to implement private well improvements or voluntary water efficiency improvements for rural residential water users within the Subbasin (e.g., leak reduction, water fixture replacement).

The City is also investigating the benefits of developing a new well within the Napa Valley Subbasin but located farther from the Napa River, which may have less hydraulic interconnection with surface water. Potential well locations considered will be farther than 1,500 feet from the Napa River and significant tributary streams. Developing a new groundwater well would allow the City to pump less groundwater from the Stonebridge Wells, which could help meet one of the GSP's principal objectives of reducing the potential for stream depletion caused by groundwater pumping. However, as the new well would still be located within the Subbasin, the City's total groundwater pumping would still be constrained by the GSP's reduced pumping requirements.

Further discussion of future well site evaluations and collaboration with the Napa County GSA is provided in Chapter 5. Further discussion of groundwater transfer agreements related to recycled water is provided in Chapter 6.

## 4.3 RECYCLED WATER

Future recycled water supply options are briefly summarized in this section and described in more detail in Chapter 6. The use of recycled water for non-potable purposes within the City or the Napa Valley Subbasin can result in a reduced demand for potable water.

The City is in the process of completing upgrades to its wastewater treatment plant (WWTP), as the WWTP prior to the upgrades was unable to reliably meet the stringent water quality effluent discharge limitations. Various improvements were made including construction of a packaged membrane biological reactor (MBR) facility. The upgraded WWTP now produces disinfected tertiary treated recycled water that meets standards for safe discharge for non-potable reuse applications, such as irrigation. Chapter 6 details approved uses of disinfected tertiary recycled water as well as other recycled water options that would require additional treatment.

The City plans to use the tertiary treated recycled water for landscape irrigation at Crane Park, while distributing recycled water to other nearby customers for non-potable use. The City has three recycled water projects planned in its Five-Year CIP for FY 2024-25 to FY 2028-29:

- **Project No. S21-01, WWTP Recycled Pipeline and Pump Station**: Provide pump station to distribute recycled water to the WWTP spray fields and provide recycled water to City customers via recycled water pipeline.
- **Project No. S23-01, Crane Park Irrigation Infrastructure**: Install necessary pipelines to deliver recycled water to Crane Park's irrigation infrastructure.
- **Project No. S24-04, Recycled Water System Master Plan Update**: Develop detailed recycled water system master plan including capital improvement program to implement based upon stakeholder engagement. [7]

Chapter 6 provides further evaluation of future recycled water uses, which include both non-potable reuse and indirect potable reuse (IPR). IPR is a form of recycled water use where advanced treated wastewater is introduced into an environmental buffer, such as a groundwater basin or a surface water reservoir,

[7] The City's Five-Year CIP is a planning and forecasting tool that identifies anticipated capital improvements and their funding sources and does not represent a financial commitment by City Council.

withdrawn after a designated length of time, and then treated again to meet drinking water quality standards. Potential recycled water supply uses include:

1. **Non-Potable Reuse**
   a. Landscape irrigation and approved commercial/industrial use of recycled water that may offset some potable water demand.
   b. Agricultural irrigation with recycled water via an agreement with landowners that, in exchange for recycled water, agree to cease an equivalent amount of groundwater extraction, thereby allowing the City to pump an equivalent or fractional amount of groundwater for municipal use. This arrangement would require significant negotiation with both landowners and the Napa County GSA (as mentioned in Section 4.2).
   c. Discharge into Lower Reservoir for non-potable use.
2. **Indirect Potable Reuse**
   a. Groundwater recharge via surface spreading in recharge basins to increase groundwater supply availability.
   b. Groundwater recharge via direct injection using aquifer storage and recovery (ASR) wells to increase groundwater supply availability.
   c. Surface water augmentation of Bell Canyon Reservoir.
3. **Direct Potable Reuse**[8]

Direct potable reuse (DPR) is not expected to be a cost-effective supply option and is not evaluated in this WMP.

## 4.4 LOCAL SURFACE WATER

The City's current local surface water supplies include Bell Canyon Reservoir for potable use and Lower Reservoir for non-potable use. Future supply options related to local surface water are discussed below and include:

- Adjusting Bell Canyon Reservoir Operations
- Expanding Bell Canyon Reservoir
- Treatment of Lower Reservoir to Potable Water Standards

### 4.4.1 Adjusting Bell Canyon Reservoir Operations

The City may consider adjusting Bell Canyon Reservoir operations to reduce the amount of water spilled from the reservoir. This supply option would likely not require additional infrastructure but would require fine-tuning the timing of water withdrawn from Bell Canyon Reservoir to maximize available water supply while still meeting water right requirements, Bell Creek bypass flow requirements, and drinking water quality standards.

The City is permitted to store surface water runoff from Bell Creek in Bell Canyon Reservoir between November 15th and April 15th of the following year. During wet years, the reservoir may fill to capacity and

[8] Direct potable reuse is a form of recycled water use where treated wastewater is purified to drinking water standards and then immediately reintroduced into the drinking water distribution system.

spill over the spillway, returning water to Bell Creek where it can no longer be treated and used by the City. By increasing withdrawals of water from Bell Canyon Reservoir for treatment and distribution between November 15th and April 15th of wet years, the City may be able to minimize the amount of water spilled and increase the amount of useable water captured in the reservoir. This operational change would only be effective during wet years, as the reservoir typically will not fill to capacity during dry years.

Figure 4-3 shows the City's water production by supply source for WY 2025. Figure 4-4 shows Bell Canyon Reservoir's water levels for the past two years, including WY 2025, as well as projected water levels in future years.[9] Throughout WY 2025, Bell Canyon Reservoir supplied 26 percent of the City's total water supply.

Between the period from November 2024 through April 2025, Bell Canyon Reservoir supplied 23 percent of the City's water supply, representing a substantial portion of the City's total water production. In contrast, during the same period one year earlier (November 2023 through April 2024), Bell Canyon Reservoir supplied only 8 percent of the City's water supply, despite the reservoir being full between January through April 2024 and likely spilling over the spillway. The City's increased use of Bell Canyon Reservoir during the wet season in WY 2025 demonstrates the potential of this approach. Increasing Bell Canyon Reservoir usage during this wet period when the reservoir is actively spilling could allow the City to maximize available surface water supply and reduce groundwater usage during this time.

This operational change would support the City's existing policy in which groundwater use is reduced in non-drought years, limiting well production to no more than 20 percent of the total City water demand, except in water shortage emergencies.

Prior to implementing this operational change, the City would need to evaluate if Bell Canyon Reservoir's raw water quality during high flow periods is adequate for withdrawal at a higher rate. For example, raw water may have higher turbidity and increases in other water quality constituents during high flows in Bell Creek and into Bell Canyon Reservoir. Based on the raw water quality, operational adjustments may be needed at the LSWTP (e.g., increased chemical doses for pre-oxidation, coagulation, and disinfection). The City may need to consider operational adjustments of the LSWTP's intake facility to pull water from optimal depths during high-flow periods. This approach also requires careful risk management, as the City would aim to maximize available supply from Bell Canyon Reservoir while maintaining adequate water storage for the dry season.

Additionally, any increase in withdrawals from Bell Creek into Bell Canyon Reservoir must remain consistent with the required reservoir bypass flows established under the City's water right permit. Increased withdrawal rates would need to be evaluated against required bypass flows to ensure permit compliance. The City's bypass flow requirements for Bell Creek are previously shown in Table 2-1.

[9] Figure 4-4 includes water storage levels related to entering a Phase 1 and Phase 2 water shortage emergency phase. Refer to the City of St. Helena MC Section 13.04.230 and Section 13.04.240 for the criteria for establishing a Phase I and Phase II water shortage emergency.

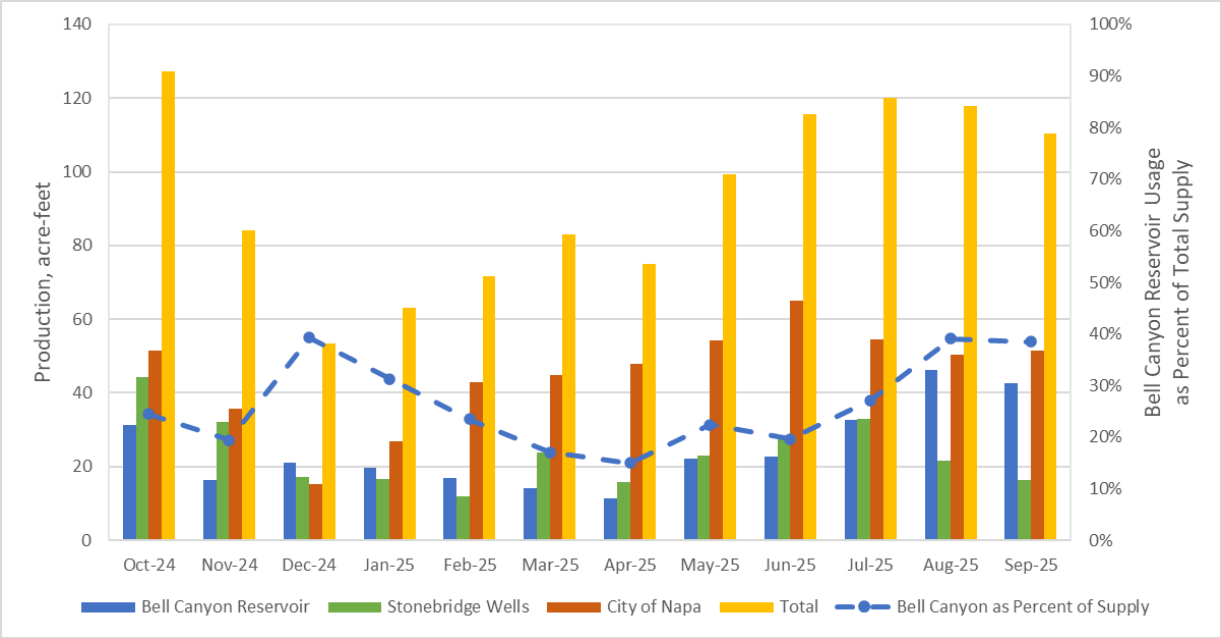
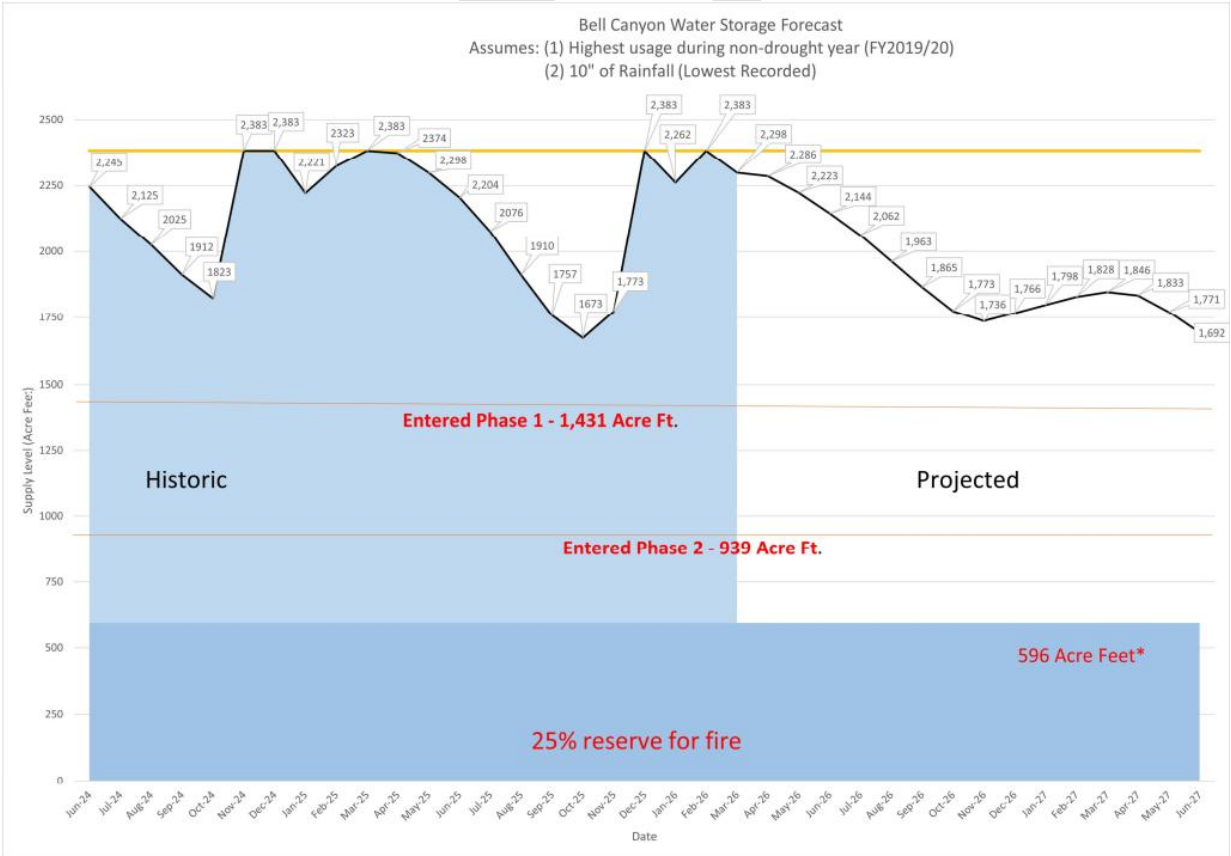



**Figure 4-3. Monthly Water Production by Supply Source in Water Year 2025**




Source: City of St. Helena. *2026 Cumulative Water Report.* Accessed at https://www.cityofsthelena.gov/Archive.aspx?AMID=62.

**Figure 4-4. Historic and Projected Bell Canyon Reservoir Levels (June 2024 – June 2027)**

### 4.4.2 Expanding Bell Canyon Reservoir

The City may consider expanding Bell Canyon Reservoir to the maximum storage volume allowed in its water right permit. This expansion would increase the amount of water that can be stored in some wet years and subsequently provide more carryover storage into following dry years. The City's LSWTP has adequate treatment capacity for increased flows and is currently operating well below its maximum rated capacity.

As discussed in Chapter 2, the City's Water Right Application 20625 indicates that Bell Canyon Reservoir storage capacity would be expanded to 3,800 AF by increasing the dam height to 105 feet (from streambed to spillway level). The actual reservoir capacity at the spillway level was estimated in 1997 to be approximately 2,384 AF. The actual dam height appears to be roughly 95 feet (10 feet less than the height given in Application 20625). As shown in Table 4-1, the ten foot difference in dam height yields a difference of 1,416 AF of storage capacity.

**Table 4-1. Bell Canyon Reservoir Existing and Proposed Sizing from Application 20625**

| | Dam Height[(a)], feet | Storage Capacity, AF |
|---|---|---|
| Existing | 95 | 2,384 |
| Proposed Dam/Reservoir Size from Water Right Application[(b)] | 105 | 3,800 |
| **Difference** | **10** | **1,416** |

(a) Dam height is from streambed to spillway level.
(b) Dam height and storage capacity is based on Water Right Application 20625.

While raising the dam height may seem like a straightforward solution to increasing the City's accessible water supply, it may be difficult or infeasible to raise the existing dam in compliance with modern dam construction design criteria. The Bell Canyon Dam was constructed in 1959 as a zoned earth dam approximately 95 feet tall. The dam crest is 510 feet long and 20 feet wide. The elevations of the dam crest and spillway crest are 430 feet and 422 feet, respectively. The embankment zoning consists of a central impervious clayey core, semi-impervious shells on the upstream and downstream of the core, and a blanket filter and drain below the downstream shell and portion of the core.[10]

Expanding Bell Canyon Reservoir was considered in the City's 2010 *Water Supply Plan*, and was not recommended at the time as explained in the following excerpt:

> *"Enlarging Bell Canyon Reservoir would require extensive analysis and environmental review, and could possibly result in less water available for City use due to increased requirements for fish flow bypasses that would likely be required by the SWRCB as a condition for reservoir expansion. Also, it has not been established that the hydrology of the watershed would be able to reliably fill a larger reservoir year after year."*

[10] Haley & Aldrich, Inc. December 2024. *City of St. Helena Bell Canyon Dam Draft Geotechnical Exploration Work Plan.*

Based on the expected difficulties in meeting compliance with modern dam construction design criteria and the concern for potential reduced water availability by "re-opening" the City's water right, the City does not consider enlarging Bell Canyon Reservoir to be a realistic option within the planning horizon of the WMP.

The City has also considered sediment removal via dredging at Bell Canyon Reservoir as a potential means to restore some storage capacity in the reservoir. The City worked with Haley & Aldrich earlier this year to determine that about 6 to 7 percent of the reservoir's storage volume is lost due to sedimentation. However, removal of the sediment through dredging activities would likely require the LSWTP to be taken offline for extended periods due to increased turbidity levels caused by sediment disturbance. In addition, there are limited staging areas around the reservoir to accommodate the heavy equipment needed for dredging operations. Given these constraints plus potential environmental concerns and the high cost of dredging, the City is not currently considering dredging as a feasible option to restore any lost storage capacity.

### 4.4.3 Treatment of Lower Reservoir to Potable Water Standards

As discussed in Chapter 2, the City claims a pre-1914 water right to store up to 160 AFY in the Lower Reservoir and provides this raw water to various customers for non-potable use (e.g., vineyard irrigation and construction). One future supply option is to treat Lower Reservoir water supplies to potable standards and connect to the City's distribution system. Infrastructure required to implement this supply option would likely include:

- treatment via a modular skid-based surface water treatment plant providing conventional treatment or membrane treatment with a daily average flowrate of 100 gpm,
- treated water pipeline with interconnection to the City's distribution system (e.g., to the adjacent Tank 2), and
- dam improvements and seismic analyses as required by DSOD (to allow the City to store water up to the Lower Reservoir's maximum permitted volume of 160 AF).

Due to the small drainage area, resulting in a small annual yield from the Lower Reservoir, and the high cost of installing a water treatment facility and accompanying infrastructure, it is not a viable option to use the Lower Reservoir as a potable supply source and this supply option does not warrant further evaluation. While a detailed cost estimate for this supply option has not been estimated, it is anticipated to be cost-prohibitive given the significant infrastructure needs. For example, recent construction bids West Yost has seen for modular surface water treatment plants exceeded $10M. Continued use of the Lower Reservoir as a non-potable supply source for uses such as construction and irrigation will benefit the City in maintaining a reduced level of potable water demands.

## 4.5 STORMWATER

The following sections describe supply options related to stormwater capture and use. Stormwater capture and use is the management practice of collecting and using stormwater (water from precipitation runoff that reaches the ground), rainwater (precipitation that falls on roofs and is collected before reaching the ground, streets, and other impervious surfaces), and water in storm drain systems to achieve multiple co-benefits. Potential supply options related to stormwater capture and use are discussed in the next sections and include:

- Groundwater recharge via existing or new stormwater management infrastructure
- Non-potable use of collected stormwater (e.g., landscape irrigation)

### 4.5.1 Summary of Existing Storm Drainage System

The City's existing storm drainage system includes:

- 13.1 miles of gravity storm sewer pipelines
- 4.5 miles of open drainage channels
- 33 major outfalls
- one detention basin[11]

Figure 4-5 shows the City's storm drainage system and drainage areas.[11] The City's storm drainage system discharges runoff into the Sulphur Springs Creek, York Creek, and the Napa River. The storm drainage system provides an important role in flood control and controlling urban stormwater runoff. The City does not currently capture and use stormwater as a water supply source.

### 4.5.2 Considerations for Existing Detention Basin

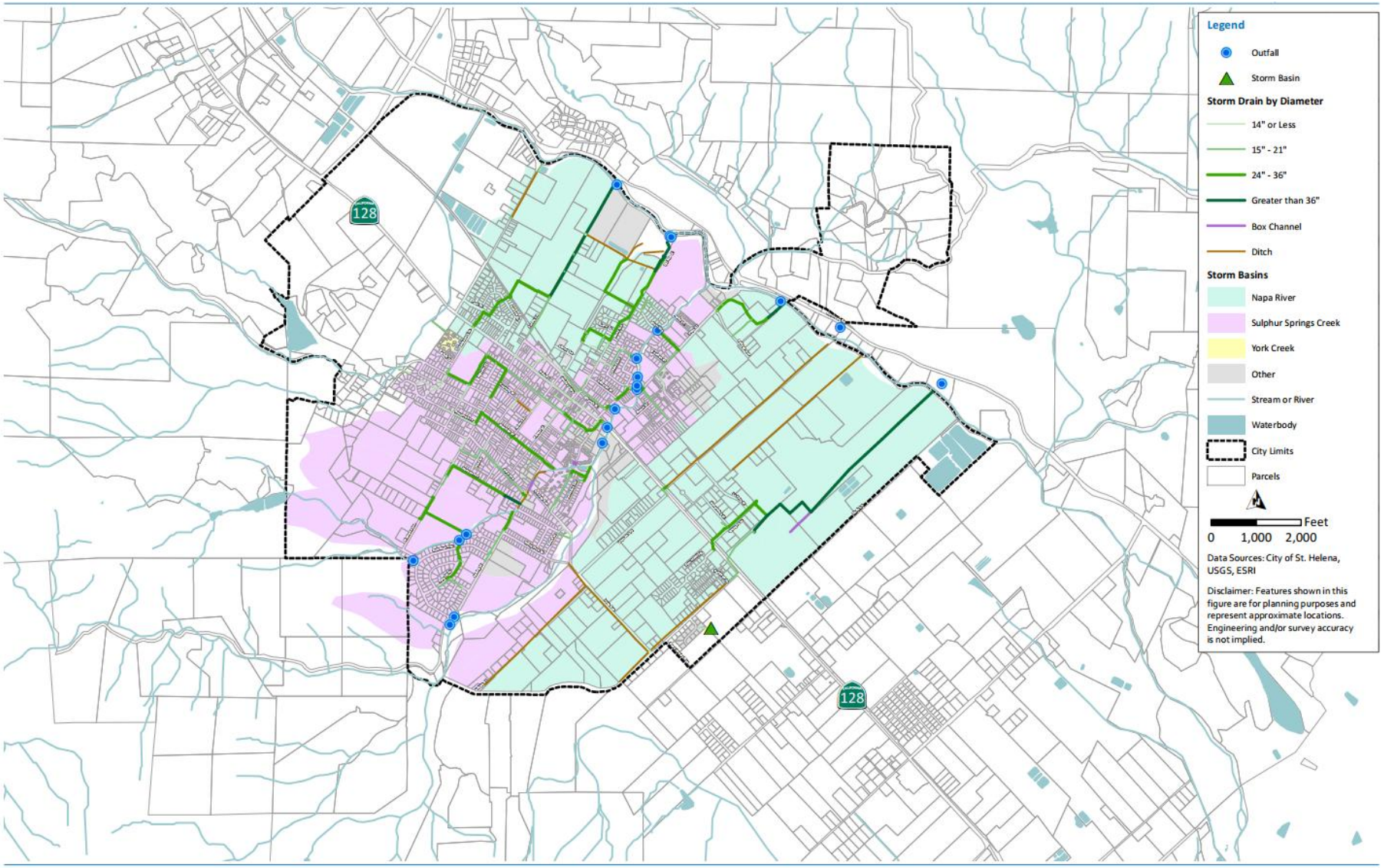
The City's one existing detention basin was constructed as part of the City's Comprehensive Flood Control Protection Project. The basin is located along the Napa River near the northeastern boundary of the City and was constructed to prevent flooding of the Vineyard Valley Mobile Home Park and surrounding areas. Per the City's 2021 IUMP, the pond detains overflow runoff from the storm drain near Hunt Avenue and Starr Avenue. It also collects runoff from the undeveloped area to the southeast.

Based on best available information, the basin is approximately 1.4 acres in area with a sidewall height of 5 to 6 feet.[12] Under low- to moderate-flow conditions, the detention basin discharges stormwater by gravity flow into the Napa River through a levee culvert. During high flow conditions, runoff from the adjacent residential area cannot drain by gravity alone due to the high-water level in the Napa River. During these periods, the levee culvert gate is closed, and stormwater is routed into the detention basin. A pump station then pumps water from the basin into the Napa River. The pump station is equipped with a back-up diesel generator in case electricity fails during a storm event.

The existing detention basin is designed and operated with the primary purpose of flood control and directing runoff into the Napa River during storms. The detention basin is not designed to hold stormwater for a long period of time and provides minimal percolation and recharge into the groundwater basin. Additionally, due to the detention basin's proximity to the Napa River, any percolation into the ground is expected to flow into the Napa River and not provide much local groundwater recharge benefit. Similarly, using the stormwater for landscape irrigation is not recommended, as it would impact flood control operations of the detention basin.

[11] Carollo. April 2021. *City of St. Helena Integrated Utility Master Plan.*

[12] Size of detention basin was estimated based on Google Earth aerial image measurements, as more detailed information was not available.

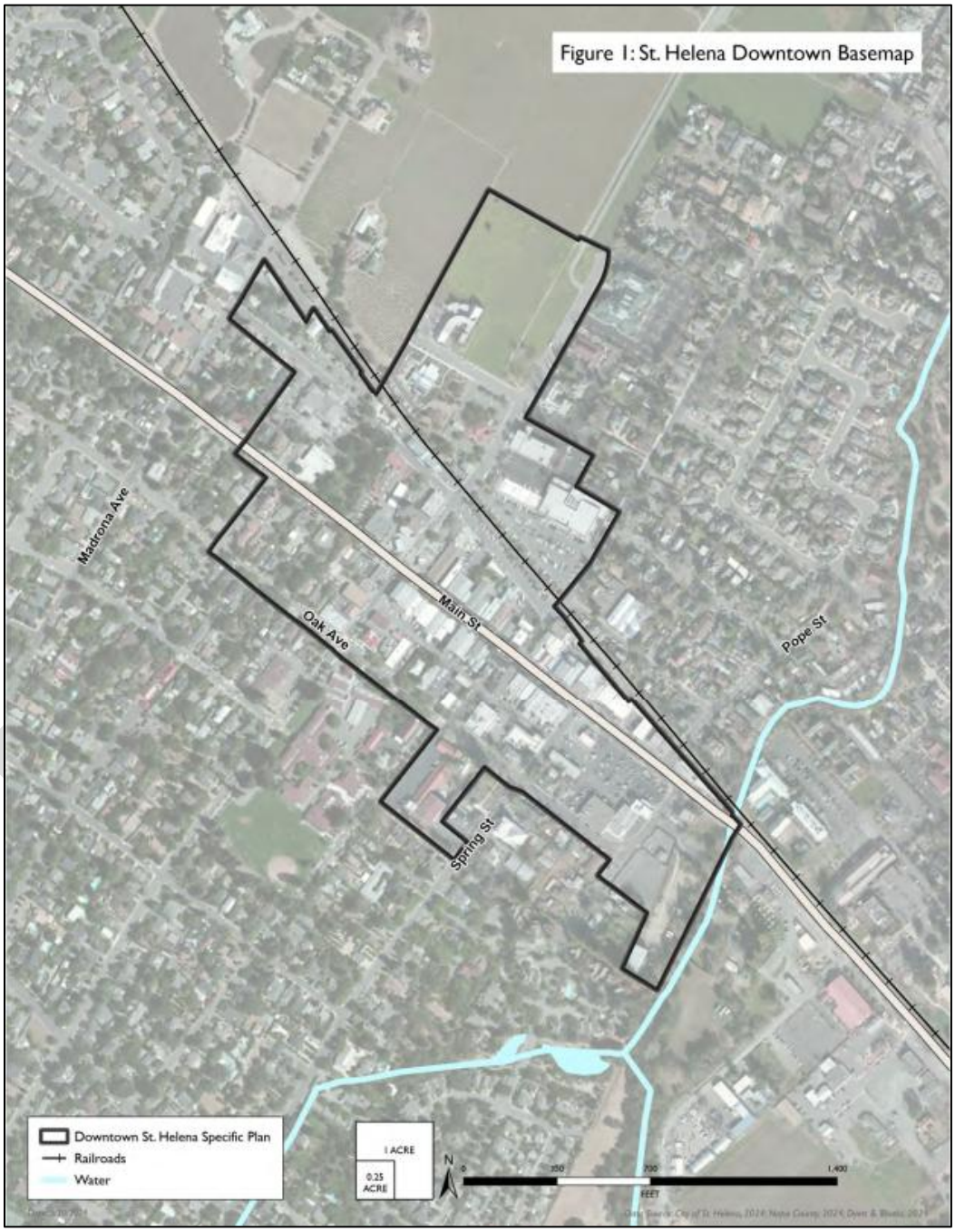



Source: Carollo. April 2021. *City of St. Helena Integrated Utility Master Plan.* Figure 5.10.

**Figure 4-5. Existing Storm Drainage System and Drainage Areas.**

### 4.5.3 Considerations for Proposed Detention Basin for Downtown Specific Plan

The City has been preparing the Downtown Specific Plan (DSP) which will shape the future vision and development for Downtown St. Helena. The DSP study area is shown on Figure 4-6 and covers the core downtown area extending south to Mitchell Avenue, west to Oak Avenue, east to Railroad Avenue, and north to Fulton Avenue.




Source: West Yost, for Dyett & Bhatia. July 2024. *City of St Helena Downtown Specific Plan Background Report – Utilities.*

**Figure 4-6. Downtown Specific Plan Study Area**

A technical memorandum (TM) was prepared in July 2024 providing background on the City's utilities for preparation of the DSP.[13] As discussed in the TM, the Sulphur Springs Creek, a tributary to the Napa River, has both a 100-year and 500-year floodplain that cover the southern end of the DSP study area. The Sulphur Springs drainage area is also shown on Figure 4-5.

Per the TM, building a detention basin along Sulphur Springs Creek just upstream of the City could potentially reduce or eliminate the floodplain. During large storms, the basin would capture excess water from the creek and slowly release it back to the creek once the flood has passed. Additionally, based on the likely soil type at the basin location, the detention basin may be able to help recharge the groundwater supply if some of the detained floodwater is held in the basin. Potential groundwater recharge benefits for the proposed detention basin are provided in Chapter 5. The benefits of using detained stormwater for landscape irrigation are provided in Section 4.5.5.

### 4.5.4 Considerations for New Retention Pond

Another water supply option to consider is constructing a retention pond or similar water feature at one of the City parks, such as Wappo Park, located just upstream of the Stonebridge Wells. Retention ponds, also referred to as retention basins or wet ponds, are constructed basins with a permanent pool of water year-round (or at least throughout the wet season). They are typically deeper than detention ponds and may feature aesthetic elements such as fountains. Retention ponds manage stormwater by storing water indefinitely, allowing it to slowly percolate into the ground or evaporate. Figure 4-7 shows an example of a retention pond.

Source: United States Environmental Protection Agency. July 2024. *National Menu of Best Management Practices (BMPs) for Stormwater*.

**Figure 4-7. Example of Retention Pond**

[13] West Yost, for Dyett & Bhatia. July 2024. *City of St Helena Downtown Specific Plan Background Report – Utilities*.

However, retention ponds typically provide limited groundwater recharge due to buildup of debris at the bottom of the pond, which limits infiltration rates. While retention ponds may not provide significant groundwater recharge compared to other stormwater management practices like infiltration basins, they can still provide other environmental and aesthetic benefits if properly sited and designed. Environmental benefits of a retention pond include pollutant removal of stormwater by sediment settling and nutrient removal through biological activity in the pond.[12] Therefore, the feasibility of constructing a retention pond at Wappo Park is discussed below.

Retention ponds generally require large drainage areas (i.e., at least 10 to 20 acres in humid regions, and larger in drier regions) to provide adequate stormwater volumes and justify construction.[14] Based on a review of the storm sewer GIS data from the City's 2021 IUMP, the subcatchment area (i.e., area that directs runoff to a single discharge point) around Wappo Park is on the lower end of this recommended range, at approximately 13 acres. This subcatchment area includes the Napa Valley College and Stonebridge Apartments, as well as a portion of Wappo Park.

Gravity storm sewer pipelines collect stormwater in catch basins along College Avenue and Pope Street and discharge into the Napa River on the northern edge of Wappo Park.[11] Construction of a retention pond would require re-routing the existing storm sewer pipeline into the proposed detention basin instead of discharging into the Napa River. An energy dissipating structure would be needed at the discharge point into the pond to avoid erosion of the pond structure. The retention pond would also require an overflow pipe that discharges excess stormwater into the Napa River to avoid overflowing the pond.

If the retention pond were to have a permanent pool year-round instead of designing the pool to vary seasonally, supplemental water sources would be required during the dry season (April through October) to combat evaporation. Using a supplemental water source, such as untreated groundwater under the influence of the Napa River, is not recommended as it would negate any benefits in water management. Other potential issues include management of mosquitos and other vectors as well as public access safety concerns.[15]

In short, construction of a retention pond as a future water supply option does not warrant further evaluation in this WMP. Although it may provide some environmental and aesthetic benefits, it is not expected to significantly increase groundwater recharge or improve overall water supply availability.

### 4.5.5 Considerations for Non-Potable Use of Stormwater

The feasibility of using collected stormwater for landscape irrigation is discussed below. Collected stormwater could be used with some basic treatment to irrigate local landscaping, which would require:

1. adequate storage volume to retain water until landscape irrigation demand is needed,
2. filtration to remove debris, sediments, and other pollutants, and
3. pump(s) and piping to convey water from storage to landscaped areas.

[14] United States Environmental Protection Agency. July 2024. *National Menu of Best Management Practices (BMPs) for Stormwater.*

[15] California Stormwater Quality Association. Wet Pond Factsheet. Accessed at https://www.casqa.org/wp-content/uploads/2023/01/wet_pond.pdf on May 22, 2025.

As shown on Figure 4-8, on average, the City receives 85 percent of its annual rainfall between November through March.[11] Landscape irrigation demands are expected to be minimal during this period and are likely highest between April through October.

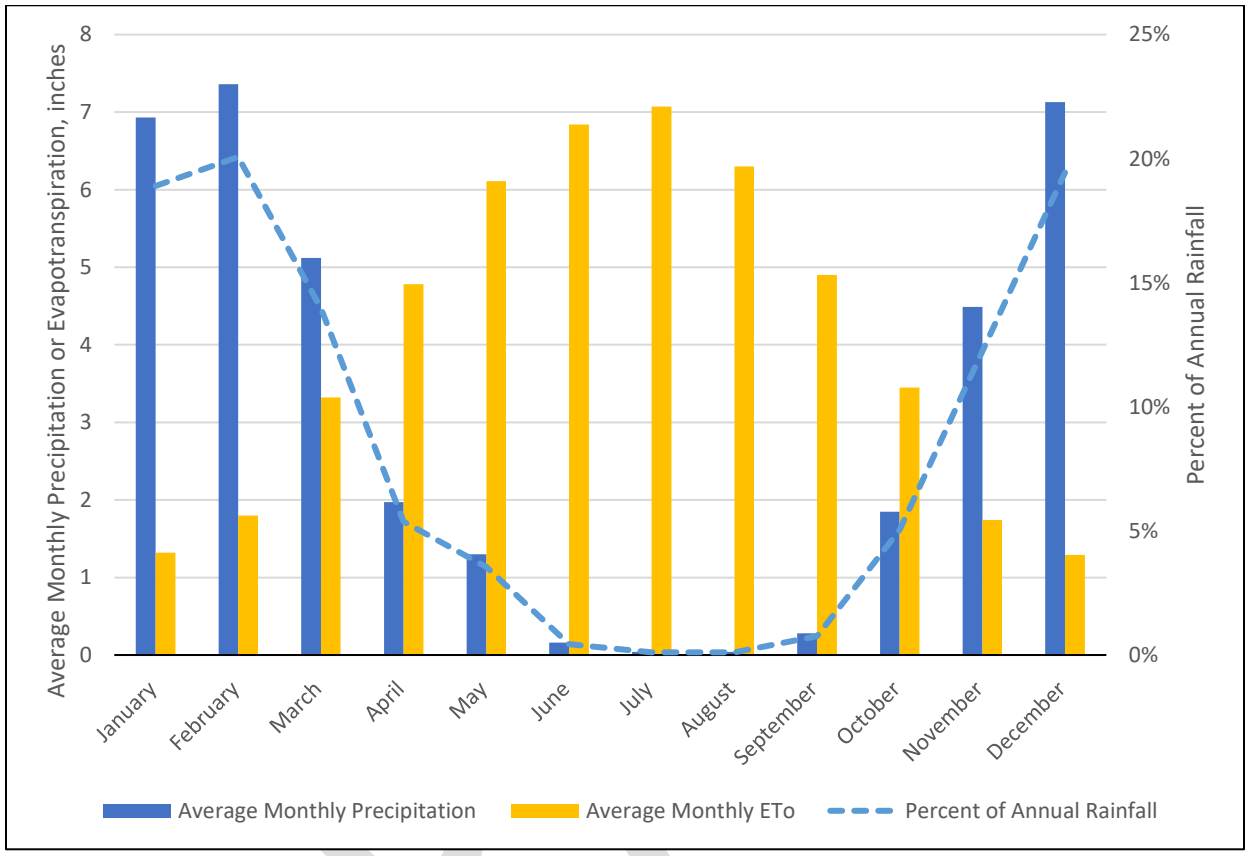



**Figure 4-8. St. Helena Average Monthly Precipitation and Evapotranspiration**

A typical detention basin, as described in Section 4.5.2 and 4.5.3, is operated to release stormwater soon after flood flows have passed to make room for future storms. Additional storage, such as a separate basin or cistern, would be needed to store stormwater until the dry season when there is more demand for landscape irrigation. Using captured stormwater for irrigation would require a significant amount of storage and land to collect sufficient stormwater quantities. For example, storing stormwater to irrigate Crane Park for a year is estimated to require a storage basin of approximately one acre in area.[16] This option is not expected to be economical on a large-scale or significantly increase available water supply. Therefore, no further evaluation of this supply option is warranted in this WMP.

[16] Basin area was approximated using Crane Park's annual water demand of 4.6 AF and an assumed water depth of 6 feet. Historical irrigation data (July 2021 to July 2023) for Crane Park was provided by City staff. Stormwater basin depth was assumed based on Caltrans December 2020 *Stormwater Quality Handbooks Detention Basins Design Guidance.*

## 4.6 DESALINATION

Because the City is not located in a coastal area, seawater desalination is not an accessible water supply option for the City. In addition, the groundwater that underlies the City is not brackish, so desalination of the groundwater is not necessary nor helpful in increasing the City's quantity of water supply. As desalination is not a viable supply option for the City, desalination is not evaluated further in this WMP.

## 4.7 SUPPLY INTEGRATION AND SEASONAL OPTIMIZATION

In parallel with the City's ongoing water quality efforts with WQTS (now Hazen & Sawyer) described in Chapter 3, the City may consider conducting a Supply Integration and Seasonal Optimization Study to better understand how its three water supply sources - surface water from Bell Canyon Reservoir, groundwater from the Stonebridge Wells, and purchased water from the City of Napa - can be managed more effectively under varying hydrologic conditions. While this effort would not add a new water supply source, it would help the City maximize the use of its existing supplies by developing a framework and operating procedures for water production across different water year types and seasons.

This effort would have two primary objectives: (1) develop a seasonal operating strategy that identifies recommended source utilization under wet, normal, and dry water years, as well as across wet and dry seasons, and (2) evaluate how the sources blend within the distribution system and the resulting water quality impacts under different operational scenarios.

The seasonal operating strategy component would evaluate how to adjust production from the City's supply facilities for different water year types and seasons to maximize available water supplies while maintaining adequate water quality. This approach would include assessing potential hydraulic constraints associated with shifting the timing and magnitude of production from different sources and identifying any capital improvements that may be needed for greater operational flexibility.

Seasonal supply strategies that could be evaluated as part of this study include but are not limited to:

- Maximizing local surface water use during the wet season in normal/wet years to reduce reservoir spills and increase use of available surface water supplies.
- Reducing groundwater use in wet years to allow for increased groundwater production in dry years, helping the City remain consistent with the GSP long-term average pumping safe yield of 350 AFY. This approach is consistent with the City's policy to reduce groundwater pumping in non-drought years by limiting production from Stonebridge Wells to no more than 20 percent of total City water demand, except during water shortage emergencies.
- Increasing groundwater use during dry years to meet total demands, as needed, while avoiding long-term pumping above 350 AFY.
- Increasing City of Napa purchases up to the maximum of 800 AFY across all water year types, to reduce reliance on groundwater and maintain groundwater supply as a buffer during drought periods.
- Increasing City of Napa purchases during the dry season, where hydraulically and operationally feasible based on the applicable delivery agreements, to limit groundwater production during the dry season when regional irrigation water demands could potentially impact Napa River streamflow. Increasing the use of water from Napa will require evaluating the Dwyer Road Pump Station, Rutherford Pump Station, and Napa Intertie Pipeline to assess peak supply availability and delivery limitations from the City of Napa.

The analysis would be supported by a hydraulic model to simulate how water from each source moves through the system, where blending occurs, and how operational changes affect flow patterns and water age. The water quality evaluation could assess impacts on disinfectant residuals, discolored water issues (e.g., iron and manganese precipitation), and overall customer water quality resulting from different supply combinations.

This effort could build upon and expand the City's ongoing work with WQTS to address issues such as iron and manganese-related water discoloration and the formation of DBPs. Current efforts include optimizing treatment and chemical dosing at the LSWTP and Stonebridge Wells and evaluating distribution system water quality. A supply integration study would extend this work by evaluating system-wide blending and water quality under a broader range of operating scenarios and hydrologic conditions.

This effort represents a potential future planning effort that, if undertaken with sufficient supporting data and coordination, could improve the availability of the City's existing supply sources and also enhance overall water quality. However, it is not assumed to be implemented as part of this WMP due to the extent of data collection required. To support this type of analysis, several data needs and prerequisites would likely need to be addressed prior to, or concurrent with, this effort:

- **Calibrated Hydraulic Model** – A calibrated hydraulic model to evaluate hydraulic performance and source mixing under different supply operating scenarios.
- **GIS System Data** – Accurate and up-to-date GIS data of water facility locations and sizes to support model development.
- **SCADA and Monitoring Improvements** – Adequate system monitoring to track flows and pressures at each supply source to support model development.
- **Water Quality Data** – Representative water quality data from each source (e.g., pH, alkalinity, hardness, metals, disinfectant residuals, and DBPs) to evaluate blending impacts. This data may be available from ongoing work with WQTS.
- **Bell Canyon Reservoir Raw Water Quality Data** – Additional seasonal raw water quality data (e.g., turbidity, total organic carbon, iron, and manganese) to assess the feasibility of increasing surface water use during wet periods.

This effort would also require substantial coordination with the City's water treatment and distribution operations staff to ensure that modeled scenarios and operational strategies are practical and aligned with system capabilities. Given the scope and data requirements, the City may consider implementing this effort in a phased approach. Initial phases could focus on data collection and model calibration, followed by targeted hydraulic evaluations to assess the feasibility of specific seasonal supply strategies described above.

## 4.8 SUMMARY OF FUTURE SUPPLY OPTIONS

Table 4-2 summarizes the future supply options discussed in this chapter and whether they will be evaluated further in this WMP, or if they are not viable and do not warrant further evaluation.

**Table 4-2. Summary of Future Water Supply Options**

| Supply Option | Warrants Further Evaluation in this WMP? |
|---|---|
| **Water Transfers or Purchases** | |
| Increasing City of Napa water purchases to 800 AFY | Yes |
| Increasing City of Napa water purchases beyond 800 AFY | No |
| Other State Water Project water from North Bay Aqueduct | No |
| Rector Reservoir | No |
| Intertie with City of Calistoga | Yes |
| Solano Project Water | No |
| Sonoma County Water Agency | No |
| Adventist Health Hospital | No |
| **Groundwater** | |
| Development of a new well outside of the Napa Valley Subbasin | Yes *(Chapter 5)* |
| Development of a new well within the Napa Valley Subbasin, located farther from the Napa River | |
| Collaboration with Napa County GSA to implement private well improvements or voluntary water conservation for rural residential water users to receive groundwater "credit" | |
| **Recycled Water** | |
| Non-potable reuse | Yes *(Chapter 6)* |
| Indirect potable reuse (groundwater or surface water augmentation) | |
| Recycled water transfer agreement with agricultural users | |
| Direct potable reuse | No |
| **Surface Water** | |
| Adjusting Bell Canyon Reservoir operations | Yes |
| Expanding Bell Canyon Reservoir | No |
| Treatment of Lower Reservoir to potable water standards | No |
| **Stormwater** | |
| Groundwater recharge via existing or future stormwater facilities | Yes *(Chapter 5)* |
| Landscape irrigation with stormwater | No |
| **Desalination** | |
| Seawater or brackish groundwater desalination | No |
| **Seasonal Optimization of Existing Supplies** | |
| Supply Integration and Seasonal Optimization | Yes |

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# NAPA COUNTY CIVIL GRAND JURY

## 2025-2026

## FINAL REPORT

## June 24, 2026

# Lapsed Leadership:

# St. Helena's Problematic Pipes and Murky Waters

## SUMMARY

The 2025-2026 Napa County Civil Grand Jury investigated complaints of poor water quality in St. Helena and found that the St. Helena Water Enterprise suffers from decades of deferred maintenance, neglect, poor decision-making, and a lack of long-term operational and financial planning - mostly due to the overall lack of effective governance and the failure of City Council leadership. Between 2011-2025, St. Helena's water rates and city taxes were raised significantly with promises to address the aging infrastructure and bring the Water Enterprise back into good working order and financial stability. Instead, the water system as a whole has fallen further into decline.

The Grand Jury examined five specific areas impacting the operation of the St. Helena Water Enterprise and found them all deficient.

**Water Rate Studies and Capital Improvement Projects:** The Civil Grand Jury analyzed the 2011, 2016, and 2023 water rate studies and found that water rates increased approximately 183% during that time. Even though many of the exact same Capital Improvement Projects related specifically to water infrastructure were cited as justification for the increases in all three studies, several of them have not been funded and/or have not been completed. Therefore, the physical and financial condition of the St. Helena Water Enterprise has continued to deteriorate significantly, leaving its customers with water having taste, odor, and color issues.

**Outside Service Area Agreements (OSAAs), Measure H, Proposition 218, and Additional Costs:** The Civil Grand Jury reviewed the more than

30 Outside Service Area Agreements (OSAA) for water delivery that exist between St. Helena and a variety of residential and commercial entities located outside the city limits. The St. Helena Water Enterprise incurs significant expenses while delivering water to the OSAA customers without recouping the additional costs. In 2016, St. Helena's City Council changed the fee structure to eliminate differentiated water rates and specific water surcharges, passing those additional costs on to all water ratepayers. With the passing of the Measure H Bond in 2022, OSAA customers reap the benefits from it without the repayment responsibility.

**High Turnover, Retention and Recruitment Issues:** Since 2011, St. Helena has experienced significantly high rates of turnover on the City Council, in the City Manager's Office, and in the Public Works Department. The high turnover has resulted in the loss of institutional knowledge and created high levels of dysfunction. Coupled with the absence of adequate project management expertise, St. Helena suffers from the inability to problem solve effectively and the inability to plan, oversee, and complete large infrastructure projects.

**City Governance Failures:** The Civil Grand Jury found that poor decision-making, poor oversight, and poor governance by several terms of the City Council have contributed to the current state of the St. Helena Water Enterprise. While water rates and taxes have increased significantly to fund the necessary repair work on the water system, the City Council has not provided the oversight of city staff and consultants to ensure that the projects promised in the rate studies would and/or could be delivered in a timely manner. Since the revenues were raised, the staff and monies have

not been allocated or spent effectively for the intended approved purposes by the City Council.

**The Current State of St. Helena's Water System:** Within the last few years, significant investments have been made to update and rehabilitate the Bell Canyon Water Treatment Plant. The Civil Grand Jury verified that water is currently leaving the facility clear, clean, and healthy. Even though good strides have been made in addressing the deferred maintenance and neglect at the Bell Canyon Treatment Plant, water is still arriving to the customer with taste, odor, and color quality issues. Despite working with the Water and Wastewater Advisory Committee, the City Council and city staff still have significant work ahead of them to understand the full scope of the infrastructure problems throughout the entire water system, when the needed repair work can be done, and how much that work will cost.

**Findings and Recommendations:** The Civil Grand Jury made several findings during their investigation including: (1) water is leaving the Bell Canyon Water Treatment Plant clear, clean, and healthy after recent work but not arriving to the customer that way, (2) the current Capital Improvement Plan does not contain projects dedicated to the rehabilitation of the aged water distribution system, (3) St. Helena lacks an effective system for data collection related to water issues, (4) revenues were raised through water rate increases that were not utilized effectively by the City Council, (5) St. Helena lacks a differential water rate fee structure, (6) OSAAs benefit from Measure H without repaying it, and (7) St. Helena suffers from poor governance and a lack of professional project management expertise.

The Civil Grand Jury's findings led to the following recommendations: (1) St. Helena's City Manager should conduct a comprehensive assessment of the water distribution system, (2) St. Helena's City Manager should develop a plan to address the failing water infrastructure, (3) St. Helena's City Manager should expand the use of their data collection system to track water issues, (4) St. Helena's City Council should implement a differential water rate fee structure, and (5) St. Helena's City Council should require its members and Senior City Management Staff to attend governance training in addition to training on the Brown Act.

## METHODOLOGY

The Civil Grand Jury interviewed city governmental leadership, city management and line staff, as well as residents and community members. Jury members toured the water facilities to better understand the complexity and severity of the water issues firsthand. Jury members analyzed St. Helena's water rate studies dating 2011 to the present day, as well as reviewed the Capital Improvement Projects cited as justification for the water rate increases. Jury members reviewed the Outside Service Area Agreements (OSAAs) providing water to customers outside the city limits. Lastly, jury members attended community meetings related to St. Helena's water troubles and witnessed how the community interacted with the City Council and City Management Staff.

## DISCUSSION

### St. Helena – the stats

Napa County has 5 incorporated cities (largest to smallest using the US Census population data estimates from July 2024): the City of Napa with 76,921, the City of American Canyon with 21,742, the City of St. Helena with 5,257, the City of Calistoga with 5,022, and the City of Yountville with 3,280-3,350 (depending on the number of Veteran's Home residents).

Although St. Helena's population decreased approximately 10% between the 2010 and the 2020 US Census, in 2024, the United States government estimated there to be 2,341 separate households within the city limits, but 2,831 actual housing units.

St. Helena provides drinking water to all households and businesses within the city limits and has Outside Service Area Agreements (OSAAs) to provide

water services to residential and commercial customers located outside the city limits. In 2023, single and multiple family residences used about 12% more water overall than commercial entities and city-wide landscaping. (Additional information can be found at Water & Wastewater Rate Update (2023) | St Helena, CA)

St. Helena receives drinking water from three sources: the Bell Canyon Reservoir, the Stonebridge wells, and the City of Napa. According to the St. Helena's city records, 26% comes from the Bell Canyon Reservoir, 27% comes from the Stonebridge wells, and 47% comes from the City of Napa. The overall production of water in fiscal year 2024/25 was 1,159 acre-feet (equating to over 377 million gallons) which was an 18% reduction from fiscal year 2023/24. In total, there are nearly 46 miles of water pipes in St. Helena's water delivery system.

(Additional information can be found at CITY OF ST. HELENA MONTHLY WATER REPORT )

## The Impetus for this Investigation

The Civil Grand Jury received a complaint filed by a resident of St. Helena regarding the persistent taste, odor, and color problems with their water. The complaint was supported by photographs, news articles, and social media posts. Overall water issues are multifaceted and significant in nature, but due to the Civil Grand Jury's time constraints, the investigation was narrowed in scope. This report focuses on the city leadership failures and how they have affected the St. Helena Water Enterprise negatively since at least 2011.

Additionally, this Civil Grand Jury noted water issues were also investigated by the 2018-2019 Napa County Civil Grand Jury. Refer to https://www.napa.courts.ca.gov/system/files/gj-18-19-st-helena-small-town-big-city-problems-f.pdf for additional information.

## Gathering Historical Data was Challenging

For more than a decade, St. Helena's water customers have experienced sporadic episodes of taste, odor, and color issues with their water. The issues were believed to be seasonal (mainly in the summer) and caused by higher levels of iron, manganese, and organic material in the water sourced from the Bell Canyon Reservoir. A simple change to the treatment and flushing of the distribution system was usually enough to address the problem and resolve the complaints. That system seemed to work until around 2010 (potentially earlier) when complaints about water quality issues became more prevalent, persistent, and widespread. The issues are now common all year long and seem to be spread throughout the water service areas.

The Civil Grand Jury discovered gathering historical information regarding water quality issues problematic. Until recently, there was no formal process for recording complaints, and thus no system for analyzing the number of complaints received, when complaints were received, the frequency of complaints, the nature of the complaints, the locations of the complaints, and how the complaints were resolved. According to interviews with city staff, complaints were simply written on notes that were passed off to be addressed and then thrown away. With no data for the City Council or

city staff to analyze, it was nearly impossible for them to make informed decisions about how money and resources should be prioritized or allocated. St. Helena began using the Grapevine app in 2023 to capture customer complaints, providing a basic level of data gathering and analysis, however it is still lacking sufficient data to provide a holistic view of the city's targeted problem areas.

## Water Rate Studies & Increases and the Capital Improvement Projects used as Justifications

The Civil Grand Jury analyzed St. Helena's 2011, 2016, and 2023 water rate studies and found that the financial and physical condition of the water system and its infrastructure remained in a state of distress despite all the water rate increases that were approved. Across all three water rate studies, the same reasons were used to justify significant rate increases: the same Capital Improvement Projects were cited repeatedly, yet most were never started let alone completed; substantial investments in infrastructure were needed to address decades of deferred maintenance and modernization; revenues needed to be raised to restore debt coverage ratios as required by debtholders; and additional revenues were required to establish healthy financial reserves. The water distribution system (referring to the mains, pipes, and underground infrastructure) was never mentioned specifically in any of the water rate studies even though the distribution system is now believed to be the main source of taste, odor, and color issues.

## 2011 Water Rate Study

**Summary:** The Water Rate Study found that the St. Helena Water Enterprise was in a precarious financial state. Its approximate $2,900,000 in annual revenues did not cover its approximate $3,800,000 in operating, maintenance, and debt service costs. The insufficient cash in the operating fund necessitated $1,000,000 to be transferred from the Capital Funds to maintain prudent reserves for the fiscal year 2010/11. The St. Helena Water Enterprise failed to meet its debt covenant, which required net revenues to be at least 1.2 times the annual debt service. There was a significant backlog of projects totaling approximately $11,500,000 that could not be funded without issuing new debt. Additional debt would most likely have to be issued to fund any projects beyond the 2011/12 fiscal year, although no specific project plans were included in the water rate study. In fact, the City Council made a conscious decision to defer capital improvements and approved a smaller rate increase than recommended, prioritizing debt covenants over long-term infrastructure and deferring maintenance yet again. A quote from the water rate study:

"because of the City's desire to keep the required water rate increase to the level needed to meet debt covenants, not all the planned capital improvement programs will be funded during the planning period, even with the planned debt issuance. As a result, approximately $1.1 million of the planned capital improvement program has been deferred beyond the planning period used for this study".

**Rate Increases:** Below is a list of the recommended water rate increases and what increases were approved by the City Council.

| Recommended Rate Increases | Actual Rate Increases |
|---|---|
| Fiscal Year 2011/12 - 58% | Fiscal Year 2011/12 - 29% |
| Fiscal Year 2012/13 - 3% | Fiscal Year 2012/13 - 3.0% |
| Fiscal Year 2013/14 - 3% | Fiscal Year 2013/14 - 2.5% |
| Fiscal Year 2014/15 - 3% | Fiscal Year 2014/15 - 2.6% |
| Fiscal Year 2015/16 - 3% | Fiscal Year 2015/16 - 2.6% |

**Justifications for increases:** The reasons for necessitating water rate increases include several items. Rate hikes were needed to cover the increased costs of treated water purchased from the City of Napa to supplement St. Helena's local supplies. Increases were needed to cover the debt service coverage requirements and to support the issuance of $7,500,000 in new debt acquired for projects, including the removal of the Upper Reservoir Dam costing $3,100,000. Additional monies were needed to raise the minimum operating reserve target from 15% to 25% to handle revenue volatility. Increases would also provide monies to support hiring new staff including a Water Conservation Specialist and a shared Assistant Engineer.

**Capital Improvement Projects:** Between the 2011/12 to 2015/16 fiscal years, 29 Capital Improvement Projects were completed (many requiring several years and 2 rate studies). Although minimal progress was made on the "priority" projects listed in the 2011 water rate study, some maintenance and repairs were made to the pumps and to the Bell Canyon Water

Treatment Plant. No Capital Improvement Projects were dedicated to the water distribution system.

*Additional information is listed in the Appendix.*

## 2016 Water Rate Study

**Summary:** The 2016 Water Rate Study found that once again, the St. Helena Water Enterprise was in a critical financial position. The operating fund's unrestricted net position was expected to drop from roughly $5,000,000 in the 2016/17 fiscal year to approximately $525,000 by the end of the 2017/18 fiscal year. Without water rate increases, the water fund was projected to have a negative balance of -$11,100,000 by the end of the 2022/23 fiscal year. St. Helena would fail to meet its bond requirement of a 1.2x minimum debt service coverage ratio, with only 0.72 coverage projected for the 2017/18 fiscal year. The St. Helena Water Enterprise pulled monies from reserves to cover operations and project costs because water rates at the time did not include funding for depreciation or system rehabilitation.

**Rate Increases:** Below is a list of the recommended water rate increases and what increases were approved by the City Council.

| Recommended Rate Increases | Actual Rate Increases |
|---|---|
| Fiscal Year 2016/17 - 63% | Fiscal Year 2016/17 -25% |
| Fiscal Year 2017/18 - 15% | Fiscal Year 2017/18 - 3.7% |
| Fiscal Year 2018/19 - 4% | Fiscal Year 2018/19 - 3.7% |
| Fiscal Year 2019/20 - 4% | Fiscal Year 2019/20 - 3.7% |
| Fiscal Year 2020/21 - 4% | Fiscal Year 2020/21 - 3.7% |

**Justifications for increases:** The reasons for water rate increases include several items. Rate hikes were needed to cover operational sufficiency in operating and maintaining water related expenses without relying on St. Helena's General Fund or other services. Additional monies were needed to fund Capital Improvement Projects such as the removal of the York Creek Dam, the removal of the Upper Reservoir Dam, and the Bell Canyon Intake Tower Replacement. Increases were also needed to establish a healthy cash reserve (targeting 6 to 12 months of operating expenses) to fund emergencies and unanticipated capital needs.

**Capital Improvement Projects:** Between the 2016/17 to 2021/22 fiscal years, 18 Capital Improvement Projects were completed (many requiring several years and 2 rate studies). About 30% progress was made on the "priority" projects listed in the 2016 water rate study, although no Capital Improvement Projects were dedicated to the distribution system.

*Additional information is listed in the Appendix.*

**2023 Water Rate Study**

**Summary** (additional information at https://www.cityofsthelena.gov/386/Water-Wastewater-Rate-Update ): In August 2023, The City Manager declared a “State of Emergency” for St. Helena’s Water System. The St. Helena Water Enterprise required immediate revenue adjustment to remain viable. Without changes, the St. Helena Water Enterprise faced depleted reserves. With 2023 water rates, fund balances were projected to be in the negatives each year. The St. Helena Water Enterprise was also projected to fall below the minimum debt coverage requirements as well as the target reserve policies. Existing revenues were insufficient to cover the rising costs of operations, maintenance, and the significant increase in planned capital reinvestments.

**Rate Increases:** Below is a list of the recommended water rate increases and what increases were approved by the City Council.

| Recommended Rate Increases | Actual Rate Increases |
|---|---|
| Fiscal Year 2023/24- 28% | Fiscal Year 2023/24- 28% |
| Fiscal Year 2024/25 - 8% | Fiscal Year 2024/25 - 8% |
| Fiscal Year 2025/26 - 8% | Fiscal Year 2025/26 - 8% |
| Fiscal Year 2026/27 - 8% | Fiscal Year 2026/27 - 8% |
| Fiscal Year 2027/28 - 8% | Fiscal Year 2027/28 - 8% |

**Justifications for increases:** The additional revenues are designated to fund several critical areas of the St. Helena Water Enterprise’s operations.

Funding significantly expands the Capital Improvement Plan, which averages approximately $6,700,000 per year, a huge increase from the historical average of $1,000,000 annually. Several projects account for the bulk of the $35,800,000 in planned spending over the study's 5-year period (2023-2028) including:

- The Napa Intertie Pipeline & Pump Station project is needed to ensure water reliability. It involves the replacement of the intertie pipeline and the construction of a new pump station. The projected cost for the project is approximately $10,000,000.
- The Water Treatment Plant Transmission Main project involves the replacement of the main line carrying water from the treatment plant. The projected cost for the project is approximately $9,100,000.
- The Bell Canyon Intake Tower Replacement project involves replacing the intake infrastructure at the reservoir for the cost of approximately $3,700,000.
- The Spring Mountain Pressure Zone (the Holmes Tank) project includes a variety of upgrades needed to support the local pressure zone. The projected cost was approximately $3,600,000.
- The system-wide transition to Smart Water Meters, an advanced metering infrastructure to improve billing accuracy and leak detection, is projected to cost approximately $2,200,000. About 5% of the meters will be replaced annually over a 20-year period.

**Capital Improvement Projects:** It is unclear what if any Capital Improvement Projects have been completed since the implementation of the 2023 water rate study as it covers fiscal years 2023/24 to 2027/28.

However, once again, no Capital Improvement Projects were dedicated specifically to the distribution system.

*Additional information is listed in the Appendix*

Based on the Civil Grand Jury's overall analysis of the water rate studies and the approved Capital Improvement Projects, disturbing trends were revealed. The St. Helena Water Enterprise has been in a constant state of physical decline and financial distress, despite the large water rate increases between 2011-2025. The totality of costs related to the deferred and/or delayed improvement projects continue to rise significantly without any timeline of completion, creating a constant state of financial instability. The identified and approved infrastructure projects lack professional project plans and project management. The Public Works staff lack sufficient resources and project management expertise to perform all the needed work identified by each water rate study.

As a result, the Civil Grand Jury found that water rates in St. Helena have climbed steadily since 2011 with little to no progress made in addressing any of the water quality issues. In fact, water rates have increased approximately 183% in that time, resulting in St. Helena residents and St. Helena Water Enterprise customers paying exorbitantly higher rates for water than in neighboring communities.

## **Outside Water Agreements, Measure H, and Additional Costs**

While investigating the water problems in St. Helena, the Civil Grand Jury also investigated where water is dispersed and how that might affect the overall financial picture for the St. Helena Water Enterprise.

In addition to providing water services to properties within the city limits, the St. Helena Water Enterprise provides water to many properties outside of the city limits. More than 30 Outside Service Area Agreements (OSAAs), dating back to 1991, exist between the St. Helena Water Enterprise and a variety of residential and commercial entities. The OSAA's outline several items: the user's yearly allocation and type of water, their use restrictions for the water provided, the water rate charged, as well as the penalties for surpassing their allocation levels. OSAA water user allocations total over 302.06 acre-feet per year or approximately 98,602,495 gallons (1 ac-ft = 325,850.943 gal). Based on the OSAA's, annual allocations equate to approximately 24% of St. Helena's total annual water consumption. The full listing of the OSAA's is available online at: Water Agreements | St Helena, CA

Although city staff actively monitors annual water consumption for compliance per the OSAAs, there is no monitoring for prohibited usage (using treated water for irrigation as an example).

In addition, Civil Grand Jury members toured the Holmes tank, a legacy concrete water tank that requires significant overhead and expense to maintain. The Holmes tank supports only 6 households; all located at high elevation. The Civil Grand Jury noted that the additional costs are not being recovered from the 6 households serviced by the Holmes tank simply because the fee structure is not in place to do so. Instead, the additional fees are absorbed by all water customers.

Currently, St. Helena only has one base rate for water regardless of the type of user or the location of the user, while other cities in Napa County differentiate between residential users and commercial users, inside city limits users and outside city limits users, or the elevation of the user. Prior to 2016, St. Helena water rates included additional surcharges to offset the costs of pumping water to OSAA users such as Meadowood Resort, a development outside of St. Helena's city limits. Following the 2016 water rate study, elected officials at the time decided to eliminate the surcharge(s), leaving all ratepayers (inside and outside the city limits) to absorb the entirety of those additional costs. Other jurisdictions in Napa County, such as the City of Napa, include a water rate surcharge for pumping water to elevated properties.

Another important item affecting the financial health of St. Helena's water services is Measure H, passed by the voters within the city limits of St. Helena on June 7, 2022. Measure H allowed up to $19,150,000 in bonds to be issued. The purpose of the bonds is to pay for the much-needed Capital Improvements for St. Helena's aging and/or failing water, stormwater and sewage systems. Repayment of the bonds equate to $14.82 per $100,000 of the assessed property value annually for every parcel within St. Helena's city limits. Measure H bond repayment property tax does not apply to those properties located outside of St. Helena's city limits. Therefore, customers represented by the OSAAs which are provided water, stormwater, or sewage services

directly benefit from Measure H without the financial responsibility for its repayment.

*Additional information on Measure H can found at: Measure H | St Helena, CA*

*Additional information on Proposition 218 can be found at: Understanding Proposition 218*

## High Turnover, Retention and Recruitment Issues Across the Board

The Civil Grand Jury discovered that between 2011-2026, the 5-member City Council experienced a high level of turnover. During that time, 19 different individuals have served on St. Helena's City Council spanning the 8 election cycles. *Refer to Table 1 in the Appendix for a complete list of the Council Persons.* Many reasons contributed to the turnover, including ethics complaints made to the Fair Practices Commission (which were later dismissed), a mid-term resignation, a closely contested mayoral defeat, a near recall of a sitting mayor, and a shifted balance of power after the 2024 election. In fact, the most recent example saw a City Council member expelled due to lack of attendance in April 2026.

In a city of approximately 5,200 people, personal relationships, local business ties, and individual personalities matter enormously. Multiple council members have faced conflict-of-interest scrutiny tied to their personal and business interests. Ultimately, dysfunctional conflict has hindered if not totally impeded much-needed progress in St. Helena, especially for the St. Helena Water Enterprise.

City Council instability feeds city staff instability and vice versa. St. Helena has had 8 City Managers (3 of which have been interim) and 5 Public Works Directors during the same time frame. *Refer to Table 2 in the Appendix for a complete list.* Currently, approximately 60% of the Public Works employees have less than 5 years on the job, and 100% of the St. Helena Water Enterprise employees have less than a 3-year tenure. At the time of this report's publication, the city is in the process of hiring another City Manager.

Based on interviews with staff members, there are significant challenges with recruiting and retaining employees as well. While the high cost of living in the Napa Valley and the high commuting costs from outside the area are concerning to employees, there is also a lot of competition with other nearby municipalities that pay a more competitive salary and provide better career opportunities. All of which are problematic for St. Helena's financial bottom line.

High turnover and council dysfunction has contributed to the loss of institutional knowledge, the lack of long-term financial planning, and the lack of oversight, decision-making, and leadership required for the existing Capital Improvement Plan related to the St. Helena Water Enterprise.

The Civil Grand Jury recognizes that it is difficult to go from being a resident one day to a city's decision and policy maker the next day after being elected as a council member. The entire city bears responsibility for its decisions; residents for electing the council members, council members for hiring management staff, and so on. There are shared accountability and oversight needs across the board, and everyone should acknowledge that St. Helena's water issues have passed through many hands between

2011-2025; no one person, department, or entity is the sole culpable party. Dysfunctional conflict has prohibited much-needed progress.

## Governance Challenges

One of the most important roles of the City Council and its advisory boards and committees is to ensure the long-term financial stability of the city and all its enterprises. To do this requires rigorous oversight and the active involvement of the city council.

The Civil Grand Jury's investigation revealed that St. Helena's City Council has failed to govern effectively for decades. Several examples of poor governance, poor decision-making, and poor oversight include the lack of long-term planning for and execution of water infrastructure maintenance, the lack of progress made on key water related Capital Improvement Projects, and using the same Capital Improvement Projects over and over in the 2011, 2016, and 2023 water rate studies without ensuring progress. The City Council's lack of governance and oversight has resulted in significantly higher costs to replace aging infrastructure. Additionally, The Blackberg Group found similar governance lapses in its recently released Efficiency and Business Transformation Study. More information about the study can be found on the City of St. Helena's website at https://www.cityofsthelena.gov/972/Efficiency-and-Business-Transformation-S.

In 2016, the City Council changed the water rate fee structures and cancelled water assessment and surcharges to OSAA customers and

customers in high elevation locations without having a plan in place to recoup the lost revenues.

Another theme the Civil Grand Jury uncovered during its investigation was the lack of project management expertise within St. Helena's Public Works Department and City Manager's Office. The lack of project management was evident to jurors when schedules and/or project plans for many key infrastructure jobs could not be found. Staff with no training or previous project management expertise were delegated responsibilities and oversight erroneously.

The Grand Jury also learned that other than required ethics and legal training (known as the Brown Act) there is no additional training offered to or required by City Council members or advisory board members.

In St. Helena, being a member of the City Council is considered a "part-time" job. The reality is that being a City Council member is a significant investment of time and energy, and the Civil Grand Jury believes that City Council members would be more effective and potentially feel more supported by their constituents if additional training was made available, such as League of California Cities Mayors and Council Members Academy.

## Current State of the St. Helena Water Enterprise

Civil Grand Jury members conducted an extensive tour of all the St. Helena Water Enterprise facilities. Jurors found that significant investments have been made within the last few years at the Bell Canyon Treatment Plant to begin addressing the deferred maintenance. Monitors with automated alerts and notifications were installed. Filters and filter media were

replaced. A Supervisory Control and Data Acquisition (SCADA for short) system was installed with new upgrades. Remote operations capabilities were installed to enable staff to respond more effectively and faster to changing water conditions. Improved water sampling and data gathering methods were implemented to help identify and address water taste, odor, and color issues more efficiently. Overall, there has been an improvement in the water treatment process as a whole at the Bell Canyon Treatment Plant. As a result of all the recent improvements, jurors verified that treated water is currently leaving the plant clean and clear, with no obvious signs of taste, odor, or color issues.

It is important to note that no recent improvements have been made to either the Stonebridge Wells or the Rutherford pump station.

Over the past two-plus years, city staff and consultants have worked closely with the recently established water and wastewater advisory committee and the City Council to develop a strategy and approach for addressing the decades of deferred maintenance. Collectively, they believe that the dominant source of the water taste, odor, and color issues currently rest with the decades of debris, silt, and sediment that has accumulated in the water distribution system, meaning the mains and pipes that transport water to customers. If water is leaving the treatment plant clean but arrives to the customer with problems; their analysis seems reasonable to the Civil Grand Jury.

Beyond proposed testing, city staff and consultants have no clear plan on how to attack the debris and sediment located throughout the distribution system. They are exploring options that range from finding a way to remove the sediment from the mains and pipes to replacing them

altogether. To date, city staff has made no assessment to understand the scope and severity of the infrastructure issues, thus there is no understanding of what money, time, and resources are needed to address the issues with the water distribution system long-term.

Furthermore, the Civil Grand Jury analyzed the fiscal years 2026 – 2030 Capital Improvement Plans that were provided. According to the analysis, over $51,000,000 of Capital Improvement Projects are identified as “water priorities” for fiscal years 2026-2030, although none of them are dedicated to addressing the aged water distribution system, and nearly 39% of the funding has not yet been identified to pay for the planned projects. *Supporting information is located in the appendix.*

## FINDINGS

**F1:** Despite the water rate increases of approximately 183% between 2011-2025, earmarked to address water quality and infrastructure issues, St. Helena’s water is still being delivered to customers with taste, odor, and color quality issues. After recent improvements and upgrades to the Bell Canyon Water Treatment Plant, water currently leaves it clear, clean, and healthy; therefore, city staff and consultants now blame decades of silt, debris, and sediment build-up in the water distribution system for the continued water quality troubles.

**F2:** The current Capital Improvement Plan approved and implemented by St. Helena’s City Council contains no projects dedicated specifically to the long-term rehabilitation of the aged water distribution system. To date, there is no plan in place to address the water distribution system problems. No formal assessment has been done to determine the scope and the

severity of the issues in total. Without it, the repair costs and the timeline for repairs remain unknown.

**F3:** St. Helena lacks a thorough and effective system for analyzing citizen water complaints. The Grapevine app implemented in 2023 provides only a basic level of data gathering and analysis. Therefore, City Council and city management staff do not have sufficient information to make informed decisions about how money and resources should be prioritized or allocated to resolve water issues.

**F4:** The water rate studies between 2011-2025 each cited the same core justifications for the need to raise water rates: declining infrastructure, deferred maintenance, depleted reserves, and debt covenant non-compliance. Even though additional revenues were raised, they were not utilized effectively by St. Helena's City Council. Therefore, most of the justifications for water rate increases have not been met.

**F5:** The St. Helena City Council changed the St. Helena Water Enterprise's fee structure in 2016 to implement a single water rate regardless of the location or type of customer. Prior to 2016, water rates included surcharges to offset the cost of pumping water to customers in elevated areas or customers outside the city limits. Therefore, the St. Helena Water Enterprise currently passes the additional costs on to all water ratepayers rather than those benefiting outside the city limits.

**F6:** St. Helena has more than 30 Outside Service Area Agreements (OSAAs), representing approximately 24% of St. Helena's total annual water consumption. The OSAA customers benefit from the Measure H

funded infrastructure improvements but bear no responsibility for the repayment of the bonds because they are not located within the city limits.

**F7:** St. Helena suffers from a lack of governance, poor oversight, ineffective management by the City Council and City Manager, and a lack of professional project management expertise. As a result, St. Helena's Water Enterprise remains in a similar state of physical decline and financial distress today as it was in 2011.

## RECOMMENDATIONS

**R1:** The Napa County Civil Grand Jury recommends that the St. Helena City Manager should conduct a comprehensive assessment of the water distribution system's condition that includes the mains, the pipes, and the related infrastructure, and that the findings be reported to the St. Helena City Council by September 30, 2026.

**R2:** The Napa County Civil Grand Jury recommends that the St. Helena City Manager should develop a plan to address the failing water distribution system that includes the Capital Improvement Projects needed, the cost of said projects, the funding source(s) for said projects, and the timeline for completion of said projects; and that the plan be presented to the St. Helena City Council by December 31, 2026.

**R3:** The Napa County Civil Grand Jury recommends that the St. Helena City Manager should expand the use of the Grapevine app (or equivalent) complaint system to collect more in depth information and provide the St. Helena City Council and the Water and Wastewater Advisory Committee with quarterly data reports on water complaints to minimally include

complaint type, location, frequency, severity, and resolution status by September 30, 2026.

**R4:** The Napa County Civil Grand Jury recommends that St. Helena's City Council should implement a water rate fee structure with differentiated rates based on the customer's location (inside city limits vs. outside city limits) and the customer's type (residential vs. commercial), as well as assessing surcharges for customers in elevated locations and surcharges for the Outside Service Area Agreement customers benefiting from Measure H by September 30, 2026.

**R5:** The Napa County Civil Grand Jury recommends that the St. Helena City Council require its members and St. Helena City Senior Management Staff attend governance training (in addition to Brown Act training) within the first quarter of their tenure after election by December 31, 2026. Training opportunities such as Mayors and Council Members Academy. can be found at The League of California Cities.

## REQUIRED RESPONSES

The following responses are required, pursuant to Penal Code sections 933 and 933.05:

- **St. Helena City Council –** all Findings and Recommendations within 90 days

## INVITED RESPONSES

The following responses are invited from the following responsible parties:

- **St. Helena City Manager** – All Findings and Recommendations within 90 days
- **St. Helena Public Works Director** – Findings: F1, F2, F3; Recommendations R1, R2, R3 within 90 days

Reports issued by The Civil Grand Jury do not identify individuals interviewed. Penal Code Section 929 requires that reports of The Civil Grand Jury do not contain the name of any person or facts leading to the identity of any person who provides information to The Civil Grand Jury.

## APPENDIX

Below is a summary of justifications cited for the water rate increases in the 2011, 2016, and 2023 water rate studies, followed by list of delivered Capital Improvement Projects funded from revenues raised by the water rate increases.

2011 WATER RATE STUDY

**Justifications for water rate increases:**

- City of Napa Water Purchases: Covering the increased costs of purchasing treated water to supplement local supplies (pp. 3, 5).
- Debt Obligations: Meeting existing 1.2 times the debt service coverage requirements and supporting the issuance of $7,500,000 in new debt for capital projects (pp. 4, 15).
- Infrastructure Projects: Funding critical capital improvements, most notably the removal of the Upper Reservoir Dam (estimated at $3.1 million) (pp. 4, 14).
- Operating Reserves: Increasing the minimum operating reserve target from 15% to 25% to handle revenue volatility (pp. 11, 21).
- New Staffing: Supporting new positions, including a Water Conservation Specialist and a shared Assistant Engineer (p. 14).

**Capital Improvement Projects Delivered:**

- W01 - Bale Slough
- W-02 - Tank 2 - PAX Mixer
- W-08 - Pratt Avenue Transmission Bridge
- W-12 - Community Drive

- W-13 - Howell Mountain Road
- W-28 - Rutherford
- W31 - Water Treatment Plant Upgrades
- W-37 - Corp Yard Improvements
- W-38 - Machinery & Equipment
- W-42 - Supervisory Control and Data Acquisition (SCADA)
- W-57 - WTP Worker Housing
- W-62 - Water Valve Replacement
- W-67 - Charter Oak Water Main Replacement
- W-69 - Stonebridge Wells Upgrades
- W-83 - Tank 1A Design/Construction
- W-84 - Bell Canyon Intake Mid-Valve Repair
- W-88 - Surge Protection at LSWTP & SBW
- W-89 - Fixed Gas Chlorine Analyzer
- W-98 - Toilet Retrofit Program
- W-99 - Radio Repeater/Infrastructure
- W76-01 - Distribution Vehicle Replacement Program
- W76-02 - Treatment Vehicle Replacement Program
- W-102 - Well Filter Rehab
- W-103 - Stonebridge Well Roof
- W-104 - 412 Crystal Springs Road Roof

2016 WATER RATE STUDY

**Justifications for water rate increases:**

The additional revenue generated by these increases is intended to fund four primary areas:

- Operational Sufficiency: Meeting all annual operating and maintenance expenses without relying on the City's General Fund or other services (like parks and libraries). (pp. 7, 16)
- Capital Improvement Projects: Funding a $13.8 million five-year capital plan (part of a larger $20.8 million ten-year plan), including projects like the York Creek dam removal and Bell Canyon Reservoir improvements. (pp. 16, 41)
- The following projects represent the most significant investments planned for the water system (p. 41):
    - York Creek Dam Removal & Creek Restoration: This project is partially funded by $1.78 million in grants and $2.7 million in existing bonds (p. 16).
    - Bell Canyon Intake Tower Replacement: A critical infrastructure project estimated at $2.1 million, assumed to be financed by new debt (pp. 16, 43).
    - Upper Reservoir Dam Removal & Mitigation: Identified as a key project for the system (p. 12).
    - Pump Station Upgrades: General upgrades to system pump stations, estimated at $212,514 and funded by new debt (pp. 16, 43).

- Tank Rehabilitation & Upgrades: Including the Meadowood Tank upgrades (partially grant-funded), Holmes Tank upgrades, and Tank 2 rehabilitation (p. 41).
- Operational Infrastructure: Replacing the Bell House valve and installing Bell Canyon Creek flow measurement devices (p. 41).
- Reservoir Improvements: General improvements and spill containment at Bell Canyon Reservoir and the Stonebridge Well (p. 12).
- Water Meter Replacement Program: A recurring program to replace approximately 5% of the system's meters annually (roughly 125 meters per year) (p. 44).
- Debt Service & Compliance: Restoring the required 1.20x debt service coverage ratio and supporting the issuance of $2.7 million in new debt for pump station upgrades and the Bell Canyon intake tower replacement. (pp. 16, 42)
- Reserve Building: Establishing a healthy cash reserve (targeting 6 to 12 months of operating expenses) to fund emergencies and unanticipated capital needs. (pp. 16, 44)
- Meter Replacement: Implementing a new routine program to replace roughly 5% of the system's meters annually over a 20-year cycle. (pp. 13, 43)

**Capital Improvement Projects Delivered:**

- W18-119 - Bell Canyon Spillway Stability Assessment
- 301-W-26 - Upper York Creek Ecosystem Restoration
- 302-W-27 - Meadowood Tank Upgrades

- 308-W-93 - Sludge Handling Program
- 0315-W18-112 - Spill Containment at Bell Creek
- 0317-W18-114 - Spill Containment at SB Wells
- 0319-W18-116 - Update GIs Maps of Water System
- 0320-W18-117 - Water Master Plan Update
- 03005-W-110 - Rutherford Pump Upgrade
- 03002-W-106 - Pump Station Upgrades
- 03018-W18-115 - Remove Restrictions - Rutherford Pump Station
- 03024-W20-01 - Bell Canyon Spillway Repairs
- 03025-W21-01 - Kearney and Andrea Water Main Replacement

2023 WATER RATE STUDY

**Justifications for water rate increases:**

The additional revenue is designated to fund several critical areas of the water utility's operations (p. 13):

- Major Capital Reinvestment: Funding a significantly expanded Capital Improvement Plan averaging $6.7 million per year—a massive jump from the historical average of $1 million annually (pp. 13, 28). The following projects account for the bulk of the $35.8 million in planned spending over the five-year rate period:
- Napa Intertie Pipeline & Pump Station: A critical project to ensure water reliability, involving the replacement of the intertie pipeline and the construction of a new pump station (approx. $10 million total). (pp. 42-43)

- Water Treatment Plant (WTP) Transmission Main: A major replacement of the main line carrying water from the treatment plant (approx. $9.1 million). (p. 43)
- Bell Canyon Intake Tower Replacement: Replacing the aging intake infrastructure at the reservoir (approx. $3.7 million). (pp. 42-43)
- Spring Mountain Pressure Zone (Holmes Tank): Significant improvements and upgrades to the Holmes Tank to support the local pressure zone (approx. $3.6 million). (p. 43)
- Smart Water Meters: A system-wide transition to advanced metering infrastructure to improve billing accuracy and leak detection (approx. $2.2 million). (p. 43)
- Tank 2 Rehabilitation: Repairs and upgrades to the existing storage tank at the Lower Reservoir (approx. $1 million). (p. 43)
- Operational Inflation: Offsetting rising costs for personnel (salaries/benefits), utilities, and supplies (pp. 13, 35).
- Debt Service: Meeting the 1.20x coverage ratio required to issue approximately $33.5 million in new revenue bonds for large-scale infrastructure projects (pp. 16, 44).
- Reserve Replenishment: Restoring cash reserves that have been used to mitigate previous drought impacts and unexpected operating costs (pp. 15, 28).

**Capital Improvement Projects Delivered**

- Installing monitors with automated alerts and notifications at Bell Canyon Treatment Plant
- Replacing filters and filter media at Bell Canyon

- Installing remote operation capabilities at Bell Canyon to enable staff to respond better and faster to changing water conditions.
- SCADA system installation and upgrades at Bell Canyon.
- Improved water sampling and data gathering to help identify and address water taste, odor, and color issues more efficiently.

## Fiscal Years 2026 - 2030 Capital Improvement Projects with funding sources (based on sources)

| | | FUNDING SOURCES | | | |
|---|---|---|---|---|---|
| **PROJECT #** | **PROJECT NAME** | **BONDS** | **OTHER** | **UNIDENTIFIED** | **TOTALS** |
| W18-113 | Water System SCADA Improvements | $533,327 | | | **$533,327** |
| W18-118 | Replace Mains <6" in diameter | $1,014,902 | | | **$1,014,902** |
| W24-01 | Water Distribution Fire Flow Improvements | $156,000 | | | **$156,000** |
| W24-02 | Napa Intertie Pump Station Replacement | $1,287,571 | | $9,309,649 | **$10,597,220** |
| W24-04 | Retrofit/Deploy SMART water meters | $5,000 | | | **$5,000** |
| W24-11 | Bell Canyon Dam DSOD Analysis/Improvements | $2,867,684 | | | **$2,867,684** |
| W24-12 | Disinfection by products Project | $770,713 | | | **$770,713** |
| W25-01 | Napa Intertie Pipeline Replacement | $6,092,269 | | | **$6,092,269** |
| W25-02 | Water Treatment Plant Transmission Main Replacement | $7,400,084 | | | **$7,400,084** |
| W26-01 | Water Treatment Plant Microgrid/SCADA Upgrades | | $867,000 | $1,633,000 | **$2,500,000** |
| W26-03 | Water Treatment Plant Modular Homes | | $150,000 | | **$150,000** |
| W29-01 | Water Treatment Plant Rehabilitation | | | $8,400,000 | **$8,400,000** |

| | | | | | |
|---|---|---|---|---|---|
| W29-02 | PWRR-1 yr 6-10 Water Main Annual Replacement Program Allowance | | | $485,967 | **$485,967** |
| W85 | Bell Canyon Valve House Replacement | $937,955 | | | **$937,955** |
| W86 | Spring Mountain Pressure Zone Improvements (Holmes Tank Upgrade) | $3,615,968 | | | **$3,615,968** |
| W-101 | Tank 2 Rehabilitation | $534,775 | | | **$534,775** |
| W-108 | Lower Reservoir Rehab | $50,000 | | | **$50,000** |
| W-109 | Bell Canyon Intake Tower Replacement | $5,000,000 | | | **$5,000,000** |
| | | **$30,266,248** | **$1,017,000** | **$19,828,616** | **$51,111,864** |

## Table 1. City Council, City Manager, Public Works Director Turnover Background (2010-2026)

| Year | City Manager | Public Works Director |
|---|---|---|
| 2010 | Mary Neilan | Unknown |
| 2011 | Mary Neilan → Gary Broad | Unknown |
| 2012 | Gary Broad | John Ferons |
| 2013 | Gary Broad | John Ferons (resigned Oct.) |
| 2014 | Gary Broad → Jennifer Phillips (Aug.) | Contract/interim (Jan.–Oct.) → Steve Palmer (Oct.) |
| 2015 | Jennifer Phillips | Steve Palmer |

| | | |
|---|---|---|
| 2016 | Jennifer Phillips | Steve Palmer → Erica Ahmann Smithies (Sept., as Asst. Dir.) |
| 2017 | Phillips → Larry Pennell, interim (Jan.) → Mark Prestwich (July) | Steve Palmer (left Mar.) → Erica Ahmann Smithies, promoted (Apr.) |
| 2018 | Mark Prestwich | Erica Ahmann Smithies |
| 2019 | Mark Prestwich | Erica Ahmann Smithies |
| 2020 | Mark Prestwich | Erica Ahmann Smithies |
| 2021 | Prestwich → Jim McCann, interim (Apr.) | Smithies (left Mar.) → Joe Leach |
| 2022 | Jim McCann, interim → Anil Comelo (July) | Joe Leach |
| 2023 | Anil Comelo | Joe Leach |
| 2024 | Anil Comelo | Joe Leach |
| 2025 | Anil Comelo | Joe Leach |
| 2026 | Anil Comelo (left Apr.) → Jim McCann, acting | Joe Leach |

**Table 2. St. Helena City Council Turnover Analysis (2010–2026)**

| # | Member | Role/Tenure | How Departed |
|---|---|---|---|
| 1 | Del Britton | Mayor, through ~2013 | Died in office |
| 2 | Caterina Sanchez | Council, ~2008–2012 | End of term |
| 3 | Sharon Crull | Council, 2008–2016 | Did not seek re-election |
| 4 | Ann Nevero | Appointed Mayor after Britton's death; lost 2014 race | Lost to Galbraith |
| 5 | Greg Pitts | Council, through at least 2014 | Did not seek re-election |
| 6 | Mario Sculatti | Council, ~2010–2014 | Lost or didn't run in 2014 |
| 7 | Peter White | Council, ~2010–2014 | Lost or didn't run in 2014 |
| 8 | Alan Galbraith | Mayor, 2014–2018 | Conceded after losing to Ellsworth by 41 votes |
| 9 | Paul Dohring | Council 2014–2022, Mayor 2022–present | Currently serving |

| | | | |
|---|---|---|---|
| 10 | Geoff Ellsworth | Council ~2016–2018, Mayor 2018–2022 | Did not seek re-election |
| 11 | Lester Hardy | Council, elected 2018; served ~2 yrs | Departed mid-term |
| 12 | Eric Hall | Council, elected 2018; lost 2022 mayoral race; served to Jan 2023 | End of term |
| 13 | Anna Chouteau | Council 2018–2022, re-elected 2022; resigned to join Rep. Mike Thompson's staff | Resigned Dec 2024 |
| 14 | Patrick Kenealy | Council, ~2020–2024 | Did not run in 2024 |
| 15 | Billy Summers | Council, elected 2022–present | Removed from office for lack of attendance on April 27, 2026 |
| 16 | Michelle Deasy | Council, elected Nov 2024–present | Currently serving |
| 17 | Aaron Barak | Council, elected Nov 2024–present | Currently serving |
| 18 | Kate Spadarotto | Appointed Jan 2025 to fill Chouteau's seat | Currently serving |

| | | | |
|---|---|---|---|
| 19 | Scott Diaz | Appointed May 2026 to fill Summers' seat | Currently serving |