



City of St. Helena
Water and Wastewater Advisory Committee
Regular Meeting
City Hall 1088 College Avenue, St. Helena,
CA 94574
Thursday, September 25, 2025 @ 10:30 AM

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.

Public comment for meetings will be accepted via email to publiccomment@cityofstheleena.gov. All public comments must be emailed at least three hours prior to the meeting. Emailed public comments will not be read out loud but will be publicly available and attached to the on-line agenda.

Page

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/Public Works Director/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 AND BOARD
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.
5. CONSENT CALENDAR:
Members of the Water and Wastewater Rate Study Advisory Committee or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, on motion may be used to adopt all recommendation actions.
 - 5.1. Water and Wastewater Advisory Committee Meeting Minutes of August 28, 2025.
[Water and Wastewater Advisory Committee - 28 Aug 2025 - Minutes](#)

3 - 5

6. OLD BUSINESS:

6.1. Revisit Safe Yield Analysis Update

7 - 38

Prepared By: Joseph Leach, Assistant City Manager/Director of Public Works/City Engineer

[Safe Yield Update Presentation](#)

[Safe Yield Executive Summary](#)

[Safe Yield Study Recommendations Matrix](#)

[Safe Yield Study Recommendations Matrix-Revised](#)

6.2. Revisit Discussion Surrounding Potential of Decommissioning Lower Reservoir

7. NEW BUSINESS:

7.1. Requirement of Backflow Devices

Prepared By: Ian Dale, Environmental Services Tech

8. SUBCOMMITTEE UPDATES

8.1. Factors Contributing to St. Helena's High Utility Rates

Prepared By: Mario Trinchero, Garry Rose

8.2. Water Quality

Prepared By: Peter White, Jay Kouba

8.3. Storm Incursion

Prepared By: Peter White, Carl Myers

8.4. Capital Project Prioritization

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Prepared By: Garry Rose, Jay Kouba

[Portfolio View of Water and Wastewater Projects - Presentation](#)

9. FUTURE AGENDA ITEMS

9.1. Review and Discussion of the Water Management Plan and Updated Water Neutrality Implementation Policy: TBD

10. ADJOURNMENT

The next regular Water and Wastewater Rate Study Advisory Committee meeting is scheduled for TBD.

This agenda was posted at City Hall, 1088 College Avenue, St. Helena, California on September 22, 2025.

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) 968-2742. 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
Water and Wastewater Advisory Committee
Meeting
Thursday, August 28, 2025 @ 10:30 AM
City Hall 1088 College Avenue, St. Helena, CA
94574

1 CALL TO ORDER

Chair Randol called the meeting to order at 10:30a.m.

2 ROLL CALL

Present: Chair Brent Randol, Vice Chair Garry Rose, Member Jay Kouba, Member Peter White, Member Carl Myers

Staff Liaison: Joe Leach

Absent: Member Mario Trinchero

3 PUBLIC FORUM:

Public comment was opened and comments were received by Jeff Farmer. Public comment was closed.

4 REPORTS BY STAFF AND BOARD

Director Leach provided an update on the Wastewater Treatment Plant Upgrades project.

5 CONSENT CALENDAR:

- a) Water and Wastewater Advisory Committee Meeting Minutes of July 10, 2025.

Member Kouba moved to approve the consent calendar. Vice Chair Rose seconded the motion.

Ayes: Vice Chair Rose, Member Kouba, Member Myers

Noes: None

Abstentions: Chair Randol and Member White

6 OLD BUSINESS:

7 NEW BUSINESS:

- a) Discussion and Consideration of Advancing Water and Wastewater Rate Study Timeline and Committee Input on Timing, Scope of Services, and Schedule
Prepared By: Mandy Kellogg, Administrative Services Director

The committee discussed potentially advancing the Water and Wastewater Rate Study to FY 2026, expressing concerns about timing, financial impacts, and readiness; staff will return with updated financial information before further

Water and Wastewater Advisory Committee
August 28, 2025

action. Public comment was opened, Tom Belt provided comment, public comment was closed.

- b) Discussion on Coordination Between Finance Committee and Water/Wastewater Advisory Committee Regarding Enterprise Fund Financial Review and Analysis

The committee discussed coordination between the Finance Committee and the Water/Wastewater Advisory Committee regarding financial review of the enterprise funds, with general consensus that the Finance Committee should lead the analysis, supported by formal communication between the two committees. Public comment was opened, no comment was received, public comment was closed.

- c) Discussion and Consideration of Either Supporting Staff Seeking Council Authorization for Owner's Representative Services for Delivery of Several Capital Improvement Projects OR Reprioritize (i.e. defer delivery) Various Projects and Determine Options for Delivery.
Prepared By: Joseph Leach, Assistant City Manager/Director of Public Works/City Engineer

The committee discussed whether to support staff in seeking Council authorization for Owner's Representative services to assist with delivering several Capital Improvement Projects or to reprioritize and defer certain projects. There was general support for moving forward with selected projects that have time-sensitive constraints, provided they are prioritized appropriately. Public comment was opened, Tom Belt provided comment, public comment was closed.

8 Subcommittee Updates

- a) Factors Contributing to St. Helena's High Utility Rates
Prepared By: Mario Trinchero, Garry Rose

Vice Chair Rose discussed looking into the information that drives the rate study.

- b) Water Quality
Prepared By: Peter White, Jay Kouba

Member Kouba discussed meeting with Dr. Najm and Director Leach to create a Water Quality Memo.

- c) Storm Incursion
Prepared By: Peter White, Carl Myers

The subcommittee did not have an update.

- d) Capital Project Prioritization
Prepared By: Garry Rose, Jay Kouba

Water and Wastewater Advisory Committee
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The subcommittee presented concerns about water security and CIP projects that will help address unaccounted for water.

9 Future Agenda Items

- a) Review and Discussion of the Water Management Plan and Updated Water Neutrality Implementation Policy: TBD

10 ADJOURNMENT

Chair Randol adjourned the meeting at 12:37p.m.

APPROVED:

ATTEST:

Brent Randol, Chair

Joe Leach, Staff Liaison

City of St. Helena Safe Yield Update

Water and Wastewater Advisory Committee
September 25, 2025



Committee Comments & Questions

- More detail on the methodology of getting from Safe Yield to Sustainable Yield
- Creating a one or two page executive summary for the council and citizens to read as opposed to 40-some pages of analysis.
- Further questions of West Yost regarding relationship between Table 5 on page 8 of appendix A and Table 6 on page 9 of appendix A and Figure 2 - Bell Canyon Reservoir Annual Yield.
- Considering the Tables mentioned in item 3 above, how do these apply if we were to have 3 dry years in a row.

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Annual Safe Yield vs. Sustainable Yield

(described in Attachment A of May 2025 Memo)

- Two yield estimates are provided in the Study
 - Annual Safe Yield (Table 5)
 - Sustainable Yield (Table 6)
- Both evaluate potential supply available to the City, with the key difference being how carryover storage is handled
 - Annual Safe Yield does not consider carryover storage
 - Sustainable Yield does consider carryover storage



Annual Safe Yield Estimate (Table 5)

- Represents the amount of water that can be withdrawn from the reservoir in a single year based on corresponding rainfall and runoff in that one year
- Considers historical rainfall pattern for the last 71 years (1951-2022) and evaporation
- Utilizes the derived rainfall-runoff relationship and the bypass flow requirements and 25% fire storage to determine supply available to the City
- **No carryover storage is considered; reservoir is assumed to be 'empty' at the start of each year, except for 25% of reservoir storage reserved for fire storage**



Annual Safe Yield Estimate (Table 5)

Table 5. Annual Safe Yield Estimate Summary

Probability of Exceedance, percent ^(a)	Precipitation, inches ^(b)	Estimated Reservoir Inflow, acre-feet ^(c)	Required Bypass, acre-feet ^(d)	Evaporation, acre-feet ^(e)	Water Supply Available to City, acre-feet ^(f)
50	33.7	1,988	1,197	161	631
55	31.7	1,827	1,173	144	510
60	29.5	1,659	1,148	120	392
65	28.1	1,562	1,133	104	325
70	26.9	1,480	1,121	94	266
75	25.8	1,406	1,109	94	203
80	24.8	1,340	1,097	72	171
85	21.3	1,129	1,015	66	48
90	20.8	1,098	995	61	43
95	13.3	741	727	13	1
100	6.0	503	503	—	—

(a) Probability that precipitation and water supplies will be greater than indicated.

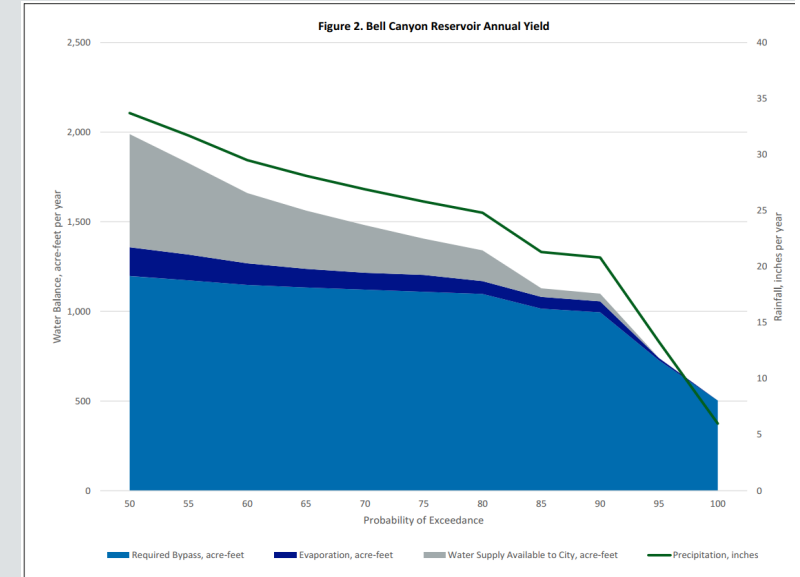
(b) Rainfall associated with exceedance probability of water years 1951-2022.

(c) Estimated Reservoir inflow based on statistical data (1988-2022) and calculated inflow. Varies with rainfall pattern.

(d) Possible required bypass based on bypass regulations and normalized rainfall patterns. Varies with rainfall pattern.

(e) Approximate evaporation based on Et and open surface area in reservoir. Low values for evaporation during dry years is indicative of a low reservoir water surface elevation.

(f) Inflow minus bypass and evaporation.



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Sustainable Yield Estimate (Table 6)

- Represents the amount of water that can be consistently withdrawn from the reservoir each year assuming a minimum amount of rainfall
- Considers historical rainfall pattern for the last 71 years (1951-2022)
- Utilizes the derived rainfall-runoff relationship and the bypass flow requirements and 25% fire storage to determine the supply available to the City
- **Includes the beneficial effect of carryover storage from wet years to dry years**



Sustainable Yield Estimate (Table 6)

Table 6. Estimated Sustainable Yield of Bell Canyon Reservoir^(a)

Condition	Minimum Rainfall, inches	Estimated Sustainable Yield, acre-feet	Notes
Wet Years	36.4	895	Corresponds to 40% Exceedance
Normal Year	29.5	733	Corresponds to 60% Exceedance
Below Normal Year	24.8	557	Corresponds to 80% Exceedance
Dry Year	20.8	476	Corresponds to 90% Exceedance
Critical Dry Year	6.0	390	Corresponds to 100% Exceedance
(a) Based on Sustainable Yield Reservoir Model.			



- Per the methodology from 2011 evaluation, the updated **Sustainable Yield (516 AF)** is defined as the average of the Below Normal (557 AF) and Dry (476 AF) estimated sustainable yields

Table 6. Estimated Sustainable Yield of Bell Canyon Reservoir ^(a)			
Condition	Minimum Rainfall, inches	Estimated Sustainable Yield, acre-feet	Notes
Wet Years	36.4	895	Corresponds to 40% Exceedance
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Dry Year	20.8	476	Corresponds to 90% Exceedance
Critical Dry Year	6.0	390	Corresponds to 100% Exceedance
(a) Based on Sustainable Yield Reservoir Model.			

→ Average = 516 AF = Sustainable Yield

- Estimated Sustainable Yield available in Dry Years would be 476 AF, assuming rainfall is at least 20.8 inches
- Actual supply available in any future Dry Year would depend on the available carryover storage from previous years, but based on the historical rainfall would be about 476 AF



Comparison to 2011 Results

- Rainfall amounts have decreased for each hydrologic condition
- Less rainfall directly on the reservoir and in the watershed
- Less runoff for the same rainfall event
- Sustainable Yields reduced 16 to 32%

Condition	Per 2011 Safe Yield Estimate		Per 2025 Safe Yield Update		Percent Reduction in Estimated Annual Sustainable Yield	Notes
	Minimum Rainfall, inches	Estimated Annual Sustainable Yield, acre-feet	Minimum Rainfall, inches	Estimated Annual Sustainable Yield, acre-feet		
Wet Year	38.5	1,070	36.4	895	16%	Corresponds to 40% Exceedance
Normal Year	32.7	970	29.5	733	24%	Corresponds to 60% Exceedance
Below Normal Year	26.0	820	24.8	557	32%	Corresponds to 80% Exceedance
Dry Year	22.0	615	20.8	476	23%	Corresponds to 90% Exceedance
Critical Dry Year	10.4	510	6.0	390	24%	Corresponds to 100% Exceedance

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THANK YOU

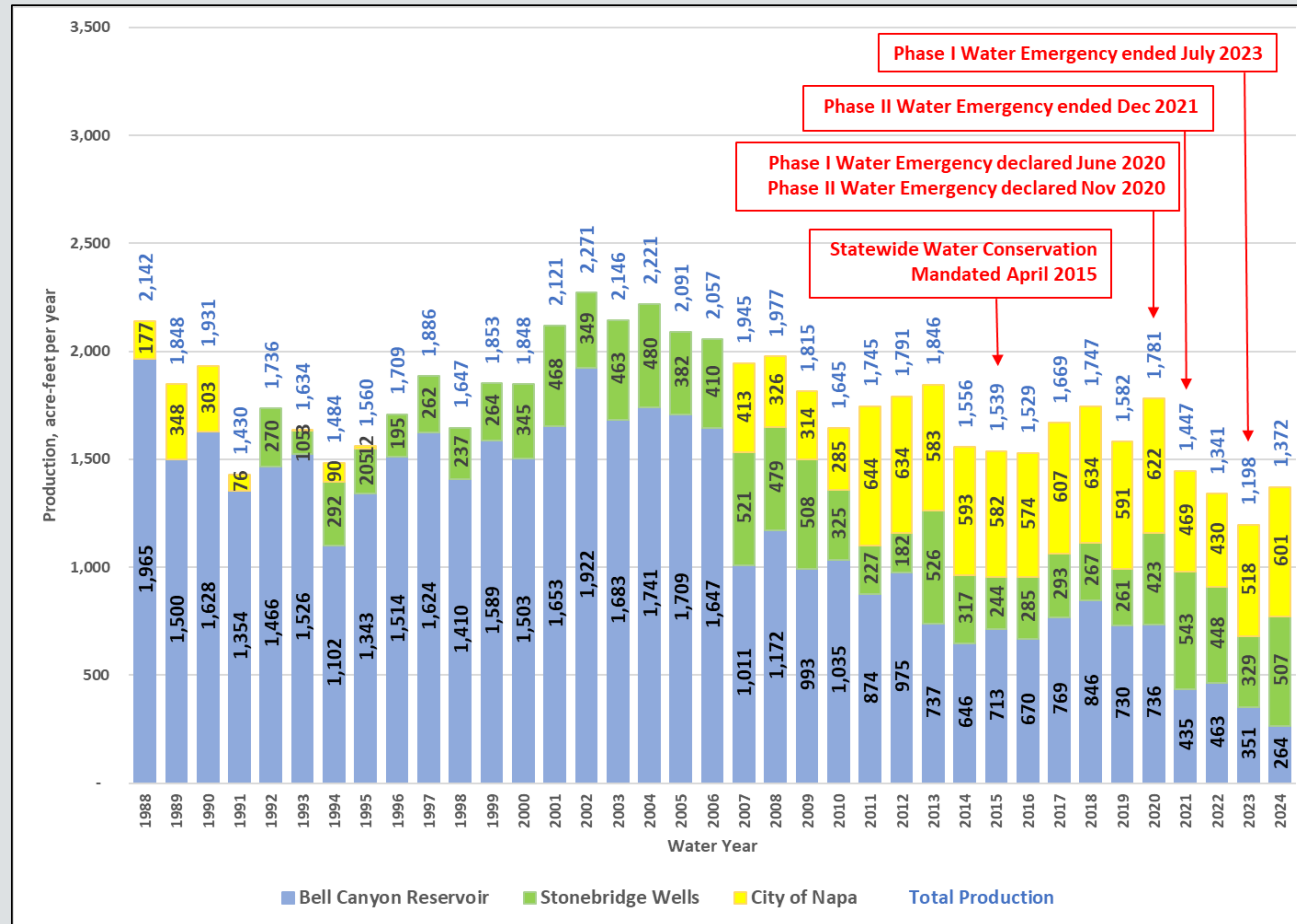
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Presentation Outline

- Safe Yield Update
 - Historical Water Use
 - Preliminary Findings for Safe Yield Update
 - Comparison to 2011 Safe Yield Estimate
 - Comparison to Existing Water Use and Water Demand Projections
 - Recommended Next Steps for Water Portfolio Management



Historical Water Use (Production)



- Bell Canyon Reservoir (blue)
- Stonebridge Wells (green)
- City of Napa Supply (yellow)



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2011 Safe Yield Estimate

Source	2011 Safe Yield Estimate, AF	
Bell Canyon	700 AF	Average of Below Normal and Dry Year yield estimate
Groundwater	450 AF	
City of Napa	800 AF	Based on full contractual amount
TOTAL	1,950 AF	
Non-Revenue Water	(292 AF)	Based on 15% Non-Revenue Water
NET TOTAL	1,658 AF	

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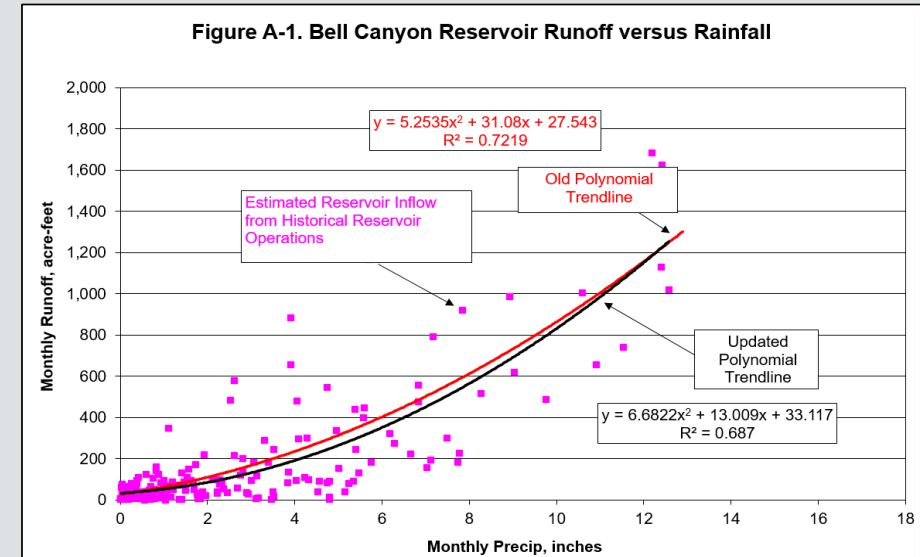
Updates to Bell Canyon Reservoir Model

- Previous model included daily reservoir operations data from 1988 to 2009
- Model update added available daily reservoir operations data through July 2023, including data for the following periods:
 - January 2014 through April 2020 --- primarily drought years
 - January 2023 through July 2023 --- primarily wet months
- Inadequate data was available for the following periods:
 - 2010 to 2013 --- wet and dry years
 - May 2020 through December 2022 --- dry and normal years



Bell Canyon Reservoir

- Findings based on updated reservoir operations and precipitation data
 - Less precipitation
 - Less runoff for same rainfall event



Condition	Minimum Rainfall, inches	Estimated Sustainable Yield, acre-feet	Notes
Wet Years	36.4 ($\Delta = -1.9$)	895 ($\Delta = -175$)	Corresponds to 40% Exceedance
Normal Year	29.5 ($\Delta = -3.2$)	733 ($\Delta = -237$)	Corresponds to 60% Exceedance
Below Normal Year	24.8 ($\Delta = -1.2$)	557 ($\Delta = -263$)	Corresponds to 80% Exceedance
Dry Year	20.8 ($\Delta = -1.2$)	476 ($\Delta = -139$)	Corresponds to 90% Exceedance
Critical Dry Year	6.0 ($\Delta = -4.4$)	390 ($\Delta = -120$)	Corresponds to 100% Exceedance

Δ indicates change from 2011 Safe Yield Estimate

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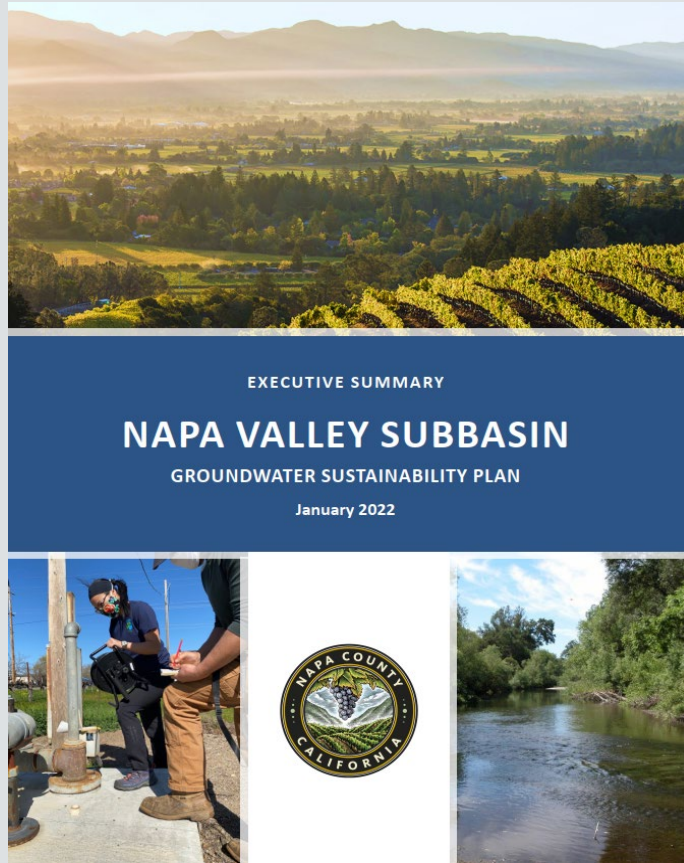
Historical Groundwater Use (WY 2010-2024)

Water Year	Water Year Type ^(a)	Annual Groundwater Production, AF ^(b)	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%

- WY 2010-2024 Average Groundwater Production
 - 345 AF
 - 22% of total annual supply
- Average GW Production in Normal, Wet and Very Wet Years
 - 287 AF
 - 19% of total annual supply
- Average GW Production in Below Normal, Dry and Very Dry Years
 - 374 AF
 - 24% of total annual supply



Future Use of Groundwater



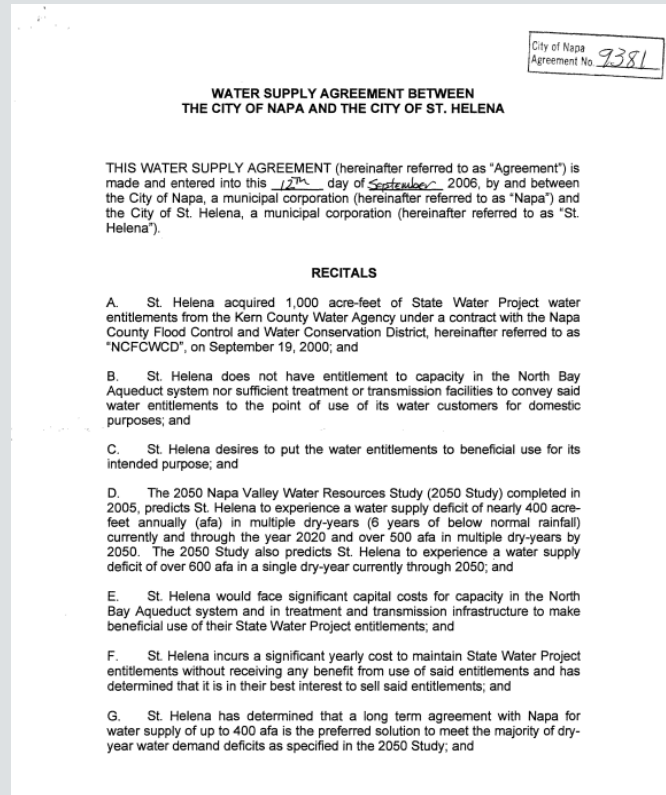
The Napa Valley Groundwater Sustainability Plan (GSP) calls for 10% reduction in pumpage compared to average pumping for Water Years 2005-2014

- Average City Groundwater Production for Water Years 2005-2014: 388 AF (Stonebridge Wells No. 1 and 2)
- A 10% reduction would reduce that number to 350 AF
 - May be possible to offset some existing City groundwater use with recycled water
 - Recycled water may also be available to offset private groundwater use resulting in a benefit to the overall groundwater basin

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Future Use of City of Napa Water Supply



- Annual water supply of 600 AF with an option to request an additional 200 AF each year
- Improvements needed to ensure that City can reliably take up to 800 AF each year
 - Rutherford Pump Station Improvements
 - Napa Intertie Pipeline Project
 - Improvements to City of Napa Dwyer Road Pump Station
 - Updates to Water System Hydraulic Model to better evaluate existing and future conditions and potential solutions



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Unaccounted for Water (UAFW) (also referred to as Non-Revenue Water)

	FY19/20	FY20/21	FY21/22	FY22/23	FY23/24	5-Year Average (FY19/20-FY23/24)
Annual Water Production, AF	1,737	1,663	1,229	1,265	1,365	1,452
Annual Water Consumption, AF	1,634	1,341	1,032	989	1,031	1,205
Non-Revenue Water, AF	103	322	197	275	334	246
Non-Revenue Water, as a percent of total production	6%	19%	16%	22%	25%	18%

- Includes Unbilled Authorized Consumption, Unauthorized Consumption, Apparent Losses (billing and metering inaccuracies) and Real Losses (actual water loss due to leaks or breaks)
- There is no overall standard for acceptable non-revenue water; per AWWA, the general rule of thumb for a well-managed system is 10 to 15%



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Updated Safe Yield Estimate and Comparison to 2011 Estimate

Source	2011 Safe Yield Estimate, AF	Updated Safe Yield Estimate, AF	
Bell Canyon	700 AF	516 AF	Average of Below Normal and Dry Year yield estimate
Groundwater	450 AF	350 AF	Based on 10% reduction from WY 2005-2014 average pumping per GSP
City of Napa	800 AF	800 AF	Based on full contractual amount
TOTAL	1,950 AF	1,666 AF	
Non-Revenue Water	(292 AF)	(300 AF)	Based on 18% Non-Revenue Water (average for last five years)
NET TOTAL	1,658 AF	1,366 AF	Reduction of 292 AF



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Comparison to Existing Water Demand

- Recent City Water Demand
 - FY 20/21 Production = 1,663 AF
 - FY 21/22 Production = 1,229 AF
 - FY 22/23 Production = 1,265 AF
 - FY 23/24 Production = 1,365 AF
- Existing Water Demand shown in the Integrated Utility Master Plan (IUMP) based on average production from 2013-2017 = 1,624 AF

**Updated Safe Yield
Estimate = 1,666 AF**



Comparison to Future Demand Projections

- Water Rate Study (2023)
 - Projected Water Sales in FY 27/28 = 1,313 AF (1,526 AF including Non-Revenue Water)
- Integrated Utility Master Plan (IUMP) (2021)
 - Future Water Demand = 1,815 AF (includes Non-Revenue Water)

**Updated Safe Yield
Estimate = 1,666 AF**

	Projected Average Day Demand, mgd ^(a)	Projected Annual Demand, AF
Existing Water Demand ^(b)	1.45	1,624
Planned Developments	0.13	146
Study Area Growth	0.04	45
Total Future (2040) Water Demand	1.62	1,815

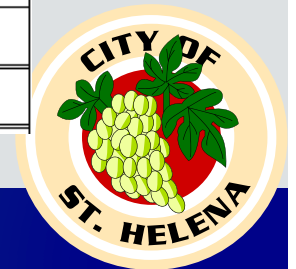
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Potential Future Water Supply Shortfall

- There is a potential future water supply shortfall of 149 AF based on the projected future (2040) water demand presented in the City's Integrated Utility Master Plan

	Projections from Integrated Utility Master Plan, AF	Adjusted Projections based on Recent Water Use Trends, AF
Existing Water Demand	1,624 ^(a)	1,365 ^(b)
Updated Annual Safe Yield Assessment	1,666 ^(c)	1,666 ^(c)
Existing Surplus (Shortfall)^(d)	42	301
Projected Future (2040) Water Demand	1,815 ^(a)	1,556 ^(e)
Updated Annual Safe Yield Assessment	1,666 ^(c)	1,666 ^(c)
Future Surplus (Shortfall)^(f)	(149)	110



Recommended Next Steps

- Continue to promote water conservation and water use efficiency by all City water customers.
- Continue to evaluate and mitigate the causes of non-revenue water in an attempt to reduce non-revenue water as much as is cost effective and feasible.
 - Replace Napa Intertie Transmission Main and Water Treatment Plant Transmission Main as known sources of leaks
 - Replace old, inefficient meters to account for water consumed
- Amend the Water Supply Agreement with the City of Napa to solidify the additional 200 AF of annual supply which is currently just an option at the City of Napa's discretion.
- Make improvements to the City's Rutherford Pump Station and the Napa Intertie Transmission Main to facilitate the delivery of water supplies from the City of Napa.



Recommended Next Steps

- Implement recycled water projects as recommended in the Recycled Water Facilities Plan to offset (reduce) potable water demands.
- Implement water supply projects as recommended in the Water Management Plan (currently being prepared for the City) to bolster the City's water supply availability and reliability.
- Update the Water Neutrality Policy to clarify requirements and improve implementation and enforcement to offset water demands associated with new development.
- Systematically replace aging infrastructure, including leaking pipelines and the Water Treatment Plant Transmission Pipeline.



Executive Summary: City of St. Helena Water Supply Safe Yield Update

The City of St. Helena has updated its water supply safe yield estimate to reflect recent hydrologic conditions, regulatory requirements, and operational needs. This update, prepared by West Yost Associates, revises the 2011 estimate and considers impacts from recent droughts, wildfires, and infrastructure challenges. The safe yield represents the volume of water that can be reliably supplied each year under most conditions, including dry years, without imposing undue hardship on customers.

The City's water supply portfolio consists of three primary sources: surface water from Bell Canyon Reservoir, groundwater from the Stonebridge Wells, and purchased water from the City of Napa. Each source was re-evaluated to determine its sustainable contribution to the City's annual water supply.

The Bell Canyon Reservoir, historically the City's primary source, has seen a decline in sustainable yield due to climate-driven reductions in rainfall and runoff. Updated modeling using data through July 2023 shows that the reservoir's average annual sustainable yield under below-normal and dry year conditions has dropped from 700 acre-feet (AF) in 2011 to 516 AF in 2025, a reduction of approximately 26 percent. This decline reflects both changing precipitation patterns and increased variability in inflows.

Groundwater from the City's Stonebridge Wells is now limited by the Napa Valley Subbasin Groundwater Sustainability Plan (GSP), which calls for a 10 percent reduction in average annual pumping compared to historical levels. As a result, the City's safe yield from groundwater has been reduced from 450 AF to 350 AF per year. While the City may exceed this amount in dry years, sustained pumpage exceeding this amount would conflict with the GSP's sustainability goals.

The City's agreement with the City of Napa remains a critical component of its supply, providing a base of 600 AF annually with an option for an additional 200 AF. The updated safe yield assumes the City can reliably access the full 800 AF, contingent on infrastructure improvements at the Rutherford Pump Station and the Napa Intertie Transmission Main. These upgrades are essential to ensure consistent delivery of the contracted supply.

Taking all sources into account, the City's updated total annual safe yield is 1,666 AF, down from 1,950 AF in 2011. After accounting for non-revenue water, currently averaging 18 percent due to system losses and operational flushing, the net annual safe yield is 1,366 AF, compared to 1,658 AF previously. This net yield is sufficient to meet current demand, which has declined in recent years due to on-going conservation efforts, but may not meet the projected future demand of 1,815 AF by 2040.

To address this potential shortfall, the City is developing a Recycled Water Facilities Plan and a Water Management Plan to identify new supply options and conservation strategies. It is also planning to revise its Water Neutrality Policy to limit increases in overall water demand associated with new development. Continued investment in infrastructure, conservation, and alternative supplies will be essential to maintaining a reliable and resilient water system.

August 21, 2025
Safe Yield Study Recommendations

West Yost Recommendations	W&WW Advisory Recommendations	Staff Recommendations
Continue to promote water conservation and water use efficiency by all City water customers		
Continue to evaluate and mitigate the causes of non-revenue water in an attempt to reduce non-revenue water as much as is cost effective and feasible. - Replace Napa Intertie Transmission Main and Water Treatment Plant Transmission Main as known sources of leaks - Replace old, inefficient meters to account for water consumed	Develop a high confidence measurement of non-revenue water - Calibrate large water meters at each water production site - Measure calendar month billed water volume (enabled by residential water meter replacement) If non-revenue water exceeds 15% of produced water, develop a prioritized list of suspected leakage locations	
Amend the Water Supply Agreement with the City of Napa to solidify the additional 200 AF of annual supply which is currently just an option at the City of Napa's discretion.	Propose volumes for supply from the City of Napa including 1) mutually obligated water supply, 2) additional supply by mutual agreement, 3) additional supply at SH discretion based on 10 year supply plan	
Make improvements to the City's Rutherford Pump Station and the Napa Intertie Transmission Main to facilitate the delivery of water supplies from the City of Napa.		
Implement recycled water projects as recommended in the Recycled Water Facilities Plan to offset (reduce) potable water demands.		

West Yost Recommendations	W&WW Advisory Recommendations	Staff Recomendations
Implement water supply projects as recommended in the Water Management Plan (currently being prepared for the City) to bolster the City's water supply availability and reliability.		
Update the Water Neutrality Policy to clarify requirements and improve implementation and enforcement to offset water demands associated with new development.	Update the Water Neutrality Policy to base compensation on the capital cost per gallon of water leakage reduction and/or recycled water implementation	
Systematically replace aging infrastructure, including leaking pipelines and the Water Treatment Plant Transmission Pipeline.		
	Develop a 10 year water supply plan which includes current supply, additional supply from Napa, new production wells and recycle water	
	Develop project plans for interties with Calistoga and Yountville supply pipelines	

September 20, 2025
Safe Yield Study Recommendations

West Yost Recommendations	W&WW Advisory Recommendations
Continue to promote water conservation and water use efficiency by all City water customers	Prepare water conservation messaging and policies prior to water supply constraints.
Continue to evaluate and mitigate the causes of non-revenue water in an attempt to reduce non-revenue water as much as is cost effective and feasible. - Replace Napa Intertie Transmission Main and Water Treatment Plant Transmission Main as known sources of leaks - Replace old, inefficient meters to account for water consumed	Develop a high confidence measurement of non-revenue water - Calibrate large water meters at each water production site - Measure calendar month billed water volume (enabled by residential water meter replacement) Develop a prioritized list of suspected leakage locations
Amend the Water Supply Agreement with the City of Napa to solidify the additional 200 AF of annual supply which is currently just an option at the City of Napa's discretion.	Based upon a 10-year water supply plan, propose volumes for supply from the City of Napa including 1) mutually obligated water supply, 2) additional supply by mutual agreement, 3) additional supply at SH discretion.
Make improvements to the City's Rutherford Pump Station and the Napa Intertie Transmission Main to facilitate the delivery of water supplies from the City of Napa.	
Implement recycled water projects as recommended in the Recycled Water Facilities Plan to offset (reduce) potable water demands.	Identify recycle water customers that could offset potable water demand. Implement projects based on customer demand
Implement water supply projects as recommended in the Water Management Plan (currently being prepared for the City) to bolster the City's water supply availability and reliability.	Define a 10-year water supply plan which includes current supply, additional supply from Napa, new production wells and recycle water
Update the Water Neutrality Policy to clarify requirements and improve implementation and enforcement to offset water demands associated with new development.	Update the Water Neutrality Policy to base compensation on the capital cost per gallon of water leakage reduction and/or recycled water implementation
Systematically replace aging infrastructure, including leaking pipelines and the Water Treatment Plant Transmission Pipeline.	Systematically replace aging infrastructure based on risk of supply constraint or disruption,
	Reevaluate the policy for retaining Bell Canyon water for firefighting, balancing safety and supply security

	Implement water production planning which optimizes stored water at Bell canyon, seasonal production at Stonebridge and volume flexibility of Napa supply
	Develop a high confidence measurement of water by-pass and implement a policy balancing by-pass obligation and supply security
	Develop initial cost estimates for interties with Calistoga and Yountville supply pipelines

REVISED DOCUMENT

Portfolio View of Water and Wastewater Projects

September 25, 2025

Why a Portfolio View?

Communication vehicle

- Overview, not a detailed view
- Interconnected set of Projects, not just a list
- Context for specifics

Describes the Shape of the set of projects

- Strategic balance
- Priority balance
- Timing and Progress balance

Context for Choices

Assign Attributes to Projects

Proj Code	Description	Section	2025 Estimate	2024 Estimate	Priority	Stage	Compliance	Infrastructure	Quality	Supply Flex	Resilience	Capability
W24-05	PFAS Sampling	W System	0	0	L	11	Stable Operations	●				
W18-120	Bell Canyon Phreatic Surface	Bell	100	100	H	11	Stable Operations	●				
W24-11	DSOD Improvements	Bell	3218	3218	H	7	Permitting	●				
W-109	Bell Intake Tower	Bell	6330	6330	H	4	Final Design	●				
W-85	Bell Valve House	Bell	576	576	H	4	Final Design	●				
W25-91	Creek Flow	Bell	50	50	M	1	Not Started	●				
W-108	Lower Res Rehab	Lower Res	297	297	M	3	Preliminary Design	●				
S52	WWTP Plant Phase 1 Upgrades	WWTP	20028	18815	H	10	Commissioning	●				
S24-01	CCTV Inspection	WW Collection	366	366	H	9	Project Execution	●				
S24-02	High Priority Sewerline	WW Collection	1278	1278	H	1	Not Started	●				
W29-01	WTP Rehab	Bell	1000	1000	M	1	Not Started		●			
W-86	Holmes Tank Rehab	W Distribution	3754	3754	M	1	Not Started		●			
W29-02	Water Main Replacement	W Distribution	486	486	H	1	Not Started		●			
S18-70	Replace 1% of sewer lines	WW Collection	1463	1263	H	1	Not Started		●			
S25-01	Flow Monitoring	WW Collection	60	60	H	1	Not Started		●			
S27-01	WWTP Pond Clearing	WWTP	1000	1000	H	1	Not Started		●			
W25-02	WTP Transmission Line	Bell	9100	9100	H	2	Design PSA		●			
S24-05	Del Campo Ct Gravity Main	WW Collection	608	608	H	2	Design PSA		●			
W24-02	Rutherford Pump Station	Napa	13120	13120	H	3	Preliminary Design		●			
W25-01	Napa Intertie	Napa	6538	6538	H	4	Final Design		●			
W-101	Tank 2 Rehab	W Distribution	1046	1046	H	5	PSE Preparation		●			
W18-111	WTP condition assessment	Bell	267	267	H	9	Project Execution		●			
S18-71	Crinella Pump Station	WW Collection	1566	1566	H	9	Project Execution		●			
W24-12	Disinfection By-products	Bell	823	823	H	1	Not Started			●		
W18-113	SCADA Improvements	W System	915	915	H	2	Design PSA			●		
W24-09	Discolored Water	W System	1336	1336	H	11	Stable Operations			●		

Section of W&WW System

Budget as proxy for Scale

Priority

Stage of Completion

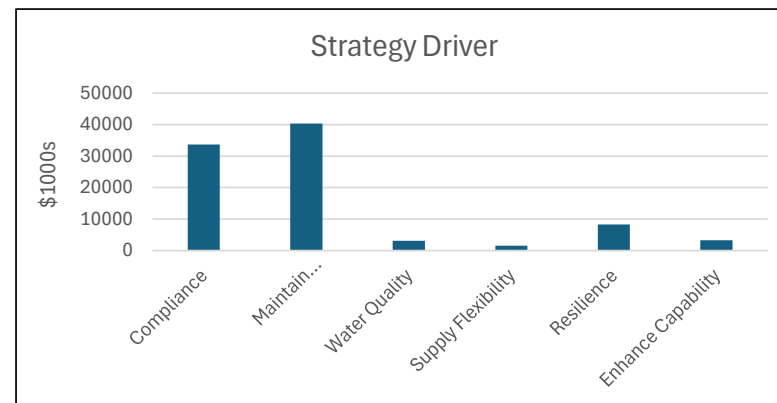
Strategic Driver

Include Non-Capital Projects

Proj Code	Description	Section	2025 Estimate	2024 Estimate	Priority	Stage	Compliance	Infrastructure	Quality	Supply Flex	Resilience	Capability
S21-01	Recycle pipeline and pump	Recycle	1806	1806	H	3	Preliminary Design				●	
S24-04	Recycle Master Plan Update	Strategy	500	500	M	2	Design PSA				●	
W-80	Dwyer Road Booster Pump	Napa	900	900	H	4	Final Design				●	
W-35	Reservoir Capacity Study	Bell	100	100	H	9	Project Execution				●	
S23-01	Crane Park Recycled water	Recycle	61	70	M	11	Stable Operations				●	
W26-01	WTP Microgrid	Bell	2600	2600	M	1	Not Started					●
W18-118	Replace <6' Water Mains	W Distribution	1331	1331	H	1	Not Started					●
W24-06	Risk & Resilience	Strategy	161	161	M	1	Not Started					●
W24-07	Cyber Security	Strategy	54	54	M	1	Not Started					●
W24-01	Fire Flow Improvements	W Distribution	468	468	H	3	Preliminary Design					●
S23-02	WWTP Back-up Power	WWTP	1815	1815	H	9	Project Execution					●
W21-01	Kearney/Andrea Mains	W Distribution	1824	1824	H	11	Stable Operations					●
W24-03	ArcGIS	W System	53	53	M	1	Not Started					●
S24-03	ArcGIS	WW System	53	53	M	1	Not Started					●
S26-01	WW Hydraulic Model	WW System	50	50	M	1	Not Started					●
S26-02	Maintenance Mgmt	WW System	133	133	M	1	Not Started					●
W26-02	Maintenance Mgmt	W System	133	133	M	2	Design PSA					●
W24-08	Safe Yield Policy	Strategy	150	150	H	9	Project Execution					●
W24-10	W Hydraulic Model	W System	212	212	H	9	Project Execution					●
W25-03	Water Management Plan	Strategy	282	282	H	9	Project Execution					●
W24-04	SMART meters	W Distribution	2254	2254	H	11	Stable Operations					●
	Non-revenue water measure	Strategy				1	Not Started				●	
	10-year water supply plan	Strategy				1	Not Started				●	
	Recycle water plan	Strategy				1	Not Started				●	
	Production Planning	W System				1	Not Started				●	
	Calistoga Yountville Interties	W System				1	Not Started					●
	Conservation Messaging	Strategy				1	Not Started					●
	Water Neutrality Policy	Strategy				1	Not Started					●
	Financial Reporting/Forecast	Strategy				1	Not Started					●

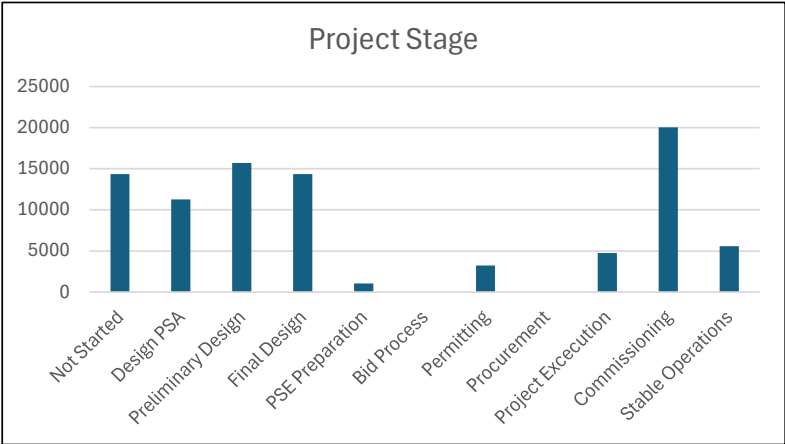
Six Strategic Drivers have been Identified

	Strategic Driver	\$1000s	#	
1	Compliance	33683	10	Reduce exposure to legal and regulatory challenges
2	Maintain Infrastructure	40374	14	Systematically replace existing infrastructure based on risk of constraint or disruption
3	Water Quality	3074	3	Improve water quality so that color and odor excursions are rare
4	Supply Flexibility	1561	4	Increase supply security and flexibility for dry years
5	Resilience	8253	7	Build water and wastewater system resilience
6	Enhance Capability	3320	9	Enhance capability and data systems for operations planning, strategy and finance
	Sum	90265	47	



A Project Proceeds through 11 Stages

Stage	\$1000s		
Not Started	14349	17	
Design PSA	11256	5	Staff prepares a RFP, a design contractor is selected leading to a Prof Services Agreement (PSA)
Preliminary Design	15691	4	Early design which defines scope of project
Final Design	14344	4	Detailed design. Not clear if PSA, from 2, covers both preliminary and detailed design
PSE Preparation	1046	1	After Design, contractor prepares Plans, Specifications and Estimate Document used in bid process
Bid Process	0	0	Formal bid process. Construction contractor selected
Permitting	3218	1	Some of the projects require approval of a regulatory body. Not sure who submits documentation
Procurement	0	0	Some of the projects require long lead time procurement (Bell Canyon Valve House)
Project Excecution	4758	8	Sometimes expressed in % of completion
Commissioning	20028	1	Start-up and shakedown, performance testing. Prolonged at new WWT plant
Stable Operations	5575	6	Done and operating
Sum	90265	47	



Compliance Project Portfolio

Proj Code	Description	Section	2025	2024	Priority	Stage		Compliance	Infrastructure	Quality	Supply Flex	Resilience	Capability
			Estimate	Estimate									
W24-05	PFAS Sampling	W System	0	0	-	11	Stable Operations	●					
W18-120	Bell Canyon Phreatic Surface	Bell	100	100	-	11	Stable Operations	●					
W24-11	DSOD Improvements	Bell	3218	3218	H	7	Permitting	●					
W-109	Bell Intake Tower	Bell	6330	6330	M	4	Final Design	●					
W-85	Bell Valve House	Bell	576	576	H	4	Final Design	●					
W25-91	Creek Flow	Bell	50	50	M	1	Not Started	●					
W-108	Lower Res Rehab	Lower Res	297	297	M	3	Preliminary Design	●					
S52	WWTP Plant Phase 1 Upgrades	WWTP	20028	18815	H	10	Commissioning	●					
S24-01	CCTV Inspection	WW Collection	366	366	M	9	Project Execution	●					
S24-02	High Priority Sewerline	WW Collection	1278	1278	M	1	Not Started	●					

Compliance Obligating Parties

California Division of Safety of Dams (DSOD)
California Department of Fish and Wildlife
California Environmental Protection Agency
Environmental Protection Agency

River Watch
Water Audit

COMPLIANCE - WATER SYSTEM

Project W24-05

PFA's Sampling

Priority: none

Test the city's drinking water for the presence of PFAs in accordance with EPA UCMR 5

Obligation:

Collect test data over a twelve-month period on PFAS presence in city drinking water and report to the State of California and the EPA

Stage 11 – Stable Operations

Completed : Date?

\$XX spent to date

\$0 additional budgeted

Notes

Test data submitted. PFA levels tested below tolerance levels?

COMPLIANCE - BELL CANYON

Project W18-120

Phreatic Surface Monitoring and Assessment

Priority: none

Installation of instrumentation to monitor the groundwater level within the Bell Canyon earthen dam.

Obligation:

Compliance with new safety regulations from the California Division of Safety of Dams (DSOD).

Continuous monitoring and reporting to DSOD.

Stage 11 – Stable Operations

Completed : February 2025

\$100,000 spent to date

\$100,000 total budgeted

Notes

Further analysis and improvement captured under project W24-11

COMPLIANCE - BELL CANYON

Project W24-11

Bell Canyon Dam DSOD Analysis/Improvements

Priority: High

Investigate and evaluate seepage conditions and the static and seismic stability of the Bell Canyon earthen dam.

Obligation:

In July 2023 California Division of Safety of Dams (DSOD) required the submission of an investigation and evaluation plan encompassing subsurface exploration, laboratory analysis, seepage and stability analysis. The city must execute the DSOD approved plan.

Stage 7 - Permitting

Workplan submitted to DSOD in Q2 2025

\$200,303 spent and encumbered to date

\$3,217,987 budgeted

Notes

Project will drill twelve wells into and beneath the dam, extract rock samples for testing and install instrumentation. Analysis will determine if additional work is necessary to assure dam stability

COMPLIANCE - BELL CANYON

Project W-109

Bell Canyon Intake Tower Replacement

Priority: Medium

Attach replacement corrugated steel riser and associated valves to existing concrete substructure while maintaining reservoir operations.

Obligation:

In 2011 the California Division of Safety of Dams (DSOD) sent a deficiency letter to the city, requiring the city to either replace the tower or perform a thorough assessment of structural adequacy. During repairs in 2015, the Director of Public Works determined that the tower was beyond repair and needed replacement. This project was initiated in June 2017

Stage 4 – Final Design

\$1,517,142 spent and encumbered to date

\$6,535,431 total budgeted

Notes

If High priority, long-lead time valves should be preapproved for purchase to accelerate completion

MAINTAIN INFRASTRUCTURE

Project W-85

Bell Canyon Valve House Replacement

Priority: High

Replace valves which regulate flow from 40- and 24-inch reservoir outlet pipes. Replace emergency release valve and foundation. Repair structural deficiencies to building.

Risk of Failure:

Valves in the Valve House, at the toe of the dam (outside), regulate the flow rate from 40- and 24-inch outlet pipes coming from the intake tower. Corrosion and pitting leaves the outlet system with an inadequate margin of safety, particularly in an emergency release. Failure could lead to interruption of water supply or catastrophic release.

Stage 4 – Final Design

\$99,907 spent and encumbered to date

\$1,609,784 total budgeted

Notes

High priority because of severe consequence of failure. Preapproval of long-lead time valves will accelerate completion

COMPLIANCE – BELL CANYON

Project W25-91

Bell Creek Flow Measurement

Priority: Medium

Design, permit and construct a flow measurement device in Bell Creek downstream from the dam. Project W-91 constructed a stream measurement device above the reservoir

Obligation:

In 1989, St. Helena agreed to Bell Creek fisheries bypass flows with the California Department of Fish and Wildlife. The bypass flows agreed were the lesser of defined flows and actual stream flows. After discussions with Water Audit in 2018, the city agreed to an interim bypass plan (IBP) with an obligation of the lesser of higher defined flows and actual stream flows. It is not clear if a final bypass plan was agreed. St Helena agreed to long-term reservoir and stream measurement systems in the IBP

Stage 1 Not Started

\$0 spent and encumbered to date

\$50,000 total budgeted

Notes

Is there a final agreement? What did W-91 build? What stream flows can we measure?

COMPLIANCE – LOWER RESERVOIR

Project W-108

Lower Reservoir Rehabilitation

Priority: Medium

Repair the 12-inch gate in the outlet tower, repair the 24-inch spillway gate, geotechnical investigation and slope stability analysis to evaluate dam integrity, seismic stability assessment of the intake tower, and rehabilitation of the 12-inch low-level outlet pipe.

Obligation:

In 2017, the state approved legislation to improve dam safety. St. Helena submitted an Emergency Action Plan to California Division of Safety of Dams (DSOD) in June 2019 and has worked through subsequent requests and revisions.

Stage 5 – PSE Preparation

\$246,379 spent and encumbered to date

\$296,603 total budgeted

Notes

Will we open a new project if additional requests and revisions come from DSOD?

COMPLIANCE – WASTEWATER PLANT

Project S-52

Wastewater Treatment Plant (WWTP) Phase I Upgrades

Priority: High

Major infrastructure initiative includes significant upgrades to the City's wastewater treatment capabilities, as well as site improvements and environmental restoration measures.

Obligation:

Project was initiated in response to a State Cease and Desist Order requiring the City to bring the plant into regulatory compliance. Upgrades required to achieve compliance with discharge requirements and levee stabilization.

Stage 10 – Commissioning (Q1 2026 completion expected)

\$18,260,358 spent and encumbered to date

\$20,028,617 total budgeted

Notes

Substantial delays from anticipated Q4 2023 completion. Cost overruns from delay and scope change. Includes facility repair and investments to increase operational efficiency.

COMPLIANCE – COLLECTION

Project S24-01

Closed-circuit Television (Cctv) Sewer Pipeline Inspection

Priority: Medium

Inspect approximately 63,000 feet of sewer pipelines using CCTV.

Obligation:

In a 2018 agreement with River Watch, the City agreed to conduct a condition assessment of all sewer lines at least every seven years. CCTV was delineated as an effective methodology.

Stage 10 – Project Execution (Q1 2026 completion expected)

\$366,505 spent and encumbered to date

\$366,505 total budgeted

Notes

Sewer pipelines to be repaired under Project S24-02 will be determined by analysis of CCTV results.

COMPLIANCE – COLLECTION

Project S24-02

High Priority Sewer Pipeline Replacement

Medium

Repair “Significantly Defective” sewer lines within 300 feet of surface water.

Obligation:

In a 2018 agreement with River Watch, the City agreed to repair all sewer lines determined to be “Significantly Defective” with priority given to those within 200 feet of surface water or a drinking water well. Subsequent negotiation increased the priority repair proximity threshold to 300 feet. Project could also significantly reduce stormwater incursion into the wastewater system and avoid non-compliant wastewater plant discharge

Stage 10 – Commissioning (Q1 2026 completion expected)

\$0 spent and encumbered to date

\$1,278,000 total budgeted

Notes

Condition assessment of the sewer lines is based upon the CCTV inspection of approximately 63000 feet of pipeline in Project S24-01.

Proposal

Help us get the data right

- Are the Drivers the right set?
- Assign Primary Drivers, Secondary Drivers
- Are the Stages the right set?
- Assign Stages
- Define investment plan for rate study

Are some Drivers higher priority than others

- Compliance, Water Quality, Resilience

Consider the portfolio for each driver

- Is it the right set of projects?
- The drivers continue as projects are finished and added

Use the portfolio view to communicate with Council