NAPA COUNTYWIDE WATER AND WASTEWATER MUNICIPAL SERVICE REVIEW PUBLIC REVIEW DRAFT

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Prepared for the
Napa Local Agency Formation Commission
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ACRONYMS AND DEFINITIONS

AB:	Assembly Bill
ABAG:	Association of Bay Area Governments
ACP:	Asbestos cement
ACCWD:	American Canyon County Water District
ADWF:	Average dry weather flow
af:	acre-feet
afy:	acre-feet per year
AIPS:	Advanced Integrated Pond Systems
AMP:	Asset Management Plan
BACWA:	Bay Area Clean Water Agencies
BAWAC:	Bay Area Water Agencies Coalition
BAWSCA:	Bay Area Water Supply and Conservation Agency
BDCP:	Bay Delta Conservation Plan
BMPs:	Best Management Practices
BOD:	Biochemical Oxygen Demand
BOE:	State Board of Equalization
Cal Water:	California Water Service Company
CAFR:	Comprehensive Annual Financial Report
CCC:	California Coast Conservancy
CCF:	one hundred cubic feet
CCR:	California Code of Regulations
CCTV:	Closed circuit television
CCWD:	Calaveras County Water District
CD:	Certificates of Deposit
CDFW:	California Department of Fish and Wildlife
CDO:	Cease and Desist Order
CDPH:	California Department of Public Health
CDVA:	California Department of Veterans Affairs
CEQA:	California Environmental Quality Act
CERBT:	California Employers' Retiree Benefit Trust
cfs:	Cubic feet per second
CIP:	Capital Improvement Plan or Program
CIWMB:	California Integrated Waste Management Board
CKH:	Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000
COCWD:	Circle Oaks County Water District
CPAR:	Corrective or Preventive Actions
CPUC:	California Public Utilities Commission
CSA:	county service area
CSD:	community services district
CSDA:	California Special District Association
CUWCC:	California Urban Water Conservation Council
CVP:	Central Valley Project
CVWD:	Congress Valley Water District
CWA:	Federal Clean Water Act

CWC:	California Water Code
CWD:	County Water Districts
CWSRF:	Clean Water State Revolving Fund
CY:	Calendar year
DAC:	Disadvantaged Community
DAF:	dissolved air flotation
DCP:	Drought Contingency Plan
DDW:	Division of Drinking Water
DEH:	County Department of Environmental Health
DFG:	California Department of Fish and Game
DOF:	California Department of Finance
DPH:	California Department of Public Health
DPR:	direct potable reuse
DSOD:	Department of Safety of Dams
DTSC:	California Department of Toxic Substances Control
DUCs:	disadvantaged unincorporated communities
DWR:	Department of Water Resources
EES:	Environmental Enhancement Surcharge
EIR:	Environmental Impact Report
EIRD:	Edgerly Island Reclamation District
ENSO:	El Niño Southern Oscillation
EPA:	U.S. Environmental Protection Agency
ERAF:	Educational Revenue Augmentation Fund
ERP:	Emergency Response Plan
FAQ:	Frequently Asked Questions
FCWCD:	Flood Control and Water Conservation District
FEIR:	Final Environmental Impact Report
FOG:	fats, oil and grease
fps:	feet per second
FTE:	full-time equivalent
FY:	Fiscal year
GFOA:	Governmental Finance Officers Association of the United States and Canada
GHAD:	geologic hazard abatement district
GIS:	Geographic Information Systems
GM:	General Manger
GMS:	Growth Management System
GP:	General Plan
gpd:	gallons per day
gpm:	gallons per minute
GSA:	Groundwater Sustainability Agency
HAA5:	haloacetic acids
I/I:	infiltration and inflow
ILI:	Infrastructure Leakage Index
IRWMP:	Integrated Regional Water Management Plan
ISA:	Interim Supply Allocation
ISG:	Individual Supply Guarantee
JPA:	Joint Powers Authority or Agency

KCWA:	Kern County Water Agency
LAs:	Load Allocations
lf:	linear feet
LAFCO:	Local Agency Formation Commission
LBRID:	Lake Berryessa Resort Improvement District
LCWD:	Los Carneros Water District
LOMU:	Letter of Mutual Understanding
MBR:	Membrane bioreactor
MCL:	Maximum Contaminant Level
MFD:	Multi-family dwelling
mg:	millions of gallons
mgd:	Millions of gallons per day
MOUs:	Memorandums of Understanding
MSR:	Municipal Service Review
MST:	Milliken-Sarco-Tulocay
MTBE:	methyl tertiary butyl ether
MTC:	Metropolitan Transportation Commission
MWC:	Mutual Water Company
NA:	Not applicable
Napa IWRMPF:	Napa County Integrated Water Resource Management Planning Framework
NapaSan:	Napa Sanitation District
NBA:	North Bay Aqueduct
NBRID:	Napa Berryessa Resort Improvement District
NBWRP:	North Bay Water Reuse Program
NCRCD:	Napa County Resource Conservation District
NCFCWCD:	Napa County Flood Control and Water Conservation District
NCSWMP:	Napa County Stormwater Management Program
NNV:	North Napa Valley Basin
NOD:	North of Delta
NP:	Not provided
NPDES:	National Pollutant Discharge Elimination System
NPDWRs:	National Primary Drinking Water Regulations
NRRD:	Napa River Reclamation District
NSD:	Napa Sanitation District
NVTA:	Napa Valley Transportation Authority
OPEB:	Other Post Employment Benefits
OPR:	Governor's Office of Planning and Research
PAFR:	Popular Annual Financial Report
PAKTM27:	sodium carbonate peroxyhydrate
PDWF:	peak day weather flow
PHG:	Public Health Goal
PMWWF:	Peak Maximum Wet Weather Flow
psi:	pounds per square inch
PRSP:	Pension Rate Stabilization Plan
PVC:	polyvinyl chloride
PWWF:	Peak wet weather flow

R&R:	Renewal and Replacement
RCAC:	Rural Community Assistance Corporation
RCD:	Resource conservation district
RCP:	reinforced concrete
RD:	Reclamation District
RFP:	Request for Proposals
RMS:	Resource Management System
RRWTP:	Rector Reservoir Water Treatment Plant
RUL:	Rural Urban Limit Line
RWQCB:	Regional Water Quality Control Board
SCADA:	Supervisory Control and Data Acquisition
SCWA:	Solano County Water Agency
SDWA:	Safe Drinking Water Act
SDWIS:	Safe Drinking Water Information System
SFD:	Single family dwelling
SFWD:	Spanish Flat Water District
SGMA:	Sustainable Groundwater Management Act
SOI:	Sphere of influence
SSMP:	Sewer System Management Plan
SSO:	Sewer System Overflow
SSOs:	Sanitary Sewer Overflows
SWP:	State Water Project
SWRCB:	State Water Resources Control Board
SWRF:	Soscol Water Recycling Facility
T&O:	taste and odor
TDS:	Total dissolvable solids
THM:	trihalomethanes
TMDL:	Total maximum daily load
TOC:	Total Organic Carbon
TON:	Threshold Odor Number
TS:	Time Schedule Order
TSS:	total suspended solids
TTHMs:	total trihalomethanes
UAC:	Utilities Advisory Commission
ULL:	Urban Limit Line
USA:	Urban Service Area
USBR:	U.S. Bureau of Reclamation
USDA:	U.S. Department of Agriculture
USEPA:	U.S. Environmental Protection Agency
UV:	Ultraviolet
UWMP:	Urban Water Management Plan
VCP:	vitrify clay pipe
WARMF:	Watershed Analysis Risk Management Framework
WATRTAC:	Water Resources Technical Advisory Committee
WICC:	Watershed Information and Conservation Council
WLAs:	Waste Load Allocations
WQLS:	Water Quality Limited Segments

WRF:	Water Reclamation Facility
WRR:	water reclamation requirements
WSAP:	Water Shortage Allocation Plan
WSA:	Water Supply Agreement
WSIP:	Water System Improvement Program
WSV:	Water Supply Verifications
WTP:	Water Treatment Plant
WWTP:	Wastewater Treatment Plant
ZWF:	Zero Water Footprint

PREFACE

Prepared for the Local Agency Formation Commission of Napa County (LAFCO), this report is a countywide water and wastewater services review—a state-required comprehensive study of services within a designated geographic area. This Service Review focuses on local agencies and other service providers in Napa County that provide water and wastewater services.

CONTEXT

Napa County LAFCO is required to prepare this Countywide Water Service Review by the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code §56000, et seq.), which took effect on January 1, 2001. The water and wastewater service review examines services provided by public agencies whose boundaries and governance are subject to LAFCO. Those agencies providing water and wastewater services in Napa County are the focus of this review.

CREDITS

The authors extend their appreciation to those individuals at the many agencies that provided planning and financial information and documents used in this report. The contributors are listed individually at the end of this report.

Napa LAFCO staff provided project coordination and GIS support. This report was prepared in conjunction by Policy Consulting Associates, LLC and Berkson Associates, and was co-authored by Jennifer Stephenson, Oxana Wolfson, and Richard Berkson. Jennifer Stephenson served as project manager.

1. EXECUTIVE SUMMARY

This report is a countywide service review report on water and wastewater services prepared for the Napa Local Agency Formation Commission (LAFCO). A service review is a State-required comprehensive study of services within a designated geographic area, in this case, Napa County. The service review requirement is codified in the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 (Government Code §56000 et seq.).

PROVIDERS

Overview

This review focuses on water and wastewater services provided in incorporated and unincorporated Napa County. The 14 agencies reviewed in this report and the services provided are listed in Figure 1-1. Of the districts reviewed, 11 provide domestic water services, five provide recycled water, and 10 provide wastewater collection and treatment.

Figure 1-1: Water and Wastewater Service Providers in Napa County

Agency	Services		
	Water	Recycled Water	Wastewater
City of American Canyon	✓	✓	✓
City of Calistoga	✓	✓	✓
City of Napa	✓		
City of St. Helena	✓	[1]	✓
Town of Yountville	✓	✓	✓
Circle Oaks Water District	✓		✓
Congress Valley Water District	✓		
Lake Berryessa Resort Improvement District	✓		✓
Los Carneros Water District		✓	
Napa Berryessa Resort Improvement District	✓		✓
Napa County Flood Control and Water Conservation District	✓		
Napa River Reclamation District			✓
Napa Sanitation District		✓	✓
Spanish Flat Water District	✓		✓

The agencies reviewed are largely located in the Napa Valley and around Lake Berryessa as shown in Figure 1-2.

[1] The City of St. Helena reclaims water for use on city-owned irrigation fields, which does not replace the use of potable water.

Figure 1-2

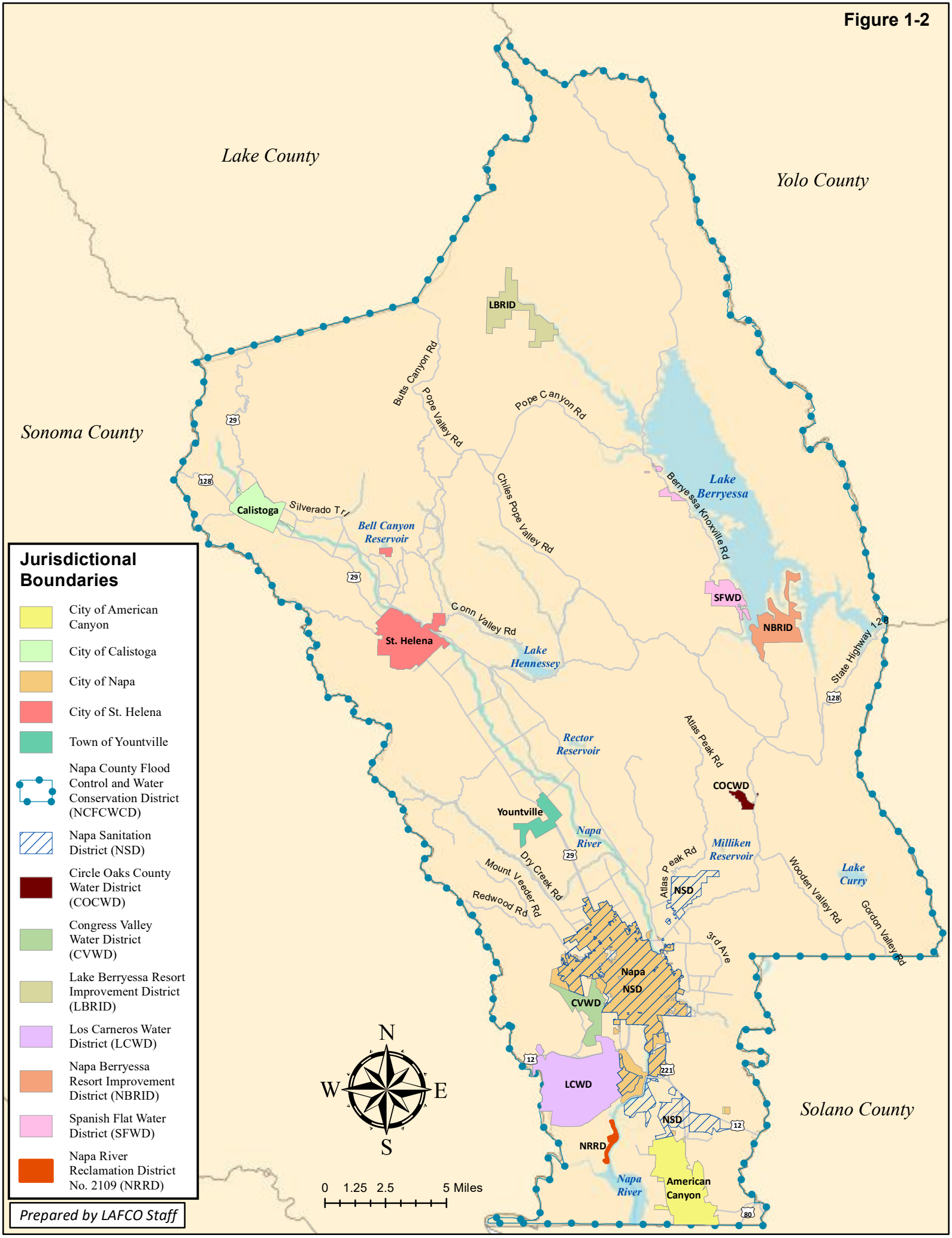

Lake County
Yolo County
Sonoma County
Solano County
LBRID
Butts Canyon Rd
Pope Valley Rd
Pope Canyon Rd
Chiles Pope Valley Rd
Lake Berryessa
Berryessa Knoxville Rd
Calistoga
Silverado Trl
Bell Canyon Reservoir
SFWD
NBRID
Conn Valley Rd
St. Helena
Lake Hennessey
State Highway 128
Rector Reservoir
Atlas Peak Rd
COCWD
Yountville
Napa River
Milliken Reservoir
Dry Creek Rd
Mount Veeder Rd
Redwood Rd
NSD
Wooden Valley Rd
Lake Curry
Gordon Valley Rd
3rd Ave
Napa NSD
CVWD
LCWD
NRRD
American Canyon
N
S
E
W
0 1.25 2.5 5 Miles
Jurisdictional Boundaries
City of American Canyon
City of Calistoga
City of Napa
City of St. Helena
Town of Yountville
Napa County Flood Control and Water Conservation District (NCFCWCD)
Napa Sanitation District (NSD)
Circle Oaks County Water District (COCWD)
Congress Valley Water District (CVWD)
Lake Berryessa Resort Improvement District (LBRID)
Los Carneros Water District (LCWD)
Napa Berryessa Resort Improvement District (NBRID)
Spanish Flat Water District (SFWD)
Napa River Reclamation District No. 2109 (NRRD)
Prepared by LAFCO Staff

Figure 1-2a

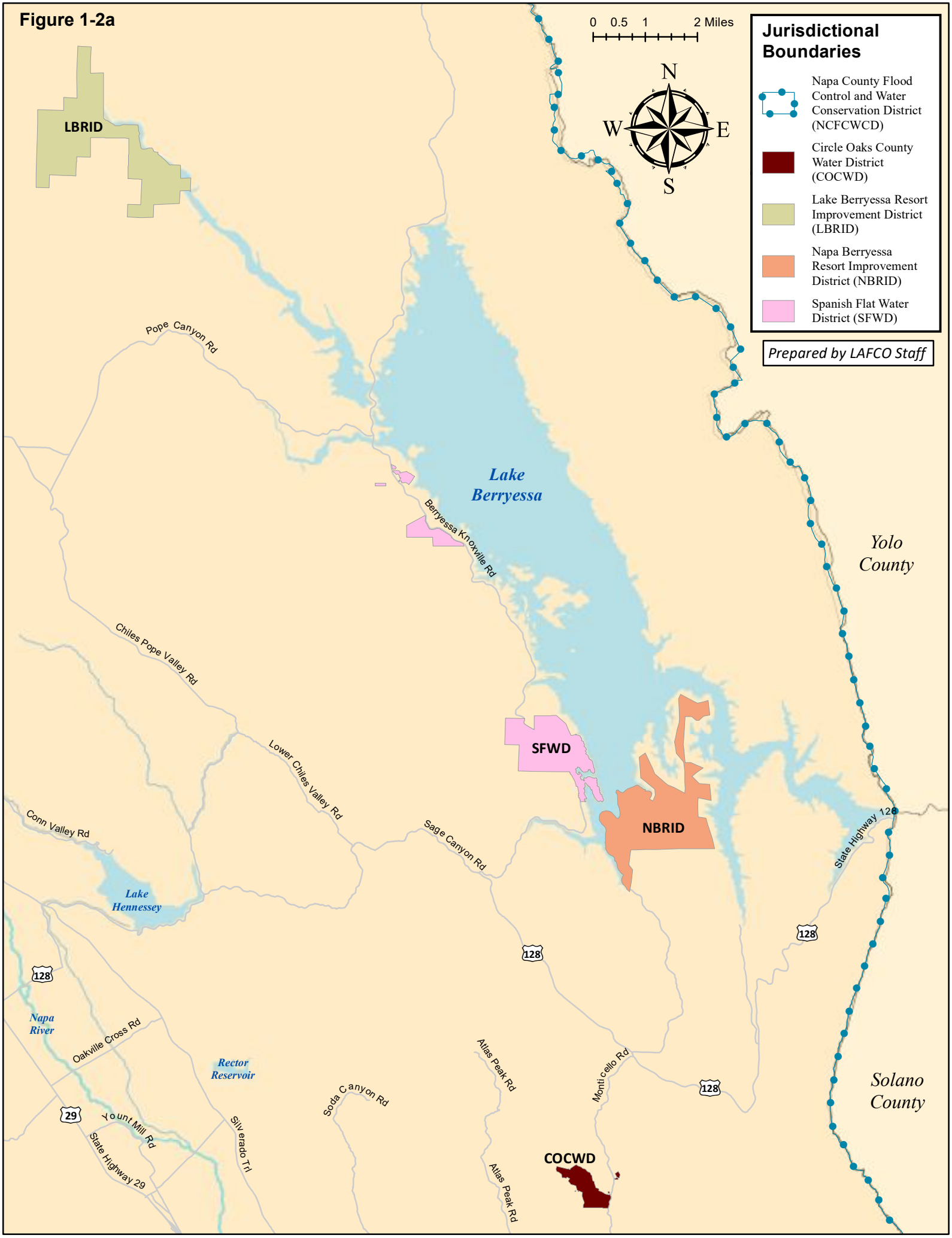
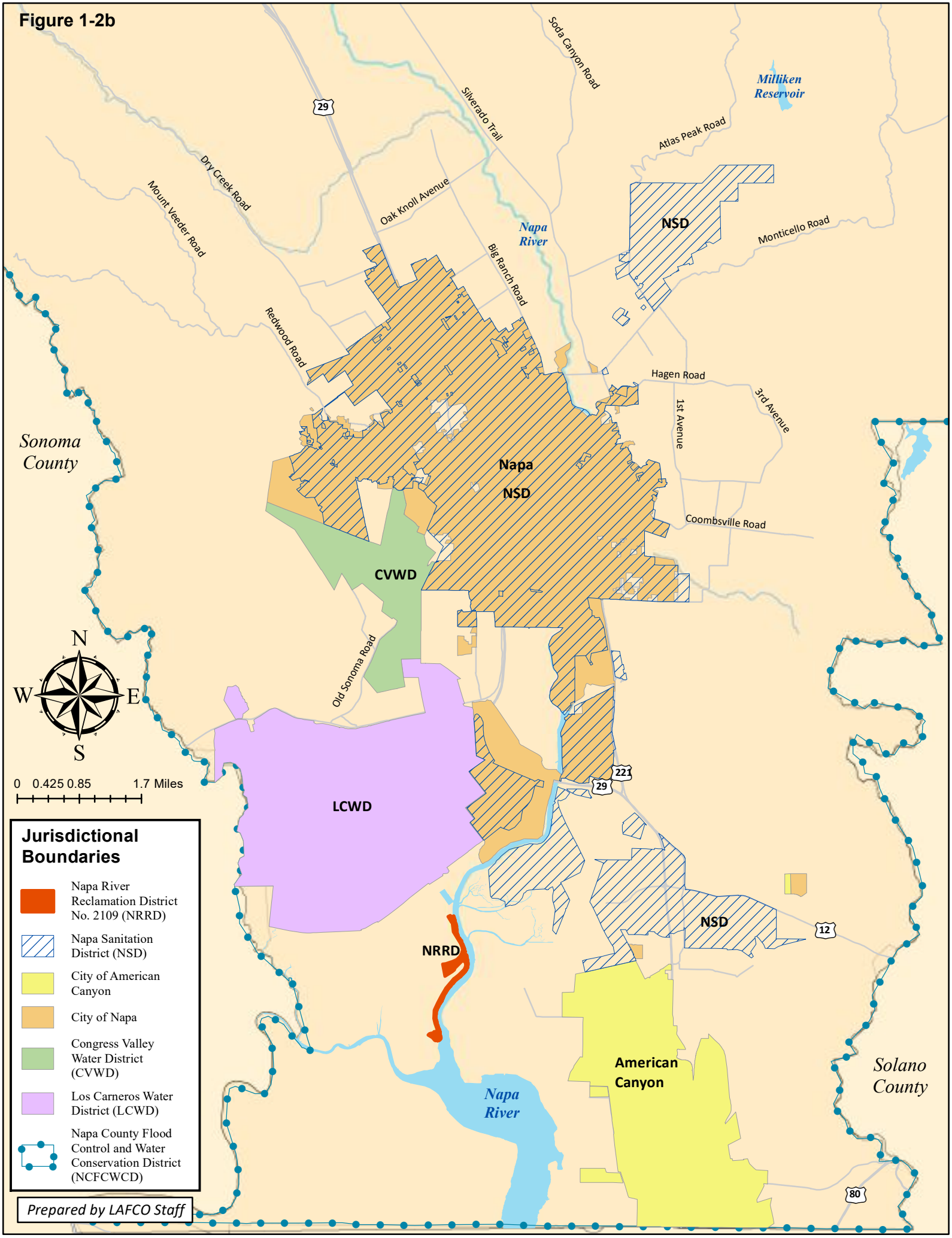

0 0.5 1 2 Miles
N
W
E
S
Jurisdictional Boundaries
Napa County Flood Control and Water Conservation District (NCFCWCD)
Circle Oaks County Water District (COCWD)
Lake Berryessa Resort Improvement District (LBRID)
Napa Berryessa Resort Improvement District (NBRID)
Spanish Flat Water District (SFWD)
Prepared by LAFCO Staff
LBRID
Lake Berryessa
Yolo County
Solano County
SFWD
NBRID
COCWD
Lake Hennessey
Napa River
Rector Reservoir
Pope Canyon Rd
Berryessa Knoxville Rd
Chiles Pope Valley Rd
Lower Chiles Valley Rd
Conn Valley Rd
Sage Canyon Rd
State Highway 128
Oakville Cross Rd
Soda Canyon Rd
Atlas Peak Rd
Monticello Rd
Silverado Trl
State Highway 29
128
29

Figure 1-2b


Soda Canyon Road
Milliken Reservoir
Silverado Trail
29
Atlas Peak Road
Dry Creek Road
Mount Veeder Road
Oak Knoll Avenue
Napa River
NSD
Monticello Road
Big Ranch Road
Redwood Road
Hagen Road
1st Avenue
3rd Avenue
Sonoma County
Napa
NSD
Coombsville Road
CVWD
N
W
E
S
Old Sonoma Road
0 0.425 0.85 1.7 Miles
221
29
LCWD
NSD
12
NRRD
American Canyon
Napa River
Solano County
80
Jurisdictional Boundaries
Napa River Reclamation District No. 2109 (NRRD)
Napa Sanitation District (NSD)
City of American Canyon
City of Napa
Congress Valley Water District (CVWD)
Los Carneros Water District (LCWD)
Napa County Flood Control and Water Conservation District (NCFCWCD)
Prepared by LAFCO Staff

WATER SERVICES

This report reviews indicators of water service adequacy for each of the service providers, including distribution system integrity as defined by breaks and leaks and system water loss, and drinking water quality. Based on these indicators, it was found that all agencies in Napa provide at least minimally adequate services.

Certain improvements could be made to the services offered. In particular, the City of Calistoga, Lake Berryessa Resort Improvement District, and Napa Berryessa Resort Improvement District need to address the relatively high levels of water loss in the water systems. Additionally, Lake Berryessa Resort Improvement District and Spanish Flat Water District could greatly improve on regulatory compliance for the water systems.

It is apparent that the smaller agencies with limited budgets and staffing constraints struggled most with planning for and addressing infrastructure needs and complying with regulatory requirements. These districts would greatly benefit from technical support from one of the larger agencies or through reorganization as a single large provider as discussed in Governance Structure Options.

Ensuring adequate water supply availability is a priority for all agencies. It was found that during normal year scenarios, all of the public water retailers in Napa have sufficient water supply under normal conditions given existing demand. However, the City of St. Helena and Circle Oaks County Water District need to institute additional water conservation measures to prevent fluctuation in demand. Also, it is recommended that Circle Oaks CWD perform an assessment on its water system to determine firm and safe yield of its existing water sources and identify an appropriate location for another well.

WASTEWATER SERVICES

Indicators of wastewater service adequacy evaluated as part of this report consist of collection system integrity and regulatory compliance. There are several measures of integrity of the wastewater collection system. For the purposes of this report integrity is defined by the rate of sanitary sewer overflows and peaking factors as a result of infiltration and inflow.

Similar to the water service providers, it was found that all of the wastewater agencies provide at least minimally adequate services. Significant improvements should be made to address the high rate of sanitary sewer overflows (SSOs) reported by Lake Berryessa Resort Improvement District, Napa Berryessa Resort Improvement District, and the City of St. Helena.

A number of agencies struggled to provide accurate wastewater flow data for the five-year period 2014 to 2018. It is essential that these agencies institute a data management system where flow is tracked and recorded on a regular basis and make this information readily available upon request in an easy to read format.

Due to the limited information available on wastewater flows during dry and wet weather conditions, peaking factors could not be calculated for many agencies to determine the extent of infiltration and inflow in the systems. However, based on the information available it is apparent that a majority, if not all, of the wastewater providers are greatly impacted by infiltration and inflow. A majority of the agencies have initiated programs

directed at addressing problem areas in order to reduce the impact on the system during wet weather events.

Similar to the water agencies, the smaller wastewater agencies are challenged by planning for and addressing infrastructure needs and complying with regulatory requirements. Reorganization as a single large provider, such as a county water district as discussed in Governance Structure Options may enhance the level of services offered.

RECYCLED WATER

Four agencies produce reycled water for beneficial reuse—the cities of American Canyon and Calistoga, the Town of Yountville, and Napa Sanitation District. The City of St. Helena is considering implementing a recycled water program.

The agencies must meet strict water quality regulations to provide recycled water. Production of recycled water is constrained by the volume of wastewater flowing into the reclamation facilities, while demand is greatly contingent on weather conditions. Some agencies are encouraging customers to fill storage with the recycled water during the off season at free or reduced prices to maximize the ratio of beneficial reuse to volume of effluent.

The City of Calistoga and the Town of Yountville are nearing maximum reuse for present conditions. There is potential for expansion of recycled water use in the City of American Canyon and Napa Sanitation District service areas. Both agencies continue to evaluate the means to maximize recycled water demand and availaiblity. The City of St. Helena is in the process of making substantial improvements at its wastewater treatment facility that will increase the the level of treatment and make recycled water services feasible.

FINANCIAL ABILITY TO PROVIDE SERVICES

Water and wastewater service providers in Napa County face numerous financial challenges unique to Napa County as well as those common to local governments throughout California. Examples of challenges include:

- Costs to comply with increasing regulatory standards and requirements
- Repair and replacement of aging infrastructure
- Limited ability of residents to continue to absorb increasing operational and capital costs
- Growing financial demands caused by unfunded pension liabilities
- Costs to repair and protect against climate change, drought, wildfire, and other natural disasters

In Napa County there are numerous water and wastewater agencies formed in the 1950's and subsequent decades prior to the creation of LAFCO. Many of these agencies provided limited services to smaller, rural areas and are having financial difficulty responding to growing costs and service demands.

While none of the agencies appear to be in fiscal distress and at risk of financial failure, the smaller agencies are often less able to plan for and address fiscal issues; however, several

smaller agencies in Napa County benefit from management and services provided by larger agencies, such as the County.

Many agencies, particularly the smaller districts, do not prepare plans and policies representative of "Best Practices." Without adequate financial planning documents, it is difficult to assess and provide for financial stability, transparency, and public engagement. Essential planning documents that typically receive low priority include capital improvement programs including costs, timing and future funding sources; fully documented budgets and financial reports; current cost of service studies necessary to adjust rates to assure adequate funding for operations and ongoing capital requirements.

In many cases, weak financial conditions can be improved through reorganizations that take advantage of the economies of scale that may be achieved by a larger entity, and by the expertise and shared resources of a larger organization. While elements of "local control" may be lost, mitigations are possible through creation of local advisory groups. This MSR provides examples of ways that services and financial conditions may be improved, for example through collaborations and reorganizations involving larger entities.

RECOMMENDATIONS

Throughout this review recommendations are made for each of the reviewed agencies with regard to various aspects of the administration and operation of the agency and its services. Many of the recommendations were applicable to multiple agencies. In particular, the data tracking, planning efforts, and mandated reporting of the smaller agencies are challenged by minimal budgets and staffing constraints. Those agencies that provide out of area services could improve on how the extraterritorial services are tracked and recorded in a useful format.

1) It is recommended that all agencies review their websites to ensure compliance with AB 2257.
2) All agencies should review their existing system or develop a data management system where essential information is collected, consistency and accuracy of information is enhanced, and information is readily available in a format that is easily interpretable. This is an opportunity for enhanced collaboration and resource sharing amongst the agencies.
3) All of the cities should develop and have on record GIS compatible maps of these extra-territorial service connections.
4) Well-managed organizations plan and budget for capital replacement needs, conduct master planning to have a comprehensive view of the existing and planned utility system, and conduct advance planning for projected future growth. Many of the agencies reviewed could improve upon these best management practices.
5) Provision of trucked water without limitations has the potential to promote development and growth in unincorporated areas where water supply is not sustainable, and which may adversely affect agricultural uses. Of the six providers that make water available for hauling, only Napa Sanitation District has adopted policies that clearly define the priority of use of trucked water. It is recommended that approved uses and locations for trucking of water be defined in each City's

municipal code. In addition, the County should establish policy for approved uses and locations of transported water to manage the use of trucked water in the unincorporated areas.

6) The smaller agencies are challenged to comply with all reporting requirements to the regulating agencies. The most common violation amongst the smaller districts is deficient reporting. Significant improvements need to be made in order to protect the public health and ensure adequacy of services offered. It is recommended that the districts make compliance with reporting requirements a priority to enhance service levels.

GOVERNANCE STRUCTURE ALTERNATIVES

Over the course of this MSR several governance options were identified with respect to each of the agencies under review. These options are summarized in the Overview chapter (Chapter 3). Refer to the affected agency's chapter for discussion on options specific to that agency.

In addition to the agency specific options, the potential for a county water agency and/or a countywide county water district was also identified. These options have the potential to affect many or all of the reviewed agencies and have far reaching impacts on water and wastewater services in the County. Benefits to forming a county water agency or county water district include:

- Efficient use of the County's water resources,
- Enhanced water resource management,
- Solidarity amongst Napa water purveyors with greater leveraging power,
- Greater scrutiny of all utility providers,
- Enhanced technical and operational support for local providers,
- Elimination of redundancies and duplication of efforts amongst the smaller systems, and
- Improved economies of scale.

It is recommended that water purveyors in Napa begin discussions regarding their vision for water utilities in the County in the long term to address existing concerns and ensure a persistent and stalwart effort at providing reliable and sustainable water services throughout the County.

2. BACKGROUND

This report is prepared pursuant to legislation enacted in 2000 that requires LAFCO to conduct a comprehensive review of municipal service delivery and update the spheres of influence (SOIs) of all agencies under LAFCO's jurisdiction. This chapter provides an overview of LAFCO's powers and responsibilities. It discusses legal requirements for preparation of the municipal services review (MSR), and describes the process for MSR review, MSR approval and SOI updates.

LAFCO OVERVIEW

LAFCO regulates, through approval, denial, conditions and modification, boundary changes proposed by public agencies or individuals. It also regulates the extension of public services by cities and special districts outside their boundaries. LAFCO is empowered to initiate updates to the SOIs and proposals involving the dissolution or consolidation of special districts, mergers, establishment of subsidiary districts, and any reorganization including such actions. Otherwise, LAFCO actions must originate as petitions or resolutions from affected voters, landowners, cities or districts.

MUNICIPAL SERVICES REVIEW LEGISLATION

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 requires LAFCO review and update SOIs not less than every five years and to review municipal services before updating SOIs. The requirement for service reviews arises from the identified need for a more coordinated and efficient public service structure to support California's anticipated growth. The service review provides LAFCO with a tool to study existing and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently.

Government Code §56430 requires LAFCO to conduct a review of municipal services provided in the county by region, sub-region or other designated geographic area, or by type of service, as appropriate, for the service or services to be reviewed, and prepare a written statement of determination with respect to each of the following topics:

- Growth and population projections for the affected area;
- The location and characteristics of any disadvantaged unincorporated communities within or contiguous to the SOI;
- Present and planned capacity of public facilities and adequacy of public services, including infrastructure needs or deficiencies (including needs or deficiencies related to sewers, municipal and industrial water, and structural fire protection in any disadvantaged unincorporated communities within or contiguous to the sphere of influence);
- Financial ability of agencies to provide services;
- Status of, and opportunities for shared facilities;

- Accountability for community service needs, including governmental structure and operational efficiencies; and
- Any other matter related to effective or efficient service delivery, as required by commission policy.

MUNICIPAL SERVICES REVIEW PROCESS

The MSR process does not require LAFCO to initiate changes of organization based on service review findings, only that LAFCO identify potential government structure options. However, LAFCO, other local agencies, and the public may subsequently use the determinations to analyze prospective changes of organization or reorganization or to establish or amend SOIs. Within its legal authorization, LAFCO may act with respect to a recommended change of organization or reorganization on its own initiative (e.g., certain types of consolidations), or in response to a proposal (i.e., initiated by resolution or petition by landowners or registered voters).

MSRs are exempt from California Environmental Quality Act (CEQA) pursuant to §15306 (information collection) of the CEQA Guidelines. LAFCO's actions to adopt MSR determinations are not considered "projects" subject to CEQA.

SPHERE OF INFLUENCE UPDATES

The Commission is charged with developing and updating the sphere of influence (SOI) for each city and special district within the county.[2] SOIs must be updated every five years or as necessary. In determining the SOI, LAFCO is required to complete an MSR and adopt the seven determinations previously discussed.

An SOI is a LAFCO-approved plan that designates an agency's probable future boundary and service area. Spheres are planning tools used to provide guidance for individual boundary change proposals and are intended to encourage efficient provision of organized community services and prevent duplication of service delivery. Territory cannot be annexed by LAFCO to a city or a district unless it is within that agency's sphere.

The purposes of the SOI include the following: to ensure the efficient provision of services, discourage urban sprawl and premature conversion of agricultural and open space lands, and prevent overlapping jurisdictions and duplication of services.

LAFCO cannot regulate land use, dictate internal operations or administration of any local agency, or set rates. LAFCO is empowered to enact policies that indirectly affect land use decisions. On a regional level, LAFCO promotes logical and orderly development of communities as it considers and decides individual proposals. LAFCO has a role in reconciling differences between agency plans so that the most efficient urban service arrangements are created for the benefit of current and future area residents and property owners.

The Cortese-Knox-Hertzberg (CKH) Act requires to develop and determine the SOI of each local governmental agency within the county and to review and update the SOI every five years. LAFCOs are empowered to adopt, update and amend the SOI. They may do so

[2] The initial statutory mandate, in 1971, imposed no deadline for completing sphere designations. When most LAFCOs failed to act, 1984 legislation required all LAFCOs to establish spheres of influence by 1985.

with or without an application and any interested person may submit an application proposing an SOI amendment.

LAFCO may recommend government reorganizations to particular agencies in the county, using the SOIs as the basis for those recommendations.

In addition, in adopting or amending an SOI, LAFCO must make the following determinations:

- Present and planned land uses in the area, including agricultural and open-space lands;
- Present and probable need for public facilities and services in the area;
- Present capacity of public facilities and adequacy of public service that the agency provides or is authorized to provide;
- Existence of any social or economic communities of interest in the area if the Commission determines these are relevant to the agency; and
- Present and probable need for water, wastewater, and structural fire protection facilities and services of any disadvantaged unincorporated communities within the existing sphere of influence.

By statute, LAFCO must notify affected agencies 21 days before holding the public hearing to consider the SOI and may not update the SOI until after that hearing. The LAFCO Executive Officer must issue a report including recommendations on the SOI amendments and updates under consideration at least five days before the public hearing.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

The purpose of Senate Bill (SB) 244 (Wolk, 2011) is to begin to address the complex legal, financial, and political barriers that contribute to regional inequity and infrastructure deficits within disadvantaged unincorporated communities (DUCs). Identifying and including these communities in the long-range planning of a city or a special district is required by SB 244.

The Cortese-Knox-Hertzberg Local Government Reorganization Act (CKH) requires LAFCo to make determinations regarding DUCs when considering a change of organization, reorganization, sphere of influence expansion, and when conducting municipal service reviews. For any updates to an SOI of a local agency (city or special district) that provides public facilities or services related to sewer, municipal and industrial water, or structural fire protection, LAFCo shall consider and prepare written determinations regarding the present and planned capacity of public facilities and adequacy of public services, and infrastructure needs or deficiencies for any disadvantaged unincorporated community within or contiguous to the SOI of a city or special district.[3]

CKH prohibits LAFCo from approving an annexation to a city of any territory greater than 10 acres if a DUC is contiguous to the proposed annexation, unless an application to annex

[3] Government Codes §56425(e)5, Present and Probable need; disadvantaged unincorporated communities

the DUC has been filed with LAFCo. An application to annex a contiguous DUC shall not be required if a prior application for annexation of the same DUC has been made in the preceding five years or if the Commission finds, based upon written evidence, that a majority of the registered voters within the affected territory are opposed to annexation.[4]

Government Code §56033.5 defines a DUC as 1) all or a portion of a "disadvantaged community" as defined by §79505.5 of the Water Code, and as 2) "inhabited territory" (12 or more registered voters), as defined by §56046, or as determined by commission policy. Napa Local Agency Formation Commission has adopted a policy that defines a disadvantaged unincorporated community as territory that meets all of the following: 1) substantially developed with primarily residential uses as determined by the Commission by considering the factors set forth in subsection (b)(4) of Government Code §56375.3, 2) does not have reliable public water, sewer, or structural fire protection service available, 3) meets the definition of "inhabited territory," meaning at least 12 registered voters, and 4) has a median household income level of less than 80 percent of the statewide median household income based on available data provided by the U.S. Census Bureau American Community Survey.[5]

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[6]

However, the Rural Community Assistance Corporation (RCAC) conducted a Median Household Income Survey on behalf of the Lake Berryessa Resort Improvement District (LBRID) in the spring of 2018 and determined that the community qualified as a Disadvantaged Community (DAC) under its own definition.[7] The DAC status enabled application to the State for financial assistance. The results of the survey apply for a five-year period and a new survey is likely in 2023.[8]

[4]Government Codes section 56375 (a) (8) (A)- Annexations Greater than 10 acres; Contiguous to a DUC
[5] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[6] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[7] LBRID Agenda Letter 9/11/18.
[8] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

3. OVERVIEW

This chapter provides an overview of water and wastewater service providers in Napa County. The most recent municipal service review (MSR) for water providers in Napa County was completed in 2004 and for wastewater providers in 2005. Additional MSRs were completed for individual agencies at various times, the details of which are included in individual agency chapters. For the detailed description of each local agency, please refer to the agency-specific chapters of this report.

SETTING

Napa County is located north of San Francisco and San Pablo Bay. It is abutted by Sonoma County to the west, Lake County to the northwest, Yolo County to the northeast, and Solano County to the east and south. The County is a world-famous grape-growing and wine-making region with a viable agriculture industry. Napa County has adopted various policies to protect its agricultural industry and maintain its rural character. It promotes agricultural preservation, resource conservation and urban-centered growth.

Initially, Napa County contained no incorporated cities—the first city, Napa, incorporated in 1872. St. Helena became a city in 1876, followed by Calistoga in 1886. Almost 80 years would elapse before the next incorporation of Yountville in 1965. The incorporation of American Canyon in 1992 completed what is likely the last incorporation in the County. Modern Napa County remains sparsely settled outside of the incorporated cities and town and a small number of urbanized areas in the unincorporated county. Although the County has grown, it has grown relatively slowly, particularly compared to the other counties in the Bay Area. Napa County remains relatively small in terms of population as compared to other Bay Area counties. The entire population of Napa County in 2019 was 140,779.

On April 9, 1968, the Napa County Board of Supervisors passed the ordinance that created the first Agricultural Preserve in the United States. This statute launched a succession of progressive land use policies to prevent the urbanization of agricultural and open space lands in the fertile Napa Valley and foothill areas of Napa County.

The Agricultural Preserve district is as a zoning designation in the County General Plan that sets a minimum parcel size of 40 acres. The Agricultural Preserve district classification is intended to be applied in the fertile valley and foothill areas of Napa County in which agriculture is and should continue to be the predominant land use, where uses incompatible to agriculture should be precluded and where the development of urban-type uses would be detrimental to the continuance of agriculture and the maintenance of open space which are economic and aesthetic attributes and assets of the County.

No land has ever been removed from the Agricultural Preserve. Napa County has managed to retain its prime vineyard lands in production, while vast tracts of farmland in other parts of the Bay Area have been urbanized.

Water Resources

Water in Napa County is one of the most complex issues related to land use planning, development, and conservation; it is governed and affected by hundreds of federal, state,

regional, and local mandates pertaining to pollution, land use, mineral resources, flood protection, soil erosion, reclamation, etc. Every year, the State legislature considers hundreds of bills related to water issues, and in Napa County, more than two dozen agencies have some say in decisions and regulations affecting water quality and water use.

The unincorporated areas of Napa County rely principally on groundwater resources and surface water collection, while the incorporated areas rely on local reservoirs and regional water providers. Principal exceptions include the County's Airport Industrial Area, which relies on municipal water from the cities of Napa and American Canyon; the Silverado area, which relies on municipal water from the City of Napa; a number of small communities around Lake Berryessa, which rely on water from the lake; and other developed areas like Angwin, which relies on private water suppliers.

There are three main groundwater basins in Napa County: the North Napa Valley Basin (NNV), Milliken- Sarco-Tulocay (MST), and Carneros. The NNV is the largest basin, extending from just north of Napa to the northwestern end of the valley just north of Calistoga. The MST basin is the second largest groundwater basin in the County, located adjacent to the city of Napa along the eastern edge of the valley floor. The Carneros basin is a very small basin at the southern end of the county. The MST basin is considered a Groundwater Deficient Area as groundwater levels have been in decline primarily since 1975 due to increases in agricultural uses.

The Napa County Board of Supervisors adopted a groundwater ordinance in 1996. The ordinance is intended to regulate the extraction and use and promote the preservation of the County's groundwater resources. Periodic review and revisions to the ordinance to identify groundwater areas in decline or projected decline are essential components of the ordinance. Compliance with this ordinance applies to the development of new water systems or improvements to an existing water system that may use groundwater.

In 2009, Napa County embarked on a countywide project referred to as the "Comprehensive Groundwater Monitoring Program, Data Review, and Policy Recommendations for Napa County's Groundwater Resources" (Comprehensive Groundwater Monitoring Program) to meet identified action items in the 2008 General Plan update. The program emphasizes developing a sound understanding of groundwater conditions and implementing an expanded groundwater monitoring and data management program as a foundation for future coordinated, integrated water resources planning and dissemination of water resources information.

In 2019, the California Department of Water Resources has instructed Napa County to form a local groundwater agency to create a Napa Valley subbasin groundwater sustainability plan. A groundwater sustainability agency could be the County or a combination of local agencies. It would have the power to conduct investigations, measure and limit groundwater pumping, impose fees on property owners for groundwater management and enforce the groundwater management plan that it creates. On December 17, 2019, the Napa County Board of Supervisors conducted a public hearing and adopted a resolution affirming Napa County's intention to manage groundwater in the Napa Valley Subbasin and to form the Napa County Groundwater Sustainability Agency pursuant to Water Code §10724.

Water Supply Projections

Projecting water needs involves planning for "wet" and "dry" years, having adequate supplies, and having enough storage and capacity to hold and deliver needed water. According to predictions, during wet years, with ample rainfall, there is currently and will be enough water for all users, though not all users have sufficient capacity to store what they need. Projections for dry years, however, shows users in both Napa's incorporated and unincorporated areas may not have enough water to meet all their needs through the year 2050. In other words, both municipal water supplies and groundwater supplies may face deficits in the next 30 years.[9]

Water and Wastewater Service Providers

This review focuses on water and wastewater services provided in incorporated and unincorporated Napa County. The 14 agencies reviewed in this report are listed in Figure 3-1. Of the districts reviewed, 11 provide domestic water services, five provide recycled water, and 10 provide wastewater collection and treatment.

Figure 3-1: Water and Wastewater Service Providers in Napa County

Agency	Services		
	Water	Recycled Water	Wastewater
City of American Canyon	✓	✓	✓
City of Calistoga	✓	✓	✓
City of Napa	✓		
City of St. Helena	✓	[10]	✓
Town of Yountville	✓	✓	✓
Circle Oaks Water District	✓		✓
Congress Valley Water District	✓		
Lake Berryessa Resort Improvement District	✓		✓
Los Carneros Water District		✓	
Napa Berryessa Resort Improvement District	✓		✓
Napa County Flood Control and Water Conservation District	✓		
Napa River Reclamation District			✓
Napa Sanitation District		✓	✓
Spanish Flat Water District	✓		✓

[9] West Yost & Associates, *2050 Napa Valley Water Resources Study*, 2005.
[10] The City of St. Helena reclaims water for use on city-owned irrigation fields, which does not replace the use of potable water.

The private water purveyors are not subject to LAFCO jurisdiction and their review is not included in this report. In Napa County private water providers include:

- Cannon Park Water Company
- Howell Mountain Mutual Water Company
- La Tierra Heights Mutual Water Company
- Linda Falls Terrace Mutual Water Company
- Linda Vista Mutual Water Company
- Mapes Heights Mutual Water Company
- Meyers Water Company, Milton Road Water Company
- Rutherford Hill Mutual Water Company
- Tucker Acres Mutual Water Company
- Vailima Estates Mutual Water Company
- Woodland Ridge Mutual Water Company

The Meyers Water Company is the sole private provider regulated by the California Public Utilities Commission. In addition to these providers, Pacific Union College in the unincorporated community of Angwin operates a water supply and distribution system for the college site and associated college housing. This system is supplied by groundwater.[11]

POTENTIAL EFFECTS OF CLIMATIC SHIFTS ON UTILITY SYSTEMS

Ongoing climatic shifts will affect water supply reliability throughout Napa County in the future. However, the degree, timing, and long-term effect will depend on numerous factors including natural climatic cyclicality (i.e., variability), atmosphere-ocean interactions, the robustness of the Pacific oscillation cycles, global emissions of greenhouse gases, and the Statewide adaptive capabilities of offsetting the resulting hydrologic changes, to name but a few. Since the delicate atmosphere-ocean feedback mechanisms that dictate global circulation of both the atmospheric and oceanic systems are driven by the energy balance of the earth, changes in that balance will affect our climate. Shifts in the energy balance, such as those caused by attenuated outgoing longwave radiation will affect climate to some degree. How such climatic shifts ultimately affect California and, more specifically, Napa County, will depend on each of the aforementioned factors. A dominating factor in the weather of California is the semi-permanent high-pressure area of the north Pacific Ocean. This pressure center typically moves northward in summer, holding storm tracks well to the north and, as a result, California receives little or no precipitation from this source during that period. In winter, however, the Pacific high typically retreats southward permitting storm centers to swing into and across California. These storms bring widespread precipitation to the State. When changes in the circulation pattern, however, permit storm centers to approach the California coast from a southwesterly direction, copious amounts of moisture are carried by the northeastward streaming air (the "Pineapple

[11] Napa County, *Public Services and Utilities*, 2007.

Express"). This circulation of the Pacific high, when combined with the topography of California is what influences the actual precipitation patterns observed on the ground.[12]

A major oscillation in the Pacific atmospheric circulation is known as the El Niño Southern Oscillation (ENSO) condition. Under an ENSO condition, sea surface temperatures in the eastern Pacific are above normal and the central and eastern Pacific experience increased convection activity. It is this convection activity that manifests itself into what we observe as a typically wet winter in California. The opposite ENSO phase is known as La Niña where, cold upwelling water in the eastern Pacific coincides with convection activity displaced further westwards towards the central Pacific. In California, this more distant displacement of Pacific convection activity is experienced as a drier period.[13]

For Napa County, these effects will be experienced in three primary ways. First and foremost, will be a reduction of available imported water supplies. Second, will be a decrease in locally-derived water supplies, should the prevailing storm tracks experience permanent latitudinal shifts. And finally, as the volume of freshwater inflows from melting permanent icepacks coupled with thermal expansion of the oceanic water bodies will lead to a rise in mean sea levels worldwide.[14]

California's precipitation (and, therefore, primary water source) is largely focused in upper watershed areas or source areas. This time sensitive supply will likely experience both a change in character, from snow to rain, where a higher proportion of the annual precipitation could occur as rain, and a change in overall precipitation quantity as well as timing. With a shift in primary precipitation from snow to rain, the responsiveness of the draining streams and rivers will also be affected. No longer will the time-released capability of the existing snowpack play the role that it does today. It is expected, therefore, that alterations in hydrologic composition will occur and exhibit a more pronounced shift from snow-dominated to rain or rain/snow-dominated systems. For Napa County this has implications to water supply security by reducing the ability of the existing State Water Project (SWP) terminal reservoirs to manage altered inflow under their existing operational rules.[15]

Generally, it can be surmised that, with less snowfall, watershed responses will be quicker and, in many cases, earlier. For all of the regions and systems within the State that rely on river flows, a decrease in the proportionality of the spring pulse can have significant implications as demands for allocations continue to increase. Under these diverging conditions, there will quite simply be less water to go around. This anticipated shortage includes the entire Delta watershed including the Delta itself, its upper catchments, Central Valley Project (CVP) and SWP terminal reservoirs, the mainstem rivers (Sacramento and San Joaquin) and their tributaries (e.g., Feather, American, Stanislaus, etc.), and to a lesser extent the Coastal watersheds and Southern California watersheds.[16]

Acknowledging the various trends set forth in the numerous hydrological and climatological studies is very useful in providing the baseline from which to forewarn policy makers, water managers, and resource management practitioners of the potential

[12] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 35.
[13] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 35.
[14] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 36.
[15] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 36.
[16] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 36.

repercussions of climatic shifts to water resources, including governance issues such as water rights.[17]

Some of the likely trends that may negatively affect Napa County water supply include but are not limited to:

1) Lower summer and late-spring runoff,
2) Higher mid-winter stream flows,
3) Altered total annual precipitation,
4) Shift in precipitation form, from snow to rain,
5) Snowpack peak water content earlier in the year,
6) Lower natural snowpack storage and, therefore, a decrease in time-delay capability,
7) More responsive watersheds (quicker flow response),
8) Watershed saturation and storage will occur earlier in the season,
9) Rates of water flows will by stunted (a more flattened unit hydrograph),
10) Existing ephemeral streams may dry up earlier,
11) Intensities of individual precipitation events may increase, and
12) Likely shift towards overall drier annual conditions.

For each of these general trends, however, variations between watersheds will exist. Each watershed, some even adjacent to each other, will respond differently depending on their own inherent physiologic, geologic, pedologic, and hydrologic characteristics. Universal applicability of these trends across all watersheds is not possible—despite modelers' attempts to do so. The degree to which these trends play out across California will depend significantly on the robustness of the shifts in Pacific storm tracks, which as discussed earlier, will depend on a complex series of atmospheric and hydroclimatological interactions.[18]

For Napa County, the potential implications to water supply and water resources management resulting from these likely trends include, but are not limited to:

1) Reduced State contract deliveries,
2) Increased frequency of shortage impositions by State water managers on contractor deliveries,
3) Shifted seasonal availability from which Sierra Nevada supplies would be available,
4) Long-term shift away from imported supplies,
5) Increased need to develop new local/regional storage—with longer carryover potential,
6) Higher variability in inter-annual localized reservoir inflows (more intense drier and wetter periods),

[17] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 36.
[18] Shibatani, Robert, 2011 Countywide Water Service Review, December 2011, p. 37.

7) Greater urgency to develop groundwater storage and banking,
8) Increased localized storm intensities,
9) Revisiting localized flood detention/stormwater management strategies,
10) Increased recycled water development,
11) Longer-term sea level rise, and
12) Increased frequency of seasonal desiccation of localized streams, but coincident with higher peak flow events.

LOCAL AND REGIONAL PLANNING CONTEXT

Regional Water and Sanitation Planning

Regional water planning has become increasingly critical to increase drought preparedness, regional self-sufficiency, sustainable resource management, and to improve coordination among land use and water planners. The Legislature promoted the concept by authorizing local public agencies to form regional water management groups and adopt regional plans to address qualified programs or projects (SB 1672). The legislation requires the State Department of Water Resources (DWR) to prioritize funding for projects identified in integrated regional water management plans (IRWMPs). Integrated resource planning is a comprehensive systems approach to resource management and planning that explores the cause-and-effect relationships affecting water resources. The plans are recommended to not only analyze the watershed and espouse principles, but also to effect change by including a finance plan with prioritized objectives, an implementation plan, and plans for ongoing performance measurement to evaluate progress.

Bay Area Integrated Regional Water Management Plan

San Francisco Bay Area water, wastewater, flood protection and stormwater management agencies; cities and counties represented by ABAG; and watershed management interests represented by the California Coastal Conservancy (CCC) and non-governmental organizations signed a Letter of Mutual Understanding (LOMU) to develop an Integrated Regional Water Management Plan (IRWMP) for the San Francisco Bay Area.

Participants included the Bay Area Water Agencies Coalition (BAWAC) involving water supply and water quality, the Bay Area Clean Water Agencies (BACWA) involving wastewater and recycled water, Bay Area Flood Protection and Stormwater Management Agencies and Districts involving flood protection and stormwater management, and ABAG and the CCC involving watershed management and habitat protection and restoration.

The IRWMP was first completed and adopted in 2006 and further expanded and updated in 2013. The Plan provides a framework to improve collective understanding and to take actions to collaboratively address the many major water related challenges, needs and conflicts within the Region through the 20-year planning horizon (2013-2033). The overall goals of the Plan are to:

- Promote environmental, economic and social sustainability
- Improve water supply reliability and quality

- Protect and improve watershed health and function and Bay water quality
- Improve regional flood management
- Create, protect, enhance, and maintain environmental resources and habitats

The San Francisco Bay Area Region is currently preparing the update to meet the new requirements outlined in the Department of Water Resources (DWR) 2016 updated standards for Integrated Regional Water Management Plans (IRWMPs) and maintain funding eligibility.

Urban Water Management Plans

Urban Water Management Plans (UWMPs) are prepared by urban water suppliers every five years. These plans support the suppliers' long-term resource planning to ensure that adequate water supplies are available to meet existing and future water needs. Every urban water supplier that either provides over 3,000 acre-feet of water annually or serves more than 3,000 urban connections is required to submit an UWMP. In Napa County, only the cities of Napa and American Canyon are required to adopt UWMPs.

2050 Napa Valley Water Resources Study

The 2050 Napa Valley Water Resources Study was conducted by West Yost & Associates from 2003 to 2005 at the direction of the five Cities, the County of Napa, and the Napa Sanitation District (NSD). The participating agencies recognized the urgent need to update the previous Napa Valley regional water study completed in 1991, and a desire to take a long-term view in evaluating supply, demand, and potential projects. The final report of the 2050 Study was accepted by the Board of the Napa County Flood Control and Water Conservation District (NCFCWCD) on November 15, 2005.

The Study evaluated the ability of local and imported water supplies within Napa Valley to adequately meet existing and future water demands of Napa Valley's municipal, rural and agricultural customers. Additionally, if available water supplies were found to be inadequate to meet demands, the Study was supposed to identify regional and local water supply options and projects to address the identified supply shortfalls.

The 2050 Study reviewed each agency's long-term water supplies and demands then recommended potential individual and regional projects to address supply deficits in event of a drought. A number of those projects have since been implemented.

Groundwater Sustainability Plan

On January 7, 2020, the Napa County GSA held its first meeting, at which time the Agency approved a resolution authorizing the submittal of a $2.6-million dollar grant application to the DWR to support the development of a Groundwater Sustainability Plan for the Napa Valley Subbasin. On February 6, 2020, the Napa County GSA submitted notification to the Department of Water Resources of their intent to prepare a Groundwater Sustainability Plan for the Napa Valley Subbasin.

Drought Contingency Plan

In 2019, Napa County took the lead among local agencies in commissioning a Drought Contingency Plan to help cope with California's next drought emergency. The study is

estimated to cost $430,193. The City of Napa has obtained a $200,000 grant from the Bureau of Reclamation to fund roughly half the cost of a Drought Contingency Plan for the Napa Valley. The City has requested that the County, the Cities and Town, and Napa Sanitation District participate to fund the local cost-share, totaling an estimated $230,193. Each government's payment toward the drought plan will be based on its population and water use, with the City of Napa paying about 60 percent of the local share. The plan will review the water supply and consumption in each city and agency and recommend potential projects to make up supply deficits during a drought.

North Bay Water Reuse Program

The North Bay Water Reuse Program (NBWRP) is a coordinated effort of 11 municipal, water and wastewater agencies working together to address water supply shortages from a regional, watershed perspective by investing in diverse projects to offset potable demand. Those projects provide community benefits in two fundamental ways: each project reflects the priorities and needs of each local agency, while concurrently, and incrementally, contributing toward water supply reliability for all water users throughout the region.

The NBWRP has planned treatment, storage, distribution and water management projects to meet the broadest possible end user needs and in doing so, have yielded significant value for the region's infrastructure investment.

Napa County Integrated Water Resource Management Planning Framework

Napa County Integrated Water Resource Management Planning Framework (Napa IWRMPF) is intended to provide a blueprint for developing an integrated planning and implementation initiative. The planning framework proposes a governance structure to facilitate the development of and participation in inter- and intra-regional water resource management by achieving locally specific stakeholder-endorsed goals and objectives. A guiding principle behind the proposed planning structure was to utilize established boards and committees for governance and decision-making whenever feasible.

The existing entity currently representing the Napa County IWRMPF is the Napa County Flood Control and Water Conservation District (NCFCWCD) Board of Directors, which provides direction and oversight to the planning process and may serve as the primary fiduciary entity, as appropriate, for funding the planning process or local sponsoring entity for IWRMP grants.

Watershed Information and Conservation Council

The Napa County Board of Supervisors passed Resolution No. 02-103 on May 21, 2002, creating the Watershed Information and Conservation Council (WICC). The role of the WICC is to assist the Supervisors in their decision-making process and serve as a conduit for citizen input by gathering, analyzing and recommending options related to the management of watershed resources countywide. The WICC has a responsibility to publicly evaluate and discuss matters relating to watershed restoration and resource protection activities, coordination of land acquisition, development of long-term watershed resource management plans and programs. The WICC also serves to provide public outreach and education, monitoring and assessment coordination, and data management of Napa County's water and watershed resources.

Napa County General Plan

The Napa County General Plan is the County's main planning document. It is the official policy statement of the County Board of Supervisors to guide the private and public development of the County. In regard to water and wastewater services, the General Plan contains the following goals:

Goal CON-8: Reduce or eliminate groundwater and surface water contamination from known sources (e.g., underground tanks, chemical spills, landfills, livestock grazing, and other dispersed sources such as septic systems).

Goal CON-9: Control urban and rural storm water runoff and related non-point source pollutants, reducing to acceptable levels pollutant discharges from land-based activities throughout the county.

Goal CON-10: Conserve, enhance and manage water resources on a sustainable basis to attempt to ensure that sufficient amounts of water will be available for the uses allowed by this General Plan, for the natural environment, and for future generations.

Goal CON-11: Prioritize the use of available groundwater for agricultural and rural residential uses rather than for urbanized areas and ensure that land use decisions recognize the long-term availability and value of water resources in Napa County.

Goal CON-12: Proactively collect information about the status of the county's surface and groundwater resources to provide for improved forecasting of future supplies and effective management of the resources in each of the County's watersheds.

Goal CON-13: Promote the development of additional water resources to improve water supply reliability and sustainability in Napa County, including imported water supplies and recycled water projects.

Assembly Bill 402 (2016)

In 2016, the State approved a pilot program for Napa and San Bernardino County's, which is codified in California Government Code §56133.5. The program allows Napa and San Bernardino LAFCOs to authorize cities and special districts to provide municipal services outside their boundaries and SOI based on the following requirements:

1) The extension of service or services deficiency was identified and evaluated in a review of municipal services prepared pursuant to §56430.
2) The extension of service will not result in either (1) adverse impacts on open space or agricultural lands or (2) growth inducing impacts.
3) A sphere of influence change involving the affected territory and its affected agency is not feasible under this division or desirable based on the adopted policies of the commission.

The current statute has an expiration date of January 1, 2021. Legislation is pending in the State Senate to make this pilot program permanent or extend the sunset date.

REGULATION OF WATER PROVIDER AGENCIES

Water providers are subject to numerous federal and state requirements covering water rights, long-term planning, protecting water systems from terrorism vulnerabilities, and

ensuring that water employees are adequately trained to perform their functions, among others. This section provides an overview of the more significant and recent requirements.

Federal, state and local agencies play regulatory roles in Napa water.

Figure 3-2: Water Regulatory Agencies

Agency	Regulatory Role
U.S. Environmental Protection Agency	Drinking water quality standards, source water protection, contaminated site remediation.
State Water Resources Control Board	Water rights, water quality standards, water protection plans, discharger enforcement, drinking water quality standards, water employee certification
CA Department of Water Resources	State Water Project, water planning dam safety, flood control
CA Department of Fish and Game	Stream flow requirements, streambed alterations, species conservation
CA Department of Toxic Substances Controls	Oversight of hazardous substances, remediation of contaminated sites
San Francisco Regional Water Quality Control Board	Water quality
Napa County Flood and Water Conservation District	Flood control, management and monitoring of groundwater, assistance in compliance with NPDES requirements
Napa County	Wells, local public water systems, groundwater

The U.S. Environmental Protection Agency (EPA) is responsible for enforcing drinking water quality standards, although much of this authority is delegated to the states. The EPA conducts groundwater protection and contaminated site remediation programs.

The State Water Resources Control Board (SWRCB) allocates water rights, adjudicates water right disputes, develops statewide water protection plans, establishes water quality standards, and guides the nine Regional Water Quality Control Boards located in the major watersheds of the state. SWRCB is responsible for granting water rights permits and approving certain transfers of water rights, to investigate violations and reconsider or amend water rights. The nine Regional Water Quality Control Boards (RWQCBs) develop and enforce water quality objectives and implementation plans. The SWRCB is also responsible for the enforcement of the federal and California Safe Drinking Water Acts.

DWR is responsible for the planning, construction and operation of State Water Project facilities and sets conditions on use of SWP facilities. In addition, DWR is responsible for statewide water planning, evaluating urban water management plans, overseeing dam safety and flood control, and transfer of certain water rights permits (e.g., pre-1914).

The California Department of Toxic Substances Control (DTSC) is responsible for oversight of hazardous substances and remediation of contaminated sites, including water sources. The California Department of Fish and Game (DFG) has jurisdiction over conservation and protection of fish, wildlife, plants and habitat. DFG determines stream flow requirements in certain streams, acts as permitting agency for streambed alterations,

presents evidence at water rights hearings on the needs of fish and wildlife, and enforces the California Endangered Species Act.

The Napa County Flood Control and Water Conservation District's (NCFCWCD's) mission is the conservation and management of flood and storm waters to protect life and property; the maintenance of the County watershed using the highest level of environmentally sound practices; and the provision of coordinated planning for water supply needs of the community. Additionally, while the NCFCWCD is primarily charged with flood protection in the County, it also provides management and monitoring of groundwater, and assistance to the community in complying with NPDES requirements, and watershed maintenance activities among other services.

Water Supply Regulations

Water rights are subject to various and complex legal requirements, many of which have been resolved in the courts. For surface water sources within California, the State monitors water rights and allocations. The groundwater basins in Napa County are monitored by the County. Each year a report on groundwater conditions and trends is provided to the public. On December 17, 2019, the Napa County Board of Supervisors adopted a resolution affirming the County's intent to manage groundwater in the Napa Subbasin and to form the Napa County Groundwater Sustainability Agency (GSA) for the Napa Valley Subbsasin.

Since 2001, land use agencies in California have been required to obtain written verification of sufficient water supply before approving plans for new development. Any project subject to the California Environmental Quality Act (CEQA) supplied with water from a public water system must be provided a water supply assessment, except as specified in the law. The plan must include information relating to the quality of existing sources of water available to an urban water supplier over given periods and include the manner in which water quality affects water management strategies and supply reliability.[19]

The Department of Water Resources (DWR) manages California's water resources, systems, and infrastructure, including the State Water Project (SWP). State law contains strict infrastructure and reporting requirements for the SWP. DWR prepares a SWP water delivery reliability report in response to the 2001 legislation requiring water supply assessments for new development. DWR additionally prepares a California Water Plan. Required by Water Code §10005(a), the Plan presents the status and trends of California's water dependent natural resources, water supplies, and agricultural, urban and environmental water demands for a range of plausible future scenarios.

The Natural Resources Defense Council released a 2001 study raising concerns over groundwater contamination in California. The report described the regulatory framework as fragmented and an "ineffective patchwork of monitoring and assessment"[20] and described planning and data as inadequate. Legislation followed shortly thereafter to establish comprehensive groundwater monitoring and increase the availability of information about groundwater quality to the public. In 2014, the California Governor signed into law the Sustainable Groundwater Management Act (SGMA). The Act serves as the State's framework for sustainable groundwater management. SGMA requires governments and water agencies

[19] California DWR, 2003, p. 68.
[20] Helperin, Beckman and Inwood, 2001, pp. 72-75.

of high and medium priority basins to halt overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For critically over-drafted basins, that will be 2040. For the remaining high and medium priority basins, 2042 is the deadline.

Urban water suppliers are required by the Urban Water Management Planning (UWMP) Act to prepare a water shortage contingency plan every five years. The plan describes and evaluates sources of water supply, efficient uses of water, demand management measures, implementation strategy and schedule, and other relevant information and programs. Those reliant on groundwater must provide evidence to the State of their water rights, and if the particular groundwater basin is overdrafted (i.e., the water used exceeds the water replenished over the long-term), must describe efforts to correct the problem.

Enhanced water conservation is another statewide goal. DWR was required by legislation to report on opportunities and constraints for increasing recycled water use in 2003. Since 2005, urban water suppliers have been required to install water meters on municipal and industrial services connections, and since 2010 charge customers based on volume of water. Additionally, in 2019 Senate Bill 606 and Assembly Bill 1668 overhauling California's approach to conserving water took effect. The bills call for new urban efficiency standards for indoor and outdoor uses, water lost to leaks and appropriate variances. Water agencies are also required to stay within their water budgets regardless of current drought conditions. The bills require the SWRCB, in coordination with the DWR, to establish long-term urban water use efficiency standards by June 30, 2022. Those standards will include components for indoor residential use, outdoor residential use, water losses and other uses. The bills direct water agencies to limit customers' indoor water use to an average of 55 gallons per person each day. The goal is reduced to 52.5 gallons by 2025 and 50 gallons by 2030. New five-year drought risk assessments and water shortage contingency plans must also be incorporated into Urban Water Management Plans. Starting in 2027, local water suppliers' failure to comply with SWRCB's adopted long-term standards could result in fines of $1,000 per day during non-drought years, and $10,000 per day during declared drought emergencies and certain dry years.

The federal government requires water providers to prepare terrorism vulnerability assessments and implementation of needed corrections. Water treatment personnel must meet State certification requirements.

Source Quality

To prevent further deterioration of impaired water bodies, the EPA and state and regional water quality boards have established Total Maximum Daily Load standards (TMDLs) for many impaired water bodies. TMDLs set numerical targets for the amount of pollutants allowed in a water body and methods for meeting those targets. TMDLs are established for high-priority, impaired water bodies. Multiple TMDLs have been established in Napa County to mitigate the effects of trash, bacteria, nutrients, and other pollutants.

Two primary articles of legislation provide the legal basis and authority for water quality standards in California. The Federal Clean Water Act (CWA) specifically and directly addresses the matter of water pollution control. The primary California legislation addressing the control of water quality is the "Porter-Cologne Water Quality Control Act."

The CWA requires that states adopt water quality standards, including standards for toxic substances. The states are also required to have an ongoing planning process, to conduct public hearings once every three years to review water quality standards and revise them if necessary. After about 20 years of water pollution regulation from point sources, the act was amended in 1990 to require management of stormwater and urban runoff water quality.

The Porter-Cologne Water Quality Control Act established a comprehensive program for the protection of water quality and the beneficial uses of water. It applies to surface waters, wetlands and groundwater, and to both point and nonpoint sources of pollution or waste discharge.[21] In addition, Title 23 of the California Code of Regulations (CCR) contains administrative and regulatory elements of water quality and quantity management in California. Other pertinent state law affecting water quality in California include regulations set forth by the Health and Safety Code, the Fish and Game Code, the Public Resources Code, and the Revenue and Taxation Code. The California Environmental Quality Act (CEQA) requires all state agencies, boards and commissions to include an environmental impact report (EIR) in any report on any project having a significant effect on the environment.

CWA delegates the responsibility to administer the act to the EPA. In turn, the EPA has delegated responsibility for portions of CWA to state and regional boards, including water quality planning and control programs such as the National Pollutant Discharge Elimination System (NPDES).

CWA directs states to review water quality standards every three years and, as appropriate, modify and adopt new standards. CWA also regulates wastewater operation through state boards. CWA authorizes the EPA to administer requirements and primarily deal with the quality of effluent which may be discharged from treatment facilities, the recycling of residual solids generated in the process, the reuse of reclaimed water for irrigation and industrial uses to conserve potable water, and the nature of waste material (particularly industrial) discharged into the collection system.

The Porter-Cologne Water Quality Control Act directs the California state and regional boards to review and update Water Quality Control Plans, or Basin Plans, periodically. The act also authorizes state boards to adopt water quality control plans. In the event of inconsistencies among state and regional board plans, the more stringent provisions apply.

To reduce pollution in watersheds, CWA directed the states to establish TMDLs of pollutants. The San Francisco Bay RWQCB and the Central Valley RWQCB have jurisdiction in Napa County, and thus the authority to establish TMDLs in the County. The TMDLs require local agencies to monitor pollutant levels and develop remedial actions that will prevent contaminants from exceeding maximum allowable levels. TMDLs present numerical targets for water quality pollutant levels in impaired water bodies.

There are currently no Napa County water bodies on the EPA's 303(d) list of impaired water bodies.

[21] California Water Code §1300.

Potable Water Regulations

Potable water systems in Napa County are regulated by a number of agencies, depending on the type of entity (public or investor-owned) and size of system (number of connections). The regulatory oversight includes both operational for service areas, system capacity and rates, and health for water quality.

Various operations and activities of these water systems are regulated by several agencies depending on size (number of connections and population served), water source, and ownership.

Water Quality

The California State Water Resources Control Board and U.S. Environmental Protection Agency (USEPA) are charged with developing and enforcing state and federal drinking water standards, which are the same for both investor-owned and municipal water providers.

There are a number of threats to drinking water: improperly disposed chemicals, animal wastes, pesticides, human wastes, wastes injected deep underground, and naturally occurring substances can all contaminate drinking water. Likewise, drinking water that is not properly treated or disinfected, or which travels through an improperly maintained distribution system, may also pose a health risk.

The Safe Drinking Water Act (SDWA) is the main federal law that ensures the quality of Americans' drinking water. The law requires many actions to protect drinking water and its sources—rivers, lakes, reservoirs, springs and groundwater wells—and applies to public water systems serving 25 or more people. It authorizes the EPA to set national health-based standards for drinking water to protect against both naturally occurring and man-made contaminants and to oversee the states, localities and water suppliers that implement the standards. EPA drinking water standards are developed as a Maximum Contaminant Level (MCL) for each chemical or microbe. The MCL is the concentration that is not anticipated to produce adverse health effects after a lifetime of exposure, based upon toxicity data and risk assessment principles. EPA's goal in setting MCLs is to assure that even small violations for a period of time do not pose significant risk to the public's health over the long run. National Primary Drinking Water Regulations (NPDWRs or primary standards) are legally enforceable standards that limit the levels of contaminants in drinking water supplied by public water systems. Secondary standards are non-enforceable guidelines regulating contaminants that may cause cosmetic effects (such as skin or tooth discoloration) or aesthetic effects (such as taste, odor, or color) in drinking water. The EPA recommends secondary standards to water systems but does not require systems to comply. However, states may choose to adopt them as enforceable standards. Federal and State regulations on maximum contaminant levels in drinking water have evolved and expanded since 1977.

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated

properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Napa County has a contract with the California SWRCB to oversee water systems with less than 200 service connections. These water systems include the following classifications: community water systems (serving at least 15 connections used by yearlong residents or regularly serve at least 25 yearlong residents), nontransient noncommunity water systems (noncommunity water systems that regularly serve at least 25 persons over 6 months per year), transient noncommunity water systems (serving at least 15 service connections or 25 or more persons for at least 60 days per year), and state small water systems (serve five to 14 service connections and do not serve drinking water to more than 25 individuals for more than 60 days per year; in Napa County they operate the same as transient noncommunity water systems).

Investor-Owned Water Systems

Water systems that are investor owned, meaning that the owners, whether it be an individual or group, are not customers of the water system, are regulated by the California Public Utilities Commission (CPUC). CPUC oversees the service areas and rates of these utilities. A system may be regulated by both CPUC and State Water Resources Control Board; the two are not mutually exclusive.

Applicable Regulations

Some of the regulations applicable to water systems within the County include the following:

- California Health and Safety Code
- California Public Utilities Code
- California Public Utilities Commission: The California Public Utilities Commission (CPUC) governs the provision of water by private entities, including service area, system design, levels of service and rates. The Commission regulates investor-owned water systems but does not have jurisdiction over municipal utilities or districts. Mutual water companies or companies owned by homeowner associations are exempt if they serve only their stockholders or members. The following General Orders apply:
    - General Order No. 103: Rules Governing Water Service Including Minimum Standards for Design and Construction, and
    - General Order No. 96-A, Rules Governing the Filing and Posting of Schedules of Rates, Rules, and Contracts.
- County of Napa Ordinance Code (described further below)
- Guidelines for Projects within Milliken-Sarco-Tulocay Groundwater Deficient Area (described further below)
- Northeast Napa Management Area (described below)

The following is a summary of key County Code provisions associated with water supply systems.

Approved Water Supply Systems (County Code Chapter 13.04)

This provision of the County Code regulates water supply systems associated with public utilities, public water systems and individual water systems and defines "sustained yield" as the ability of the well facility to provide a sustained water supply of one gallon per minute per dwelling unit at a stable drawdown level.

Local Public Water System (County Code Chapter 13.08)

County Code Chapter 13.08 requires public water systems to submit plans and specifications on the design and operation of water supply systems in compliance with state regulations. In addition, these provisions include the ability for the County to enforce the proper operation and maintenance of public water systems.

Wells (County Code Chapter 13.12)

This chapter of the County Code regulates the design, construction and operation of various well types in the County and requires the approval of a permit for the operation of wells.

Napa County Groundwater Ordinance (County Code Chapter 13.15)

The Napa County Board of Supervisors adopted a groundwater ordinance in 1996, revised in 2003, to regulate the extraction, use, and preservation of the County's groundwater resources. Compliance with this ordinance applies to development of new water systems and improvements to an existing water system that may use groundwater. Specifically, the ordinance applies to agricultural land development or redevelopment activities located on parcels within areas including the Milliken Sarco-Tulocay (MST), Pope Valley, Chiles Valley, Capell Valley, and Carneros groundwater basins. The ordinance identifies issuance of groundwater permits based on three types of applications exempt, ministerial, and required and the process by which compliance with the ordinance is determined. Applications for a groundwater permit require identification of existing and future uses of any existing water system which is supplied by groundwater, potential alternative water sources, the number of existing and future connections, intent of groundwater use, and an assessment of the potential impacts to the affected groundwater basin. Because groundwater resources are highly valued in the County, further guidance for activities conducted within the MST groundwater deficient area have been developed, as detailed below.

Guidelines for Projects within Milliken-Sarco-Tulocay Groundwater Deficient Area

The Milliken-Sarco-Tulocay area is a groundwater deficient area. Due to the sensitive nature of the MST groundwater basin, the County requires special consultation to determine the need for a groundwater permit. This particularly applies to construction projects, erosion control plans for new or expanded agricultural projects, and new or expanded wineries that intend to use groundwater from the MST basin. Depending on the governing authority (either the Environmental Management or Conservation Development and Planning Department), the appropriate department will determine the potential effects of the project on the MST groundwater basin and whether a permit is required.

Northeast Napa Management Area

Additionally, the County has had concerns related to continued groundwater development east of the Napa River. Due to these concerns and in order to understand recent historical changes in water level trends in the small northeastern Napa Valley Subbasin, the County Board of Supervisors authorized a study. The study conducted between 2016 and 2017 included evaluation of the potential effects from pumping in the overall Northeast Napa Study Area, potential mutual well interference in an area of interest near Petra Drive, and potential streamflow effects. Based on the findings and recommendations of the study, the County formally established the Northeast Napa Management Area covering approximately 1,960 acres within Napa Valley Subbasin.[22]

Historically, in the Northeast Napa Management Area, water demand included residential and winery uses. Since 2015, Napa County has approved three additional discretionary permits for wineries with mandatory monitoring and reporting of groundwater levels and groundwater pumping. Napa County will consider additional future discretionary projects in the Northeast Napa Management Area with project-specific analyses to be conducted to ensure that the proposed project location or planned use of groundwater does not cause an undesirable result. The County has updated its Groundwater Ordinance to reflect the additional requirements for project-specific analysis and to incorporate water use criteria and water use reporting requirements for the Management Area using an approach similar to what has already been implemented in the MST Subarea.[23]

Human Right to Water

In 2012, California was the first state in the nation to legislatively recognize the human right to water. In the Water Code §106.3, the State statutorily recognizes that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." The human right to water extends to all Californians, including disadvantaged individuals and groups and communities in rural and urban areas. The law sets an ongoing obligation for State agencies to consider the human right to water—specifically the factors of safety, affordability, and accessibility—in all relevant policy, programming, and budgetary activities.

Recycled Water Regulations

California has one of the most developed regulatory environments for water reuse. California's Recycled Water Policy, which includes a "Mandate for the Use of Recycled Water," was adopted in 2009 and amended in 2013 and 2018.

The purpose of the Recycled Water Policy is to increase the use of recycled water from municipal wastewater sources that meets the definition in Water Code §13050(n), in a manner that implements state and federal water quality laws. For the purpose of this Policy, recycled water refers to the reuse of treated wastewater derived from municipal sources, i.e., water that is covered under California Code of Regulations Title 22, Water Recycling Criteria. Title 22 of California's Code of Regulations refers to state guidelines for how treated

[22] Luhdorff & Scalmanini Consulting Engineering, *Napa Valley Groundwater Sustainability, Northeast Napa Management Area: Amendment to the 2016 Basin Analysis, Report for the Napa Valley Subbasin*, January 2018.
[23] Luhdorff & Scalmanini Consulting Engineering, *Napa Valley Groundwater Sustainability, Northeast Napa Management Area: Amendment to the 2016 Basin Analysis, Report for the Napa Valley Subbasin*, January 2018.

and recycled water is discharged and used. State discharge standards for recycled water and its reuse are regulated by the 1969 Porter-Cologne Water Quality Control Act and the State Water Resources Control Board's 2019 Water Recycling Policy.

In 2014, California adopted indirect potable reuse rules that provide detailed criteria for treatment processes, contaminants to test for, and how long treated water must remain underground. In early 2018, the State finalized the Reservoir Augmentation statewide regulations that allow highly purified potable reuse water to be placed into drinking water reservoirs.

The State does not currently have direct potable reuse (DPR) regulations but is currently working on a DPR regulatory framework and research. AB 574 was signed into law in October 2017. The law sets a 2023 deadline for the development of Raw Water Augmentation regulations. The State Water Board staff has prepared the Framework to satisfy the recommendation in Assembly Bill (AB) 574. The public comment period on the second reiteration of the framework ended on October 9, 2019. The State Water Board is currently working on the final report.

There are no specific statewide regulations in California to encourage onsite or decentralized water reuse. However, some California cities develop their own onsite reuse ordinances.

REGULATION OF WASTEWATER PROVIDER AGENCIES

Wastewater service providers are subject to numerous federal and state requirements. This section provides an overview of the more significant and recent requirements.

Figure 3-3: Wastewater Regulatory Agencies

Agency	Regulatory Role
State Water Resources Control Board	Surface water quality, NPDES permits
U.S. Army Corps of Engineers	Navigable waters, discharge permits, specify disposal sites and disposal conditions
San Francisco Regional Water Quality Control Board	Surface water quality, discharge permits
Napa County	Individual public and private sewer systems in the unincorporated Napa County

Wastewater Regulations

Federal, state and local laws and agencies regulate wastewater. Some of the state and regional plans build upon federal legislation, while in other instances federal acts have established broad goals which are implemented at the state and local levels. Finally, some regulations are unique to California. The following discussion identifies the major federal, state and local regulatory bodies and requirements for wastewater programs.

Federal Water Pollution Control Act of 1972

The Federal Clean Water Act (CWA), with its amendments, is the principal law governing the nation's streams, lakes, and estuaries. It contains regulatory provisions that impose progressively more stringent requirements on industries and cities to reduce and eliminate

pollution of waterways. The CWA establishes as national goals the elimination of pollutant discharges to the navigable waters and the assurance that all navigable waters would be fishable and swimable. It requires dischargers to obtain permits regulating the amount, quality, location, and timing of pollutant discharges. Applicable sections of the CWA include:

1. §303(d) – Impaired Waters List and Total Maximum Daily Loads
2. §319 – Non-point Source Management Program
3. §401 – State Water Quality Certification Program
4. §402 (p) – The National Pollutant Discharge Elimination System

CWA §303 requires each state to identify waters that do not meet water quality standards after application of technologically based controls. Applicable water quality standards include designated beneficial uses and adopted water quality objectives.

Waterways are identified as designated Water Quality Limited Segments (WQLSs) and are prioritized for purposes of developing Total Maximum Daily Loads (TMDLs) and establishing Waste Load Allocations (WLAs) as well as Load Allocations (LAs). The TMDL is the sum of waste load allocations (WLAs) for point sources of pollution, load allocations (LAs) for non-point sources of pollution and natural background sources. The TMDL is the amount of a pollutant that can be discharged into a water body and still maintain water quality standards. §319 regulates non-point source pollutants, which enter water from diffuse sources. Non-point source pollutants are often chemicals from lawns, automobile residues or urban runoff that enter the wastewater stream and water supply in large quantities and sudden surges, largely due to storms. Control of this type of pollution has proven to be difficult and usually requires costly upgrades in existing facilities and permit costs, particularly for wastewater facilities with high rates of infiltration.

The SWRCB certifies the quality of surface waters pursuant to §401 of the Clean Water Act. §401 requires that activities/facilities discharging pollutants into waters must obtain a state water quality certification permit proving that the activity complies with all applicable water quality standards, limitations, and restrictions. §402 requires municipalities and publicly owned treatment works to obtain an NPDES permit which regulates discharge of "pollutants from point sources to waters of the United States" to ensure that the discharges do not adversely affect surface water quality or beneficial uses. NPDES permits are authorized by the CWA, §402, §13370 of the California Water Code, and the California Code of Regulations, Title 23, Chapters 3 and 4. The SWRCB is responsible for issuing NPDES permits.

The Clean Water Act (CWA) regulates the water quality of all discharges into waters of the United States including wetlands, perennial and intermittent stream channels. §401, Title 33, §1341 of the CWA sets forth water quality certification requirements for "any applicant applying for a federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters." §404, Title 33, §1344 of the CWA in part authorizes the U.S. Army Corps of Engineers to:

Set requirements and standards pertaining to such discharges: subparagraph (e);

- Issue permits "for the discharge of dredged or fill material into the navigable waters at specified disposal sites": subparagraph (a);
- Specify the disposal sites for such permits: subparagraph (b);
- Deny or restrict the use of specified disposal sites if "the discharge of such materials into such area will have an unacceptable adverse effect on municipal water supplies and fishery areas": subparagraph (c);
- Specify type of and conditions for non-prohibited discharges: subparagraph (f);
- Provide for individual State or interstate compact administration of general permit programs: subparagraphs (g), (h), and (j);
- Withdraw approval of such State or interstate permit programs: subparagraph (i);
- Ensure public availability of permits and permit applications: subparagraph (o);
- Exempt certain Federal or State projects from regulation under this Section: subparagraph (r); and,
- Determine conditions and penalties for violation of permit conditions or limitations: subparagraph (s).

Section 401 certification is required prior to final issuance of Section 404 permits from the U.S. Army Corps of Engineers.

Porter-Cologne Water Quality Control Act of 1970

The California Water Code (CWC) is the principal state regulation governing the use of water resources within the State of California. This law controls water rights, the construction and management of dams and reservoirs, flood control, conservation, development and utilization of state water resources, water quality protection and management, and management of water-oriented agencies. The water quality provisions set forth in the CWC have been written to supplement provisions of the Health and Safety Code, Public Resources Code, Fish and Game Code, Food and Agriculture Code, Government Code, Harbors and Navigation Code, California Environmental Quality Act (CEQA) and California Endangered Species Act. Division 7 of the CWC, the Porter-Cologne Water Quality Control Act of 1970, regulates water quality and pollution issues within California by protecting water quality and beneficial uses of all state waters. The Porter-Cologne Act is administered regionally by the SWRCB and California RWQCB. The Porter-Cologne Act is similar to federal water quality regulations and programs. The SWRCB and regional offices have broad powers and implement the CWA through the adoption of plans and policies, the regulation of discharges, the regulation of waste disposal sites and the cleanup of hazardous materials and other pollutants. It also requires reporting of unintended discharges of any hazardous substance, sewage, or oil/petroleum product.

Napa County Title 13

Title 13 "Water, Sewers and Public Services" of the Napa County Code regulates individual private and public sewage systems within the unincorporated portions of the County. Napa County Code Title 13 includes connection requirements, permits and applicable fees, system location, design and operation requirements to ensure public safety and lessen environmental related impacts. County Code specifically includes required site

evaluations on soil conditions, percolation tests, depth to groundwater (sewage disposal areas must have a three-foot separation from the seasonal high groundwater levels, and distances from wells, creeks, slopes and reserve areas. In addition, County Code includes required details regarding operation and maintenance of sewage facilities.

COMPARATIVE ANALYSIS

Capacity

Water Supply

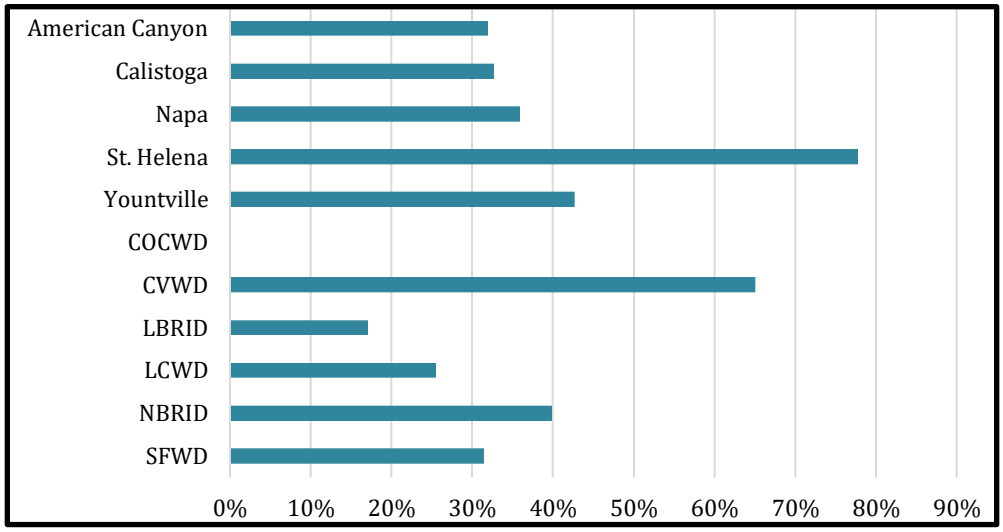
The unincorporated areas of Napa County rely principally on groundwater resources and surface water collection, while the incorporated areas typically rely on local reservoirs and regional water providers.

Availability of these water sources vary depending on weather conditions. Agencies just weathered the five-year California drought (2012–2016) and are working to build diverse water portfolios to enable them to endure extreme conditions. Availability of water supplies in drought conditions is anticipated to be addressed in the ongoing *Napa Valley Drought Contingency Plan*.

Water supply availability in normal years is assessed here to determine the water supply capacity consistently available to each agency and the portion of that capacity in use. As shown in Figure 3-4, during normal year scenarios, all of the agencies have sufficient water supply under normal conditions given existing demand. The percentage of water supply capacity in use ranges from 17 percent by Lake Berryessa RID to 78 percent by the City of St. Helena.

While the City of St. Helena is within its available water supply capacity, at 78 percent of supply any fluctuations could have a significant impact on availability. The City needs to obtain new water supplies and/or achieve more water savings, even under current conditions in order to reliably meet the current and future water demand. At the same time, the City recognizes that any new water supply, even if forthcoming, is likely to be expensive, potentially increasing the unit cost of potable water. Thus, the main emphasis going forward will be on conservation, seeking to reduce demand by all classes of users.[24] Additionally, the City will be assessing the feasibility of reclaimed water as a potential water source.

Figure 3-4: Percentage of Potable Water Supply Used in Normal Year



[24] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-10.

Circle Oaks CWD firm or safe yield from its one well and springs is unknown. However, it is apparent that there is a limited available water supply. COCWD reported that its water tanks cannot be fully filled, and it presently requires that the pumps be run 24 hours a day to fill the tanks. Several challenges further constrain the District's water source capacity, including 1) lack of a suitable location for another well, 2) quick draw down of the spring water source, 3) high average usage per connection, and 4) high iron content in well requiring backwash. While Circle Oaks CWD faces water supply constraints, it has been able to meet water demands.

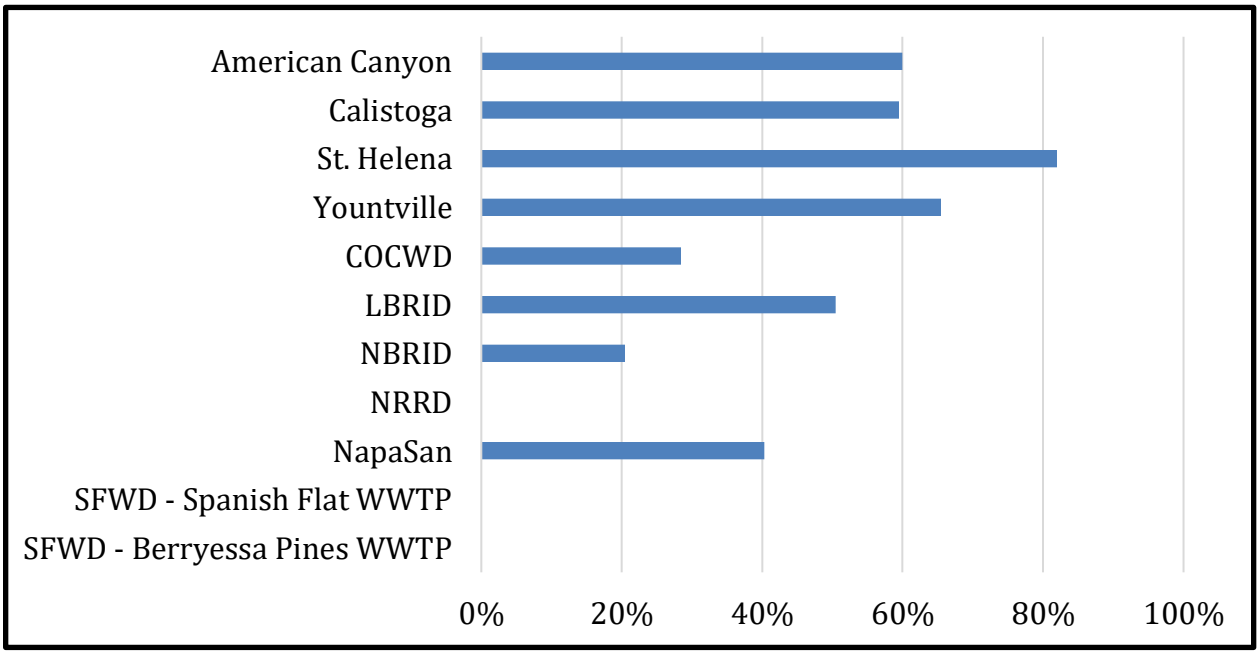
Wastewater Treatment

Wastewater demand is affected primarily by growth in residential population and commercial development, and secondarily by factors such as water usage and conservation efforts. During dry weather, wastewater flows are less than potable water consumed. Water used for outdoor purposes, such as landscape, irrigation, firefighting, street cleaning, and residential car washing, does not flow into the wastewater system.

Each wastewater treatment plant has permitted capacity as determined by the RWQCB. Permitted capacity is typically defined as average dry weather flow (ADWF) or the average day flow during dry months. It appears that all agencies are within treatment capacity of their plants. However, because the Spanish Flat Water District did not provide averaged dry weather flows for its plants, the degree to which capacity is in use could not be determined. Additionally, Napa River Reclamation District did not have its flow information available as the meter was inaccurate.

Once wastewater flows reach 75 percent of available treatment capacity, it is a best management practice to plan for future capacity needs. The City of St. Helena is the only agency that is exceeding that standard, making use of 82 percent of its treatment capacity.

Figure 3-5: Wastewater Flow and Treatment Capacity (mgd), 2018



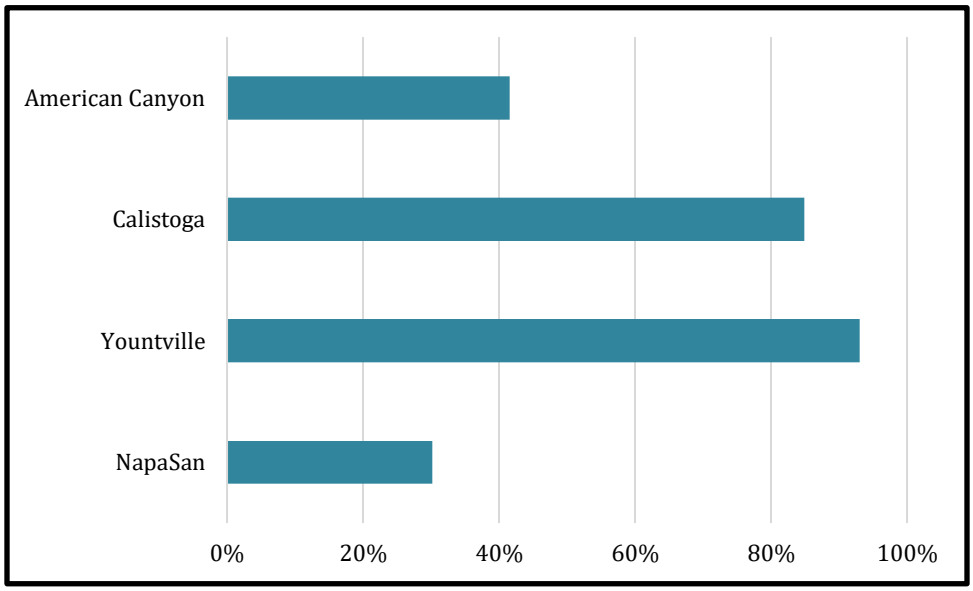
Beneficial Reuse

Four agencies produce reycled water for beneficial reuse—the cities of American Canyon and Calistoga, the Town of Yountville, and Napa Sanitation District. The City of St. Helena is considering implementing a recycled water program.

The agencies must meet strict water quality regulations to provide recycled water. Production of recycled water is constrained by the volume of wastewater flowing into the reclamation facilities, while demand is greatly contingent on weather conditions. Some agencies are encouraging customers to fill storage with the recycled water during the off season at free or reduced prices to maximize the ratio of beneficial reuse to volume of effluent.

As shown in the following figure, the four agencies make use of between 30 and 93 percent of the annual effluent flow at their respective reclamation facilities. The City of Calistoga and the Town of Yountville are nearing maximum reuse for present conditions.

Figure 3-6: Percent of Wastewater Flow Beneficially Reused, 2018



Water Service Adequacy

This section reviews indicators of water service adequacy, including distribution system integrity as defined by breaks and leaks and system water loss, and drinking water quality. Whenever available, industry standards are used to determine the level of services provided. In lieu of adopted standards, the report also makes use of generally accepted industry best practices or benchmarking with comparable providers.

System Integrity

Water system integrity is defined for the purposes of this report by the degree of unaccounted for water loss from the system, meaning the amount of water that goes missing between the supply sources and the distribution points, and the number of breaks or leaks per 100 miles of mains.

Figure 3-7: Potable Water System Integrity Indicators

	Estimated Unaccounted for Water Loss (2018)	Main Breaks and Leaks per Year (2014 – 2018)	Main Breaks and Leaks per 100 Main Miles per Year (2014-2018)
American Canyon	6.9%	8.8	10.7
Calistoga	15%	3.5	7
Napa	5%	56	16
St. Helena	9.1%	1.75	3.5
Yountville	1.2%	0.8	8
COCWD	Unknown	1.66	21
CVWD	Unknown	Unknown	Unknown
LBRID	24%	1.5	28.5
NBRID	47%	1.5	Unknown
SFWD	5%	Unknown	Unknown

Some loss is expected due to meter error, as well as system flushes and checks, among other reasons. The ratio of water loss that occurs due to factors such as breaks, leaks, and illegal connections is a gauge of the system's integrity. Industry standards define an acceptable level of unaccounted loss as being less than 10 percent of the amount of water supplied from the sources.[25] A rate of loss was not able to be calculated for Circle Oaks CWD and Congress Valley WD. The City of Calistoga, Lake Berryessa RID, and Napa Berryessa RID, have estimated rates of water loss above the generally defined industry standard.

The 10 potable water agencies attempt to track and repair their breaks and leaks to minimize water losses. Because of how each of the agencies reported their breaks and leaks, it is difficult to perform comparison analysis of their reported numbers. As a common ground for comparison, the number of water main breaks and leaks per 100 miles of pipe was used to perform the analysis. The national average is between 21 and 27 breaks per 100 miles of pipe per year.[26] Lake Berryessa RID has the highest ratio of 28.5 breaks per 100 miles, while St. Helena has the lowest ratio of 3.5 breaks per 100 miles.

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

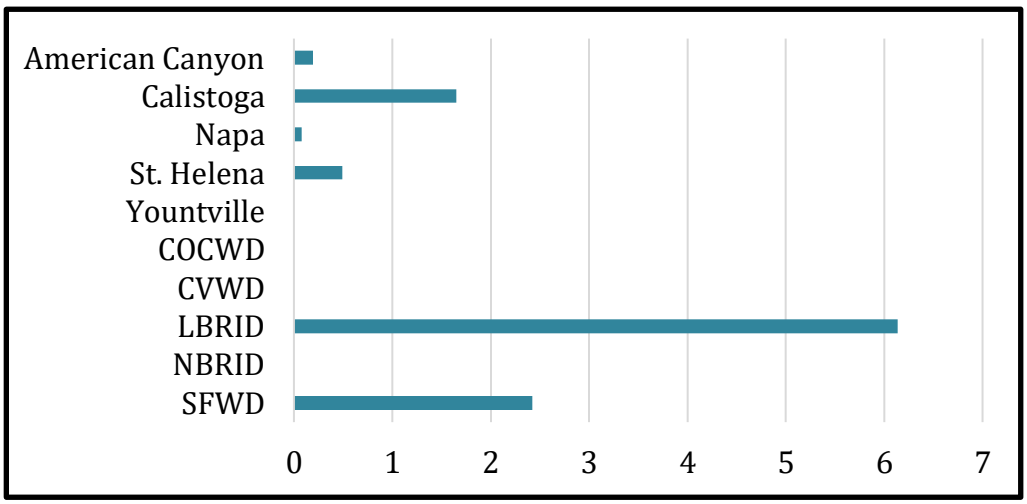
[25] AWWA, 2013
[26] WaterRF, Knowledge Portals, 2017.

For the purposes of this report, drinking water quality is assessed by a combination of historical violations reported by the Environmental Protection Agency (EPA) since 2008 and the percent of time that the agencies were in compliance with Primary Drinking Water Regulations in 2018.

All of the agencies reviewed were in compliance with drinking water regulations 100 percent of the time in 2018. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

The EPA documents health and monitoring violations for each public water system in the U.S. Since 2008, the Town of Yountville, Circle Oaks CWD, Congress Valley WD and Napa Berryessa RID have had no violations as reported by the EPA. Lake Berryessa RID and Spanish Flat WD had the highest rates of violations for the time period with 6.13 and 2.42 violations per 1,000 served.

Figure 3-8: Water System Violations per 1,000 Served, 2008-2018



Wastewater Service Adequacy

This section reviews indicators of wastewater service adequacy, including collection system integrity and regulatory compliance. Whenever available, industry standards are used to determine the level of services provided. In lieu of adopted standards, the report also makes use of generally accepted industry best practices or benchmarking with comparable providers.

Sewer System Integrity

There are several measures of integrity of the wastewater collection system, including sanitary sewer overflows, peaking factors as a result of infiltration and inflow (I/I), and efforts to address infiltration and inflow.

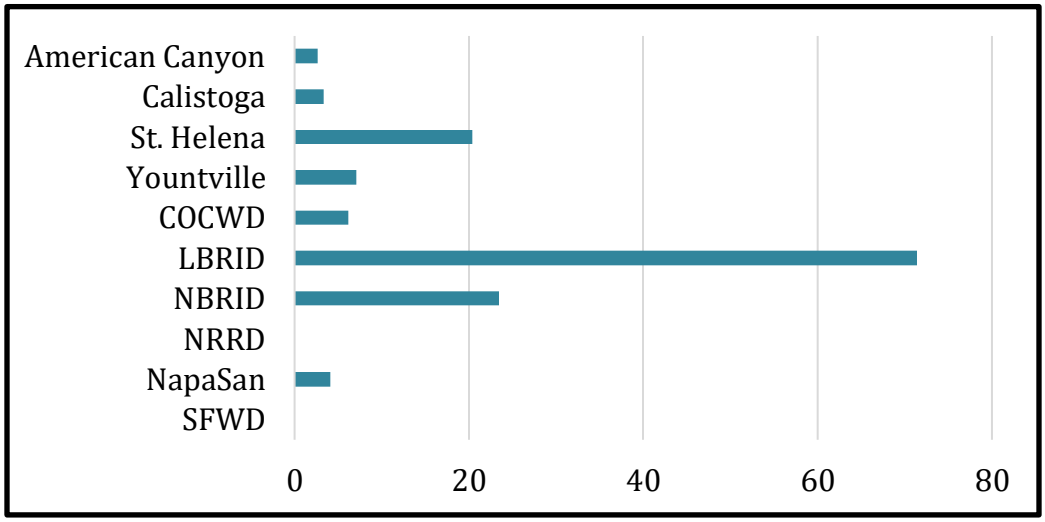
Sanitary Sewer Overflows

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine

maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of main pipeline per year.

The rate of SSOs of the reviewed agencies ranged from zero as reported by Napa River RD and Spanish Flat WD to 71.43 as reported by Lake Berryessa RID. By comparison, other wastewater agencies in California average 4.69 mainline SSOs per 100 miles per year.[27]

Figure 3-9: Sanitary Sewer Overflows per 100 Miles of Main per Year, 2014-2018



Infiltration and Inflow

Wastewater flow includes not only discharges from residences, businesses, institutions, and industrial establishments, but also infiltration and inflow. Infiltration refers to groundwater that seeps into sewer pipes through cracks, pipe joints and other system leaks. Inflow refers to rainwater that enters the sewer system from sources such as yard and patio drains, roof gutter downspouts, uncapped cleanouts, pond or pool overflow drains, footing drains, cross-connections with storm drains, and even holes in manhole covers. Infiltration and inflow tend to affect older sewer systems to a greater degree. Infiltration and inflow rates are highest during or right after heavy rain. They are the primary factors driving peak flows through the wastewater system and a major consideration in capacity planning and costs.

The peaking factor is the ratio of peak day wet weather flows to average dry weather flows. The peaking factor is an indicator of the degree to which the system suffers from I/I, where rainwater enters the sewer system through cracks, manholes or other means. A peaking factor of up to three is generally considered acceptable based on industry practices.

A number of agencies did not provide the requested flow information in order to calculate the peaking factors for comparison purposes. However, based on the information available it is apparent that a majority if not all of the wastewater providers are greatly impacted by I/I. The Town of Yountville has the lowest peaking factor of 4.55, and the City of Calistoga is a close second with a peaking factor of 4.9. A majority of the agencies had initiated programs directed at addressing problem areas in order to reduce the impact on the system during wet weather events.

[27]CIWQS Reporting System, 8/14/2019.

Regulatory Compliance

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations.

Each wastewater provider's regulatory compliance over the last 10 years is shown in the following figure. As shown, the smaller special districts tend to struggle with complying with State requirements. A majority of the violations experienced by the special districts are for late or deficient reporting. Lake Berryessa RID and Napa Berryessa RID had the only Priority 1 violations—one and four, respectively—during that period for unauthorized discharges in 2010.

Figure 3-10: Wastewater Provider Regulatory Compliance, 2009-2019

	Violations 2009 - 2019	Enforcement Actions 2009 - 2019
American Canyon	3	4
Calistoga	10	16
St. Helena	47	15
Yountville	2	1
COCWD	49	6
LBRID	72	11
NBRID	59	11
NRRD	2	2
NapaSan	4	3
SFWD	47	4

RECOMMENDATIONS

Throughout this review recommendations are made for each of the reviewed agencies with regard to various aspects of the administration and operation of the agency and its services. Many of the recommendations were applicable to multiple agencies, which are summarized here. In particular, the data tracking, planning efforts, and mandated reporting of the smaller agencies are challenged by minimal budgets and staffing constraints. A majority of the agencies could improve how out of area services are tracked and recorded in a useful format such as maps.

Accountability and Transparency

The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[28] Of the districts reviewed, only Congress Valley Water District has elected to adopt a resolution stating hardship preventing it from creating a website. All other agencies have created or are in the process of compiling a website.

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda. Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[29] Many of the agencies, in particular certain smaller special districts (with the exception of LBRID, NBRID and NRRD), do not appear to meet these agenda posting requirements. It is recommended that all agencies review their websites to ensure compliance with AB 2257.

[28] California Government Code, Sections 6270.6 and 53087.8
[29] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/

Data Management

Maintaining accurate and up-to-date information on the use of an agency's utility system is essential to meet reporting requirements, inform infrastructure needs, conduct long-term capacity planning, and enhance efficiency of services. Agencies at a minimum should maintain records on and be aware of 1) the number, location and type of connections served, 2) the amount of water produced from each source, 3) the volume of water delivered to connections, 4) peak day demand for water, 5) the volume of water loss, 6) the number of breaks and leaks in the water system, 7) the average dry weather wastewater flow, 8) the peak wet weather wastewater flow, 9) the wastewater system's peaking factor/degree of infiltration and inflow, and 10) the number of sanitary sewer overflows.

Many of the agencies struggled to provide the requested information and often when the information was provided it contained conflicting numbers in different reports. Additionally, the smaller agencies were challenged in providing multiple years of consistent data due to inaccurate flow meters that were eventually replaced and due to staff turn-over with lack of appropriate record archives. It is recommended that all agencies review their existing system or develop a data management system where essential information is collected, consistency and accuracy of information is enhanced, and information is readily available in a format that is easily interpretable. This is an opportunity for enhanced collaboration and resource sharing amongst the agencies. Those agencies with tried and true systems could either provide information sharing or technical support to those agencies that are in need. Additionally, the smaller agencies may capitalize on resource sharing with the other small agencies by instituting the same or a shared system.

Furthermore, those agencies that provide extra-territorial services, in particular the cities, often lack comprehensive and useful records of where exactly these services are provided and instead rely on a service area boundary that encircles the area served but not indicating precisely where services are provided. The cities of Calistoga, Napa, and Yountville were able to provide parcel numbers for the parcels served. It is recommended that the cities of American Canyon and St. Helena compile a comprehensive list of out of area service connections with correlating parcel numbers to inform them as to the exact number and location of outside water and wastewater service connections. All of the cities should develop and have on record GIS compatible maps of these extra-territorial service connections.

Planning

Well-managed organizations plan and budget for capital replacement needs, conduct master planning to have a comprehensive view of the existing and planned utility system, and conduct advance planning for projected future growth. Many of the agencies reviewed could improve upon these best management practices.

These providers should initiate or improve upon existing capital improvement planning and advanced growth planning to more adequately plan for future growth and minimize deferred maintenance. A capital improvement plan should generally include anticipated timing for proposed projects. Updates should be made annually to capital plans based on actual outcomes and adjusting for any changes in available financing and anticipated growth. Capital improvement plans should also adequately plan for a level of capital reinvestment

that replaces depreciated capital. Adequate capital planning would involve a multi-year capital improvement plan (or comparable planning effort) for capital replacement and, if relevant, expansion. These plans are essential to preparation of cost of service and rate studies.

A master plan should be in place that describes the existing system and plans for enhancement when necessary. Often times master planning is conducted in conjunction with advanced growth planning. Advanced growth planning is adequate when an up to date plan discloses existing capacity, anticipated needs, and projected demand throughout the existing service area and SOI.

Most of the water and wastewater providers engage in appropriate long-term capital planning and advanced growth planning. Of the 14 agencies reviewed five have adopted formal capital improvement plans covering multi-year planning horizons, which are updated annually. While City of American Canyon adopts a five-year capital improvement plan, it is not updated annually. Lake Berryessa and Napa Berryessa RIDs conduct capital improvement planning, it is not part of a formal planning document. The remaining agencies do not conduct capital improvement planning. It is recommended that these agencies develop a five-year capital plan to anticipate future system repair and replacement costs, and to assure that current rates and reserves will be adequate to address future needs. The plan should be used to inform a cost of service study.

Figure 3-11: Planning Practices

	Capital Planning	Master Planning	Advanced growth planning
City of American Canyon	I	A	A
City of Calistoga	A	I	I
City of Napa	A	A	A
City of St. Helena	A	A	I
Town of Yountville	A	I	A
Circle Oaks County Water District	N	I	N
Congress Valley Water District	N	N	N
Lake Berryessa Resort Improvement District	I	N	N
Los Carneros Water District	N	A	N
Napa Berryessa Resort Improvement District	I	N	N
Napa County Flood Control and Water Conservation District	-	-	-
Napa River Reclamation District No. 2109	N	I	N
Napa Sanitation District	A	A	A
Spanish Flat Water District	N	N	N

Note:
A = Practiced adequately, I = Practiced but improvement needed, N = Not practiced, - = Not applicable

The agencies with comprehensive master plans include the City of American Canyon, City of Napa, City of St. Helena, Los Carneros Water District, and Napa Sanitation District. Some

agencies make use of their General Plan or capital improvement plan as planning documents for their utility systems, neither of which give a comprehensive assessment of the utility system and operations. Master plans are integral for determining capacity and capacity constraints and informing capital needs and funding strategies.

In Napa County, those agencies that are required to develop Urban Water Management Plans are more likely to have conducted advanced growth planning for water and wastewater needs in their projected service areas. While some of the agencies, such as the cities of Calistoga and St. Helena, had at some point projected future demand, these projections were generally out of date. The agencies that have conducted up to date advanced growth planning with projected water needs for their SOI or projected service areas are City of American Canyon, City of Napa, Town of Yountville, and Napa Sanitation District. It is recommended that all utility providers compile and maintain up to date demand projections in order to better plan for anticipated growth.

Growth Policies

Napa County agencies formerly were able to extend outside of their boundaries largely unencumbered. However, starting in the late 1960's, Napa County and the municipalities experienced a paradigm shift away from urban sprawl and toward planned urban growth and agricultural preservation, resulting in the establishment of voter-approved urban growth limit lines for some cities and county agricultural preservation policies.

Additionally, State law now precludes the extension of services outside of an agency's LAFCO-approved boundary without LAFCO approval. Government Code §56133 requires LAFCO approval after January 1, 2001 to extend services outside of an agency's boundaries. This requirement may be conducted in anticipation of a later change of organization. Additionally, an agency may be authorized to respond to an existing or impending threat to the health or safety of the public or the residents of the affected territory. This requirement does not apply to nonpotable or nontreated water or the provision of surplus water to agricultural lands and facilities.

Of the 14 agencies under review, seven agencies provide services to out of area connections, a majority of which occurred prior to the previously mentioned land use paradigm shift. All of the land use agencies (the cities) have adopted policies precluding or limiting the extension of services to connections outside of the city limits. These policies are in place to limit the growth inducing effects that could occur from the provision of utility services. Of the seven agencies that provide extraterritorial services, Napa Sanitation District is the only agency that does not have policies regarding outside services. It is recommended that NapaSan consider defining where outside services will be considered to prevent conflict with land use authority growth policies.

Figure 3-12: Out of Area Services

	Service	Connections	Policy about Extension of Services
American Canyon	Water	213	Limits but does not prevent
American Canyon	Wastewater	Not provided	Limits but does not prevent
Calistoga	Water	78	Yes
Napa	Water	2,213	Limits but does not prevent
St. Helena	Water	361	Yes
Yountville	Water	35	Yes
Yountville	Wastewater	1	Yes
Congress Valley Water District	Water	11	Yes
Napa Sanitation District	Wastewater	4	No

Six agencies make water available at truck filling stations for use outside of the agency's boundaries. Based on the exceptions outlined for Government Code §56133 for nonpotable or nontreated water or the provision of surplus water to agricultural lands and facilities, these agencies are not required to seek LAFCO approval to provide this service outside of jurisdictional bounds.

However, provision of trucked water without limitations has the potential to promote development and growth in unincorporated areas where water supply is not sustainable and may adversely affect agricultural uses. Of the six providers that make water available for hauling, only Napa Sanitation District has adopted policies that clearly define the priority of use of trucked water. It is recommended that approved uses and locations for trucking of water be defined in each City's municipal code. In addition, the County should establish policy for approved uses and locations of transported water to manage the use of trucked water in the unincorporated areas.

Figure 3-13: Water Trucking Customers (2018)

	Customers	Potable/Recycled	Policy Defining Allowed Uses and Location
American Canyon	To be provided	Recycled	No
Calistoga	17	Recycled	No
Napa	118	Potable	No
St. Helena	11	Non-potable	No
Yountville	10-15	Recycled	No
Napa Sanitation District	To be provided	Recycled	Yes

Mandated Reporting/Regulatory Compliance

As previously discussed under the *Water and Wastewater Service Adequacy* section of this chapter, the smaller agencies are challenged to comply with all reporting requirements to the regulating agencies. The most common violation amongst the smaller districts is deficient reporting. Significant improvements need to be made in order to protect the public

health and ensure adequacy of services offered. It is recommended that the districts make compliance with reporting requirements a priority to enhance service levels.

Governance Structure Options

Over the course of this MSR several governance options were identified with respect to each of the agencies under review. These options are summarized in Figure 3-14. Refer to the affected agency's chapter for discussion on options specific to that agency.

In addition to the agency specific options, the potential for a county water agency and/or a countywide county water district was also identified. These options have the potential to affect many or all of the reviewed agencies and have far-reaching impacts on water and wastewater services in the County and are discussed in more detail here.

Figure 3-14: Governance Structure Options

Napa County Water and Wastewater Agency Governance Structure Options	
Affected Agency	**Governance Options**
City of American Canyon	• Clarification of LAFCO-approved service area • Inclusion of non-contiguous city-owned property in SOI or clarification of LAFCO policy • Participation in a county water agency
City of Calistoga	• Participation in a county water agency
City of Napa	• Reorganization of Congress Valley Water District • Contract service to other agencies • Merger with Napa Sanitation District • Creation of a Water Commission • Inclusion of non-contiguous city-owned property in SOI or clarification of LAFCO policy • Participation in a county water agency
City of St. Helena	• Elimination of Municipal Sewer District No. 1 • Inclusion of non-contiguous city-owned property in SOI or clarification of LAFCO policy • Participation in a county water agency
Town of Yountville	• Collaboration with California Department of Veterans Affairs to develop a water management plan

Napa County Water and Wastewater Agency Governance Structure Options	
Affected Agency	**Governance Options**
	• Continued collaboration with County regarding potential annexation of Domaine Chandon property • Participation in a county water agency
Circle Oaks County Water District	• Contracting for services with City of Napa and/or Napa Sanitation District • Reorganization into a county water agency or a countywide county water district

Congress Valley Water District	• Reorganization of Congress Valley Water District
	  ○ Expansion of City of Napa SOI and annexation of Congress Valley community
	  ○ Formation of a subsidiary district of City of Napa
	  ○ Formation of a county service area
	  ○ Dissolution and continued service by City of Napa

Lake Berryessa Resort Improvement District	• Reorganization as a county service area • Reorganization into a county water agency or countywide county water district
Los Carneros Water District	• Reorganization with Napa Sanitation District
Napa Berryessa Resort Improvement District	• Reorganization as a county service area • Reorganization into a county water agency or countywide county water district
Napa County Flood Control and Water Conservation District	• Establish zones of benefit • Reorganization with Napa River Reclamation District No. 2109 • Participation in a county water agency
Napa River Reclamation District No. 2109	• Expansion of services to include levee construction and maintenance

Napa County Water and Wastewater Agency Governance Structure Options	
Affected Agency	**Governance Options**
	• Reorganization into a community services district • Reorganization as zone of Napa County Flood Control and Water Conservation District
Napa Sanitation District	• Merger with City of Napa • Annexation of Los Carneros Water District • Contract service to other agencies • Expansion of services to Monticello Park
Spanish Flat Water District	• Contracting for services with City of Napa and/or Napa Sanitation District • Reorganization into a county water agency or countywide county water district • Transition to a county service area

Over the course of this review several challenges to water and wastewater services around the County were identified that could be potentially addressed by alternative governance structures.

- Lack of a regional outlook for water resources,
- Collaboration on a case-by-case scenario,
- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water services in the County,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for supplemental technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Some of the challenges are not applicable to all of the agencies, but all of the issues may be best addressed by a long-term all-encompassing solution that also promotes regionalization of planning and solidarity of organization for water resources. Governance options to address these issues include a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from

the consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district. A county water agency or county water district would provide a means to improve efficiency of water supply management in the County, as well as continued and enhanced resource sharing.

It is unusual that each municipality within Napa County manages its own water supply and charges rates to a relatively small population base. Comparable California counties such as Marin County have one water authority that manages all water treatment, delivery, and wastewater across the County. Napa County's separate and autonomous water utilities are a legacy of a rural history of city-by-city self-funding and self-management.

This disjointed service provision system has created small systems that lack economies of scale, creating a big disparity in rates between the utility providers. The annual cost for drinking water and wastewater paid by Calistoga and St. Helena residents for a single household can be more than double the cost of the City of Napa, American Canyon, or Town of Yountville rates. This amounts to an extra $1,000-$1,500 per household per year, or $10,000-$15,000 over 10 years. The smaller up-valley cities have fewer water connections and households to amortize the cost of large capital improvements. For example, St. Helena's current bond debt for past water projects and State-mandated capital projects for future drinking and wastewater projects exceeds $15,000 per household.[30] This disparity in rates may indicate the potential for improved efficiency of a single utility agency.

Formation of a County Water Agency

In California there are 25 water agencies, 17 of which serve all or a majority of a county. The counties served by a countywide or near countywide water agency consist of the following:

- Alameda
- Alpine
- Amador
- Contra Costa
- Kern
- El Dorado
- Mariposa
- Nevada
- Placer
- Sacramento
- Santa Barbara
- Shasta
- Solano
- Sonoma/Marin
- Sutter
- Tuolumne
- Yuba

Water agencies generally act as the primary water resource agency of a county with a varying and broad range of responsibilities. Water agencies are formed by special acts of the State Legislature and empowered to provide many services tailored to the needs of the community that is served. Examples of services provided by existing water agencies include 1) water resource planning and management, 2) retail and wholesale supply of drinking and

[30] Napa County Civil Grand Jury, Grand Jury Report, 2018-2019, June 14, 2019, p. 16.

irrigation water, 3) resource and environmental stewardship, 4) production of hydroelectric energy, 5) management and operation of sanitation zones and districts, 6) flood control, 7) watershed conservation, 8) contract agency for the State Water Project, and 9) provision of technical assistance to other agencies.

Some of the water agencies were formed as flood control and water conservation districts then were altered to become a county water agency, such as Sonoma County Water Agency (Sonoma Water).

Presently Napa County is benefitted by the services of the Napa County Flood Control and Water Conservation District (NCFCWCD), which provides a portion of the roles of a water agency including:

1) Operating as the contracting agency for the State Water Project,
2) Operating as a water resource manager by subcontracting water supply,
3) Assists with planning services including recycled water,
4) Facilitated designs and funding for the Napa River/Napa Creek Flood Protection Project,
5) Coordinates with local jurisdictions on implementing and maintaining local flood control and stormwater quality improvements,
6) Contracted services from specific cities where the District is reimbursed,
7) Administers the Napa County Stormwater Management Program (NCSWMP) and coordinates the individual activities of NPDES permits and programs of the five cities and the County.

While many of the roles offered by NCFCWCD are similar to those provided by a county water agency, the District does not meet all of the needs of the water and wastewater providers in the County. In particular, there is a need for a single entity leading water resource planning of all sources, similar to a majority of Napa's neighboring counties. The other primary need is for an entity that could provide technical support to all agencies, as well as management and operations for smaller struggling agencies. A county water agency is capable of accomplishing all of these aims. There is the potential for NCFCWCD to be transitioned into a water agency, similar to Sonoma Water; however, the County has not indicated whether it would be interested in taking on significant additional responsibilities. Also, an agency independent from the County may provide for more appropriate representation on the governing body, perhaps comprised of representatives of the agencies that are providing utility services.

A county water agency has the potential to fulfill the exact roles that Napa agencies desire, and the agencies would play a role in developing the district and defining services to be provided and areas to be included. As mentioned, a county water agency would be enabled by a special act of the Legislature. Funding would need to be addressed through any combination of the following: negotiations with the County for property tax sharing, special assessments, funding from member agencies, charges for services, and/or grants.

Sonoma Water is an excellent example of the capabilities of a water agency. The District provides a wide range of services. In addition to the prototypical water resource planning,

the district also owns and operates sewer zones. This is significant in that it demonstrates that a county water agency is capable of taking on and operating the small utility systems that are in particular need of additional support or a service structure change in Napa County.

Formation of a Countywide County Water District

Another similar governance option is formation of a countywide county water district. There are 169 county water districts in California. County water districts are empowered in the Water Code §30000–33901. The Code enables county water districts to develop regulations for the distribution and consumption of water; sell water; collect and dispose sewage, garbage, waste, trash and storm water; store water for future needs; may generate hydroelectric power; and provide fire protection under specified conditions.

While county water districts (CWDs) are generally considered as providing utility operations, they are also empowered to provide water resource management similar to water agencies. CWDs have broad general jurisdiction over the use of water within their boundaries, including the right of eminent domain, authority to acquire, control, distribute, store, spread, sink, treat, purify, reclaim, process and salvage any water for beneficial use, to provide sewer service, to sell treated or untreated water, to acquire or construct hydroelectric facilities and sell the power and energy produced to public agencies or public utilities engaged in the distribution of power, and to contract with the United States, public subdivisions, public utilities, or other persons.

An example of a CWD with jurisdiction over water resource management is Alameda County Water District, which is a State Water Project (SWP) contractor. Another example of a CWD that may best suit Napa's needs is Calaveras County Water District (CCWD). CCWD's jurisdiction includes provision of public water service, water supply development and planning, wastewater treatment and disposal and recycling. CCWD is a countywide district that provides water resource management and owns and operates several small water and wastewater systems in unincorporated portions of the County. The City of Angels Camp in Calaveras County operates its own utility system. Based on preferences expressed by Napa County agencies, this arrangement may meet the needs of the agencies by providing a combination of water resource management and utility system operations.

County Water Agency and/or Countywide County Water District

In practice, a county water agency has more of a focus on water resource management; however, as described above, either agency is empowered to provide similar services that would be beneficial to Napa agencies. Either of these options would address the challenges currently faced by the agencies and provide the following benefits, amongst others:

- Efficient use of the County's water resources,
- Enhanced water resource management,
- Solidarity amongst Napa water purveyors with greater leveraging power,
- Greater scrutiny of all utility providers,
- Enhanced technical and operational support for local providers,

- Elimination of redundancies and duplication of efforts amongst the smaller systems, and
- Improved economies of scale.

Challenges to Reorganization

As with any change of organization there are challenges that must be overcome prior to and during the reorganization process, including but not limited to the following:

First and foremost, there needs to be consensus of the affected agencies on the desired form of the reorganized agency. The reorganization will not be effective nor beneficial if only a few potentially affected agencies choose to participate. Which agencies are deemed to be affected will be dependent on the format of the reorganization. For example, if the intent is to enhance only county water resource management, then only water purveyors would be affected agencies. Consensus among multiple agencies regarding such a significant change would likely take substantial time and effort to achieve, and is likely the primary challenge to moving forward.

A common concern during reorganization is whether member agencies will have the ability to retain local control if a separate regional governing body is formed. Generally, local governing bodies have a more immediate connection with customers and are attuned to the needs of the agency and its operations; however, multiple, overlapping governing bodies may be duplicative, inefficient, and counterproductive to the goals of reorganization. The governance structure of the new agency will need to be determined by the affected agencies when defining the desired new agency format and strive to maintain a desirable level of local control.

Similarly, the composition of the decision-making body of the new agency is often contentious as agencies strive for representation that may most benefit their city or district. However, there are readily available examples of fair and equitable solutions to this challenge.

The affected agencies will need to cumulatively fund upfront costs associated with initiating the desired reorganization. Reorganization costs will vary depending on the proposed outcome, and may include a detailed study with a plan for services, application costs, election costs, and/or time and costs associated with getting state legislation passed in the case of a water agency. It should be noted that the five Napa cities and the County have a proven record of collaborating on and funding regional plans, indicating their ability to cooperatively fund projects.

Potential new agencies are often challenged to identify and establish sustainable revenue sources. For utility services, funding is generally guaranteed by rates for services. In the case of water resource management, however, funding would likely come from the member agencies. Revenues could be supplemented by property taxes and grants, or regional voter-approved measures.

A primary concern of the agencies reviewed in this MSR was how such a reorganization may affect rates in each community. Additionally, agencies questioned how it would be ensured that each community is financing its own operation and infrastructure costs. These are issues that would need to be addressed and quantified in a special study prior to application. Likely, zones within the agency would ensure rates are appropriated to their

respective community system and operations, and regional costs shared equitably according to benefit.

Finally, all agencies will need to acclimate to new or altered roles. In particular, agencies may not find it acceptable to relinquish certain responsibilities. The degree of adjustments for each agency will be determined by the structure and detail of the chosen alternative.

Other Collaboration or Reorganization Options

The agencies may not be prepared to entirely commit to significant changes immediately. There are options that enable the agencies to explore collaborative activities and assess the feasibility of options without committing to formation of a new agency. Intermediate options may include a joint powers authority, or contracting for services from a larger agency as discussed in the following.

Joint Powers Authority

Joint powers are exercised when the public officials of two or more agencies agree to create another legal entity or establish a joint approach to work on a common problem, fund a project, or act as a representative body for a specific activity.

A joint powers agreement is a formal legal agreement between two or more public agencies that share a common power and want to jointly implement programs, build facilities, or deliver services. Officials from those public agencies formally approve a cooperative arrangement. A joint powers agreement is like a confederation of governments that work together and share resources for mutual support or common actions. The government agencies that participate in joint powers agreements are called member agencies. With a joint powers agreement, a member agency agrees to be responsible for delivering a service on behalf of the other member agencies. Each joint powers agreement is unique as there is no set formula for how governments should use their joint powers. One agency will administer the terms of the agreement, which may be a short-term, long-term, or a perpetual service agreement.

A joint powers authority (JPA) is a separate government organization created by the member agencies, but is legally independent from them. Like a joint powers agreement (in which an agency administers the terms of the agreement) a JPA shares powers common to the member agencies and those powers are outlined in the JPA agreement. Agencies create JPAs to deliver more cost-effective services, eliminate duplicative efforts, and consolidate services into a single agency.

A joint powers authority offers the advantages of a more ephemeral and potentially more limited consolidation (e.g., planning or treatment), continued accountability and local control, and a potential structure to overcome inherent financial incompatibilities among the providers working towards future consolidation.

Collaboration by means of JPAs does not currently exist among the Napa County water and wastewater providers. Creation of a JPA would be a significant step towards formation of an all-encompassing water agency or county water district. A JPA could entail whatever roles the member agencies desired, such as resource management for the cities or a regional approach amongst the cities for supply and treatment to improve efficiency.

Of note is that a JPA could avoid overhead costs for fiscal and personnel management associated with formation of a new agency, as it could make use of existing participating agency support services, such as for budgeting or engineering.

Contracting for Services

Struggling smaller agencies are in need of immediate support in some form. They may wish to contract with larger agencies for services. Contracting for certain services from other agencies offers an opportunity to test a service structure prior to committing to full reorganization and may also offer cost efficiencies depending on the structure and participating agencies, as well as access to increased expertise and staff resources. Contracts for services are a way to build closer ties between cities and districts in Napa County. Options identified in this report include the City of Napa or NapaSan providing contract services to interested agencies.

Next Steps

Considering the limited scope of this study, which exclusively covers the legally mandated requirements of an MSR for LAFCO's purposes, Napa water and wastewater agencies will need a more detailed step by step approach to bridge the gap between concept and implementation. The agencies need to begin conversations to determine a preferred service structure and confirm consensus, then move ahead with further assessment to determine:

- Which water resources would be under the jurisdiction of the newly formed entity, and what specific services would it provide to which agencies.
- How the reorganization would affect rates.
- Immediate and long-term cost of the reorganization.
- Appropriate composition of the governing body.
- Funding sources that can feasibly ensure sufficient revenues for the new entity.

It is recommended that water purveyors and wastewater providers in Napa begin discussions regarding their vision for water utilities in the County in the long term to address existing concerns and ensure a persistent and stalwart effort at providing reliable and sustainable water and wastewater services throughout the County.

4. CITY OF AMERICAN CANYON

AGENCY OVERVIEW

City of American Canyon Profile			
Contact Information			
Contact:	Jason Holley, City Manager		
Address:	4381 Broadway, Suite 201, American Canyon, CA	*Website:*	https://www.cityofamericancanyon.org/
Phone:	707-647-5323	*Email:*	jholley@cityofamericancanyon.org
Formation Information			
Date of Incorporation:	1992	*City type:*	General Law
Governing Body			
Governing Body:	City Council	*Members:*	4 Council Members and 1 Mayor
Manner of Selection:	Election at large	*Length of term:*	4 years
Meetings Location:	Council Chambers at 4381 Broadway, Suite 201	*Meeting date:*	First and third Tuesday of each month at 6:30 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	20,629
Purpose			
Enabling Legislation:	California Constitution XI	*Empowered Services:*	All municipal services
Municipal Services Provided (directly or by contract)	Water, wastewater, parks and recreation, street maintenance and traffic, stormwater, solid waste (private contractor) police (County Sheriff), fire (through subsidiary district American Canyon Fire Protection District)		
Area Served			
Size:	Nearly 6 square miles	*Location:*	Southern Napa County
Current SOI:	A little over 6 square miles	*Most recent SOI update:*	2018
Municipal Service Reviews			
Past MSRs:	2018 South County Region Municipal Service Review and Sphere of Influence Updates 2009 Municipal Service Review: Southeast Napa County 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study 2003 Comprehensive Study of American Canyon Service Review Report		

Boundaries

The City of American Canyon encompasses approximately six square miles[31] at the southern end of Napa County, as shown in Figure 4-1. The City is surrounded by mainly rural and agricultural land uses.[32]

In 2008, American Canyon and Napa County established an Urban Limit Line (ULL) to demark the allowable growth for the City. Since then all annexations to American Canyon that were approved by LAFCO were consistent with ULL boundaries.[33] There have been six annexations since the ULL was established. There have been no boundary reorganizations since the last MSR completed in 2018.

The City is currently in the midst of the annexation process for the 87-acre Paoli/Watson Lane property, which is "ripe for development." The area is located within the City's sphere of influence and consistent with the ULL. Besides the Paoli/Watson Lane property, the area includes other in-between properties to the south along Watson Lane and within the Southern Pacific Railroad Right-of-Way. Including the other properties along Watson Lane prevents the undesirable creation of a county island.[34] The annexation entails a General Plan amendment, rezoning and tax sharing agreement.[35]

Sphere of Influence

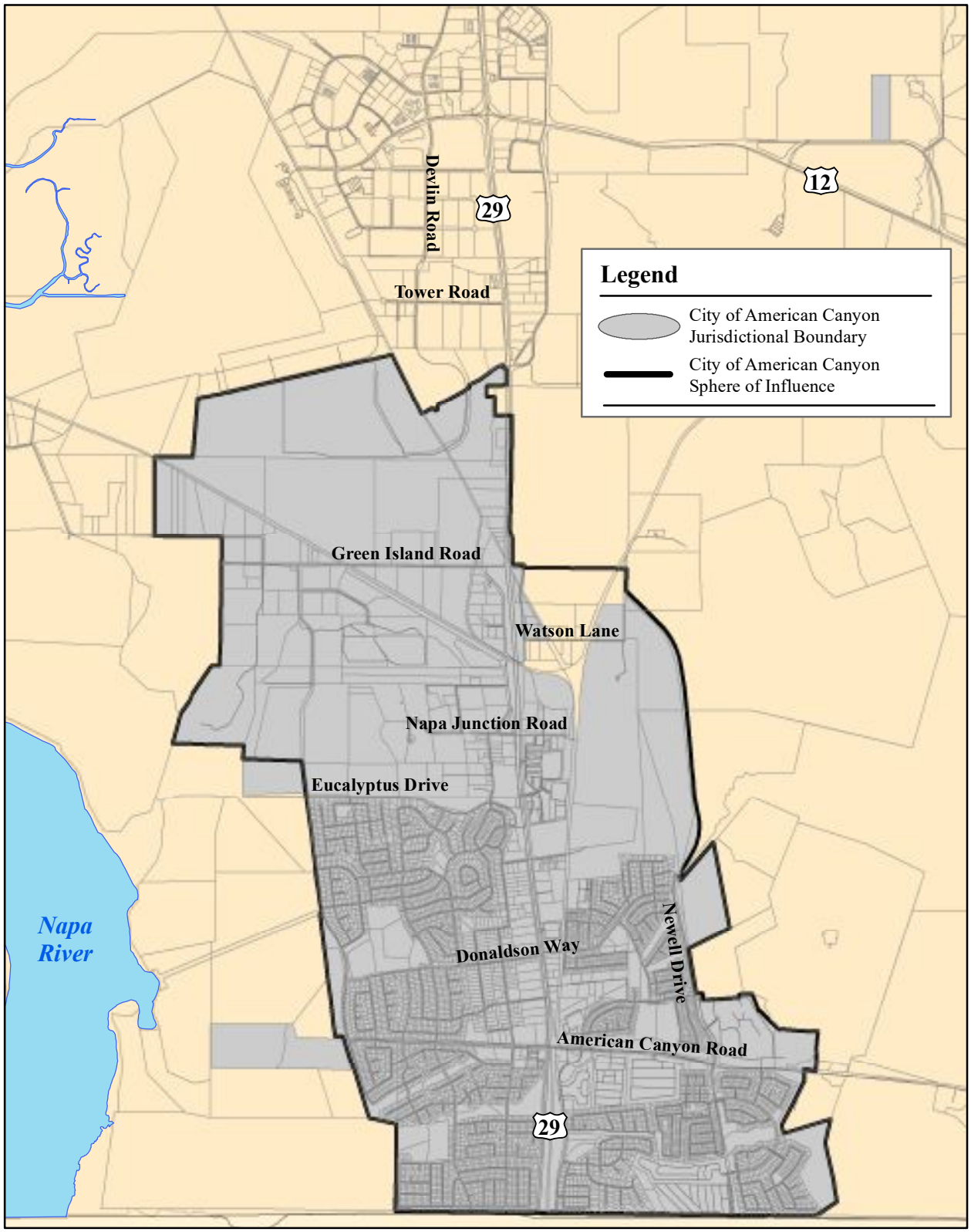
The City of American Canyon sphere of influence (SOI) was last updated in 2018. No changes to the SOI were made at that time since it had been LAFCO's practice to defer any SOI expansions until such time that specific land uses within the affected territory are known. The City's SOI was last expanded in 2015 when the Commission approved a concurrent sphere of influence amendment and annexation of Canyon Estates.

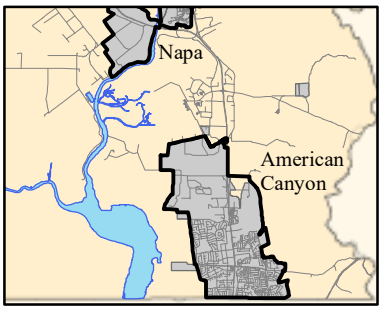
The City's current SOI is 3,849.4[36] acres or a little over six square miles in size and is shown in Figure 4-1. The current SOI is annexable with one area outside of the City's boundaries but inside its SOI. Following the completion of the Paoli/Watson Lane annexation, all territory within the City's SOI will be inside the city limits. There are three additional parcels, which are inside the City's boundaries but outside of its SOI, consisting of a noncontiguous city-owned water plant to the northeast, a noncontiguous city-owned corporation yard to the southwest, and the noncontiguous city-owned Clark Ranch Park to the west. Typically, this would indicate LAFCO's anticipation that these areas be detached from the City; however, it has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of American Canyon's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

[31] Napa LAFCO, South County Region Municipal Service Review and Sphere of Influence Updates, 2018, p. 3-1.
[32] Napa LAFCO, South County Region Municipal Service Review and Sphere of Influence Updates, 2018, p. 3-1.
[33] Napa LAFCO, South County Region Municipal Service Review and Sphere of Influence Updates, 2018, pp. 6-1- 6-3.
[34] City of American Canyon, City Council Agenda Staff Report, March 19, 2019.
[35] City of American Canyon Active Community Development Projects, 2018.
[36] 3,333 acres 2004 SOI+479.2 acres added in 2010 +37.2 acres added in 2015.

Figure 4-1

City of American Canyon





N

0 0.225 0.45 Miles

December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

Figure 4-1a

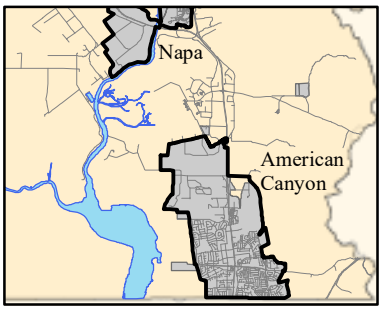
City of American Canyon

Devlin Road
29
12
Tower Road

Legend

City of American Canyon Jurisdictional Boundary
City of American Canyon Sphere of Influence
City of American Canyon Urban Limit Line

Green Island Road
Watson Lane
Napa Junction Road
Eucalyptus Drive
Napa River
Donaldson Way
Newell Drive
American Canyon Road
29



N
0 0.225 0.45 Miles

December 17, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The City of American Canyon is governed by a four-member Council and one Mayor, all elected to staggered four-year terms. The Council selects a Vice Mayor annually.[37]

Regular meetings of the City Council take place on the first and third Tuesday of every month at 6:30 p.m. in the Council Chambers. The meetings are broadcast live on public access Channel 28, the City's YouTube Channel, and on the City's website. Agendas and minutes are posted on the website, along with other information pertaining to city services and operations.[38]

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019.

AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda.

Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[39] The City of American Canyon has a designated web page for City Council and Commission meetings accessible from the homepage and reports that it is in compliance with AB 2257 requirements.

The City demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The City responded to the questionnaires and cooperated with document requests.

GROWTH AND POPULATION PROJECTIONS

According to the California Department of Finance (DOF), the City's population as of 2019 is approximately 20,629.

Based on the California Department of Finance (DOF) estimates, the City's population increased from 18,731 in 2009 to 20,629 in 2019, or by about 10 percent over the 10-year period.

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[37] City of American Canyon, Mayor and City Council, https://www.cityofamericancanyon.org/city-departments/mayor-city-council
[38] City of American Canyon, Mayor and City Council, https://www.cityofamericancanyon.org/city-departments/mayor-city-council
[39] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/

Future development is limited by the ULL. Additionally, growth is constrained by the airport's flyover zones to the north, City of Vallejo to the south, foothills of the Sulphur Springs Mountain Range to the east, and the Napa River to the west.[40]

Most of the undeveloped area in the ULL has been built out. One of the largest remaining areas with the potential to be developed is Watson Ranch. The City certified a Final Environmental Impact Report (FEIR) for the Watson Ranch project and adopted the Watson Ranch Specific Plan in November 2018.[41] The adopted General Plan amendment, development agreement and the Specific Plan describe Watson Ranch of ultimately consisting of 1,253 residential units, 93,500 square feet of commercial/retail space, 50 live/work dwelling units, a 200-room hotel, and an elementary school.[42] Another notable planned project is the Broadway District. The Broadway District Specific Plan guides the development of up to 1,200 net new dwelling units and up to 840,000 square feet of net new non-residential uses (commercial, office, etc.). Both, the Specific Plan and the Environmental Impact Report (EIR) assume the buildout by 2036.[43] The additional development projects in various stages of planning and development are shown in Figure 4-2.

Figure 4-2: City of American Canyon Development Projects

Project Name	Description	Location	Status
Watson Ranch Lots 14 and 15 Preapplication	Review engineering standards in small lot residential subdivision design.	North terminus Summerwood Dr	Application submitted, meeting with applicant
Home2Suites Design Permit	A proposed 102 room hotel	South of 3850 Broadway 2 acres	Resubmittal
Oat Hill Residential Designation	General Plan Amendment and Zoning District amendment to consider a future residential development proposal.	East side of Oat Hill adjacent to Napa Junction Road 30 acres	City Council Review
Circle K and Service station Preapplication	Service station with a Circle K market	Northeast corner Lombard/Napa Junction Road	Comments to applicant
Rotten Robbie Preapplication	Gas station with eight fueling stations, a 4,800 square feet convenience store, a car wash, and three truck-fueling positions.	3519 Broadway St. 3.33 acres	Comments to applicant Meeting with applicant

[40] Napa County Local Agency Formation Commission, South County Region Municipal Service Review and Sphere of Influence Updates, 2018
[41] Napa County Local Agency Formation Commission, South County Region Municipal Service Review and Sphere of Influence Updates, 2018
[42] City of American Canyon, Active Community Development Projects, 2018, https://www.cityofamericancanyon.org/home/showdocument?id=17165.
[43] First Carbon Solutions, Draft Environmental Impact Report, Broadway District Specific Plan, City of American Canyon, Napa County, California, 2017, p. 2-11.

Project Name	Description	Location	Status
Am Can Assisted Living Conditional Use Permit	Construct a new 76,268 square feet, 70-unit, two story assisted living and memory care facility.	Southwest corner SR 29/Crawford Way 4.32 acres	Comments to applicant
Am Can Assisted Living lot Line Adjustment	Lot line adjustment to adjust lot lines to coincide with assisted living Phase 1 and 2	Southwest corner SR 29/Crawford Way 4.32 acres	Second comments to applicant
Copart Conditional Use Permit	Vehicle storage and administrative uses	1578 and 1660 Green Island Road 20.47 acres	Draft Initial Study resubmitted
Element 7 Cannabis Business Permit	Construct a 7,000 square foot building for Cannabis manufacturing, distribution and non-storefront retail (delivery) business.	1300 Green Island Rd	Project status schedule sent to applicant
Reesan Live, Inc. Cannabis Business Permit	Construct an 82,328 square feet two story warehouse for cannabis cultivation, manufacturing, distribution and retail delivery.	834 Green Island Rd	Project status schedule sent to applicant
Village at Vintage Ranch Minor Modification	Revise the site plan to remove seatwalls throughout the site and replace some with benches	100 Toscana Avenue	Application approved
Napa Junction III Building 6B	Construct a 6,000 square foot single story medical office building	416 Napa Junction Rd 1.06 acres	Application submitted
Village at Vintage Ranch	Improvement plans for 159 townhome project	NWC Silver Oak and American Canyon Dr 11.7 acres	Improvement plan permit issued
Village at Vintage Ranch	159 townhome rental project	NWC Silver Oak and American Canyon Dr 11.7 acres	Building 4 temporary occupancy inspections
Holy Family Church	Construct 7,900 square foot church and site improvements and parking lot	200 Antonina Avenue 1.53 acres	Improvement Plan issued
Rio del Mar Subdivision	4-lot residential subdivision	NEC Rio del Mar/Carolyn Drive 1.9 acres	Comments to applicants
Canyon Estates	Improvement plans, grading plans, potable	Northeast corner Silver Oak/Newell Dr	Grading and Improvement Plan

Project Name	Description	Location	Status
	water pump station plans	35 acres	Comments to applicant
Canyon Estates Lot Line Adjustment	Lot Line adjustment to consolidate habitat area in Napa County	Northeast corner Silver Oak/Newell Dr 35 acres	Comments to applicant
Pick-n-Pull	Grading permit for new customer parking lot and vehicle inventory yard	5759 Broadway 9.52 acres	Grading permit approved
Assisted Living Facility	Will serve application for an assisted living facility	SWC Crawford/SR 29 4.32 acres	Comments to applicant
SDG 330 Warehouse	New 330,000 square foot warehouse shell	1005 Commerce Ct 15.24 acres	BP Issued DV Approved
Napa Logistics Building 5	New 702,000 square foot warehouse shell	400 Boone Drive 37.6 acres	BP Issued
Napa Logistics Building 5	Improvement Plans for new 362,880 foot warehouse	500 Boone Drive 24.5 acres	Application deposit received
Napa Logistics Building 5	Building permit for new 362,880 square foot warehouse	500 Boone Drive 24.5 acres	Comments to applicant
Broadway District Priority Development Area Specific Plan	Prepare a specific plan, general plan amendment, and environmental impact report in accordance with MTC guidelines and local input	Properties east and west of SR 29 300 acres	City Council final reading approved
Paoli/Watson Lane Annexation	General Plan Amendment, rezoning, and annexation of the Paoli/Watson Lane Property	Southeast of Paoli Loop/SR 29 80 acres	EIR proposal period closed
Replacement Napa Junction Elementary School	Coordination with the Napa Valley Unified School District on the new elementary school design	Northeast corner Wetlands Edge/Eucalyptus Dr 10 acres	Ground breaking ceremony
Source: City of American Canyon, Active Community Development Projects, January 2020, https://www.cityofamericancanyon.org/home/showdocument?id=18107			

The Association of Bay Area Governments (ABAG) projects that the population of American Canyon will grow by about 10 percent from 2020 to 2030. Thus, the average annual population growth in the City is anticipated to be approximately one percent. Based on these projections, the City's population would increase from 20,629 in 2019 to 22,919 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017, based on DOF population estimates for these years.[44] The population growth was projected in five-year increments through 2030. According to the LAFCO's projections, the population of American Canyon in 2025 will be about 21,594 and approximately 22,398 in 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[45]

FINANCIAL ABILITY TO PROVIDE SERVICES

The City of American Canyon provides water and wastewater services as City enterprises ("business-type" activities). City departments provide administrative and overhead services to the water and wastewater enterprises, which in turn reimburse the City departments for those expenses. The enterprises are supported by rate revenues and charges; no property tax revenue accrues directly to the enterprises, and no General Fund revenues support those enterprises.

The City's CAFR reports City financials which include the financial reports for the American Canyon Fire District, a City-dependent district.[46] The CAFR provides financial information separately for the water and wastewater "business-type" activities.

The following tables summarize selected financial information for the City of American Canyon's water and wastewater operations. The agency's Fiscal Profile in Appendix A provides additional detail and indicators.

[44] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[45] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[46] The City Council serves as the board of the fire district.

Figure 4-3: Summary of Selected Financial Information, City of American Canyon Water Operations

City of American Canyon Water Operations	
FY18-19 Water Budget Net	**$350,000**
Operating Revenues	$6,350,000
Operating Expenditures (inc. debt)	$6,000,000
Ending Fund Balance as % of Operating Revenues	**85%**
Ending Fund Balance	$5,420,000
Debt Service as a % of Operating Revenues	**4.1%**
Total Debt Outstanding	$931,000
Monthly Water Rates as a % of Household Income	**0.7%**
Typical Monthly Rate	$55
Median Household Income (2017)	$91,705
Pension+OPEB Unfunded Liability Pmts % of Revenue	**2.8%**
Pension+OPEB Total Pmts	$180,600
Unfunded Pension Liability	$1,020,000
Unfunded OPEB Liability	$410,000

Figure 4-4: Summary of Selected Financial Information, City of American Canyon Wastewater Operations

City of American Canyon Wastewater Operations	
FY18-19 Wastewater Budget Net	**$2,680,000**
Operating Revenues	$4,560,000
Operating Expenditures (exc. debt)	$1,880,000
Ending Fund Balance as % of Operating Revenues	**118%**
Ending Fund Balance	$5,390,000
Debt Service as a % of Operating Revenues	**16.8%**
Total Debt Outstanding	$3,680,000
Monthly Water Rates as a % of Household Income	**0.7%**
Typical Monthly Rate	$55
Median Household Income (2017)	$91,705
Pension+OPEB Unfunded Liability Pmts % of Revenue	**5.1%**
Pension+OPEB Total Payments	$230,700
Unfunded Pension Liability	$1,290,000
Unfunded OPEB Liability	$550,000

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The City's water and wastewater operating revenues exceeded operating expenditures for FY16 through FY19 (including debt service).[47] The net revenues helped to fund capital projects.

Water Services

Operating revenues exceed operating expenditures by about $350,000 in FY19; prior years also show operating surpluses,[48] increasing fund balances prior to capital expenditures. Operating revenues declined in FY19 and annual operating surpluses declined compared to prior years. Rate increases during the year did not offset the declines.

Wastewater Services

Operating revenues exceed operating expenditures by about $3.4 million in FY19; prior years also show operating surpluses,[49] which increased fund balances prior to capital expenditures.

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for short-term cash flow and liquidity, and sufficient to fund longer-term capital needs.

The City of American Canyon has established General Fund Reserves and a Capital Projects Reserve but has not created other (non-capital) reserves specific to its utility operations. The Water and Wastewater Operations Fund Balances, which utilize budget information, provide an indicator of short-term reserves.

In the longer term, an Agency's Unrestricted Net Position can indicate the longer-term availability of funds, which could be greater or less than a Fund Balance. The Net Position reflects net value remaining after including all current and long-term assets such as capital assets and advances to other funds, and current and long-term liabilities such as unfunded pension and OPEB liabilities.

Funds restricted to capacity expansion are available for certain capital improvements (see "Capital Assets" below).

Water Services

The Water Operations' projected FY19 ending fund balance of $5.4 million[50] equals 90 percent of annual expenditures (including debt service), providing a cushion for cash flow

[47] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Summary (pg. 220) and Wastewater Operations Summary (pg. 236).
[48] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Summary (pg. 220) and Wastewater Operations Summary (pg. 236).
[49] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Summary (pg. 220) and Wastewater Operations Summary (pg. 236).
[50] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Fund #510, pg. 106.

needs and short-term contingencies.[51] The Water Operations' liquidity ratio, which is positive (current assets exceed current liabilities), indicates the short-term (less than one year) availability of these funds if needed.

Over the longer term (greater than one year) the Water Operations Fund has an unrestricted net balance of only $100,000;[52] the balance of its net position (assets exceeding liabilities) is invested in capital assets and/or restricted.

Wastewater Services

The Wastewater Operation's projected ending fund balance of $5.4 million[53] provides a cushion for cash flow needs and short-term contingencies, representing three times annual expenditures (including debt service).[54] The Wastewater Operations' liquidity ratio, which is positive (current assets exceed current liabilities), indicates the short-term (less than one year) availability of these funds if needed.

Over the longer term (greater than one year) the Wastewater Operations Fund has an unrestricted net position of $11.5 million[55] that is available for capital or other uses. The positive net position depends on the future repayment by the Water Operations Fund of advances from the Wastewater Operations Fund.

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term and ability to fund capital improvements.

Water Services

The Water Operations Fund has a significant net position of $32.2 million, which represents the value of assets in excess of liabilities. The net position is primarily invested in capital assets; the remaining net position is largely comprised of funds (e.g., accumulated capacity fees) restricted to capital expansion. Unrestricted funds total about $100,000.[56] This position includes about $6.1 million of advances from the Wastewater Fund.

Wastewater Services

The Wastewater Operations Fund has a significant net position of $34.4 million which represents the value of assets in excess of liabilities. The net position is primarily invested in capital assets; the remaining net position is largely comprised of funds (e.g., accumulated capacity fees) restricted to capital expansion. Unrestricted net position totals about $11.5 million; this net position includes about $6.1 million of advances due from the Water Operations Fund.[57]

[51] See American Canyon Water Operations Financial Profile.
[52] City of American Canyon FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 27.
[53] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Operations Fund #540, pg. 108.
[54] See American Canyon Wastewater Operations Financial Profile.
[55] City of American Canyon FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 27.
[56] City of American Canyon FY18 CAFR, Statement of Net Position, pg. 27.
[57] City of American Canyon FY18 CAFR, Statement of Net Position, pg. 27.

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility.[58]

American Canyon's rates for each utility fall below one percent of median household incomes.[59] Recent research proposes measures that consider additional factors such as housing and other costs to indicate funds available for utilities and potentially producing a different affordability conclusion.

The City collects Capacity Fees[60] to mitigate the impacts of new development by paying for additional pipes and upgrades to treatment facilities to meet additional demands from new development. The City adjusts these fees annually based on an inflation factor.[61] Every five years the City prepares a report to document the amounts collected and the use of those funds for their intended purpose. The last 5-year report was prepared in 2015;[62] the City also prepares annual reports.[63]

Water Services

The City of American Canyon prepared a water rate study in 2018 that established rates to fund operations, debt service and capital improvements through FY22.[64] The City Council adopted new rates effective January 2019 and are proposed to increase approximately 5.5 percent annually.[65] The new variable rate increased approximately 80 percent; the fixed meter charges increased about 6.6 percent.[66] The rate differential for service outside the City was eliminated, and the drought surcharge ($2 per billing unit)[67] was eliminated.

The City's Water Rate Assistance Program, approximately $600 total per month funded by penalty and interest revenue, is intended to provide a water service discount to eligible single-family residential customers in the City of American Canyon water service area. The Program will provide a credit equal to the amount of the meter charge (fixed-rate) on the monthly Water and Sewer Bill. The Water Rate Assistance Program is a pilot program that will only be in effect from January 1, 2019 to December 31, 2019.[68]

The City's Water Capacity Fee is $15,048 per single-family unit;[69] the City's fee schedule also lists capacity fees for other land uses. The projected ending balance for FY19 in the Water Capacity Fee Fund is $3 million.[70]

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[58] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[59] Based on median household income of $91,705 according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[60] "Capacity Fees" and the term "Connection Charges" are used interchangeably in City documents but refer to the same charge (Response to Request for Information, 2019-10-11).
[61] City of American Canyon Resolution 2018-01.
[62] AB 1600 Annual Compliance and Five-Year Development Impact Fee Report as of June 30, 2015.
[63] AB 1600 Annual Compliance Development Impact Fee Report as of June 30, 2018 (FY19 report pending).
[64] City of American Canyon Water Rate Study 2017-18, Bartle Wells Associates, May 10, 2018.
[65] Comparison Chart (3-20-18) Proposed Five-Year Water Rate Schedule - Single-Family Residential.
[66] City of American Canyon, Water Rate Schedules (eff. Jan. 2018, 2019) for Tier 1 (0-10 units) residential use.
[67] A billing unit is 1 ccf (100 cubic feet) equal to 748 gallons.
[68] Water Rate Assistance Program Application downloaded from City website 2/4/19.
[69] Res. No. 2018-01 effective March 17, 2018, 2018 Water Capacity Fee.
[70] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Capacity Fee Fund #520, pg. 107.

Wastewater Services

Wastewater rates increased three percent in FY19 compared to the prior year. The last wastewater Cost of Service Study was prepared in 2007; no update is currently planned.[71]

The City's Wastewater Capacity Fee is $10,358 per single-family unit;[72] the City's fee schedule also lists capacity fees for other land uses. The projected ending balance for FY19 in the Wastewater Capacity Fee Fund is $440,000.[73]

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10 percent and 30 percent of their total operating revenues on debt service.[74]

American Canyon water and wastewater services spend less than 20 percent of revenues for debt service, as noted below.

Water Services

Water Operations' debt service represents about four percent of operating revenues,[75] well below typical levels. As noted above, water operations obtained an internal $6.1 million advance from the Wastewater Operations Fund (not included in summary of total debt); the City is in the process of working out repayment options.[76]

Wastewater Services

Wastewater Operations' debt service represents about 17 percent of operating revenues, about the middle of a typical range for utilities.[77]

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts. However, the potential increases in current American Canyon pension costs do not appear to be a significant adverse factor relative to its total budget. Increasing pension costs could result in increases to water and wastewater rates.

The City of American Canyon provides pension benefits to its employees through the City's CalPERS plans. The City's pension liabilities are approximately 70 to 75 percent funded.[78] City payments in FY18 towards its $14.8 million[79] unfunded pension liability plus

[71] Water and Wastewater Rate and Fee Study FINAL, November 2007, Bartle Wells Associates; American Canyon Response to Request for Information, 2019-10-11.
[72] Res. No. 2018-01 effective March 17, 2018, 2018 Wastewater Capacity Fee.
[73] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Capacity Fee Fund #550, pg. 109.
[74] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[75] Appendix A, City of American Canyon Water Operations Fiscal Profile.
[76] American Canyon Response to Request for Information, 2019-10-11.
[77] Appendix A, City of American Canyon Wastewater Operations Fiscal Profile.
[78] CALPERS Actuarial Valuations – June 30, 2017, Plan's Funded Status, pg. 5; Fire First Tier Plan (70.4% funded); Misc. Plan (75.6% funded). These two plans represent the majority of the City's pension obligations. According to City of American Canyon Response to Request for Information, 2019-10-11, the % funded was 75.8% as of June 30, 2017.
[79] City of American Canyon, FY18 CAFR, Management's Discussion and Analysis, City Program Costs, pg. 10.

the "normal" costs for current employees totaled approximately $1.7 million[80] in FY18, or about 4.2 percent of the City's total $40.7 million[81] revenues applied to fund program costs. These costs are projected to increase about 30 percent by FY25, primarily due to increases in public safety pension costs.[82]

Water and wastewater employees participate in the City's OPEB plan, which is provided through CalPERS California Employers' Retiree Benefit Trust (CERBT) Fund, which is a Section 115 trust fund administered by CalPERS; the City currently offers health benefits to City retirees at the same rate as active employees.[83] Benefits to employees hired after June 27, 2017 were substantially reduced.[84] The City's net OPEB liability totals $7 million; the total OPEB liability is approximately 53 percent funded.[85] OPEB payments in FY19 totaled $455,000 or about 1.1 percent of total revenues applied to program costs.[86]

Water Services

Water Operations' net pension liability ($1,019,000) and net OPEB liability ($411,000) total $1,430,000. Payments towards pension and OPEB expenditures totaled $180,000 in FY19, or about 2.8 percent of total operating revenues, which is less than the City's total 5.3 percent pension and OPEB payments relative to total revenues for programs.

Wastewater Services

Wastewater Operations' net pension liability ($1,285,000) and net OPEB liability ($550,000) total $1,835,000. Payments towards pension and OPEB expenditures totaled $230,000 in FY19, or about 5.0 percent of total operating revenues, which is less than the City's total 5.3 percent pension and OPEB payments relative to total revenues for programs.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

Water Services

The value of depreciable capital assets declined about 3.6 percent from FY17 to FY18, to about 60 percent of value before depreciation. Annual depreciation of $1.5 million[87] was only partially offset by additions to capital value. The City's Five-Year Capital Improvement Program (CIP) identifies future needs, costs and source of funding, but does not identify the projected funding available or shortfalls in funding, if any.

Wastewater Services

The value of depreciable capital assets declined about 2.2 percent from FY17 to FY18, to about 72 percent of value before depreciation. Annual depreciation of $1.6 million[88] was not

[80] City of American Canyon, FY18 CAFR, Note J – Pension Plan, Contributions – Employer, pg. 59.
[81] City of American Canyon FY18 CAFR, management discussion, City Program Costs, pg. 10.
[82] CALPERS Actuarial Valuations – June 30, 2017, Projected Employer Contributions, pg. 5, projections to FY25.
[83] City of American Canyon, FY18 CAFR, Note K – Other Post-Employment Benefits, pg. 63.
[84] City of American Canyon, FY18 CAFR, Note K – Other Post-Employment Benefits, pg. 63.
[85] American Canyon Response to Request for Information, 2019-10-11.
[86] City of American Canyon Annual Budget Fiscal Year 2018 – 2019, City Manager Transmittal, pg. 18.
[87] City of American Canyon FY18 CAFR, Statement of Revenues, Expenses and Changes in Fund Net Position, pg. 28.
[88] City of American Canyon FY18 CAFR, Statement of Revenues, Expenses and Changes in Fund Net Position, pg. 28.

offset by additions to capital value. The City's Five-Year Capital Improvement Program (CIP) identifies future needs, costs and source of funding, but does not identify the projected funding available or shortfalls in funding, if any.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The City's website includes descriptions of and access to current and past water and wastewater financial documents.

Comprehensive Annual Financial Report (CAFR) -- The City includes its water and wastewater operations in its CAFR which is published in a timely manner within six months of the end of the fiscal year.

Capital Improvement Program – The City prepares a 5-year CIP; the report is not updated annually at this time.[89]

Cost of Service/Rate Study – No wastewater cost of service study or rate study was available on the City's website.

Water Services

Financial Forecasts – The City's Water Rate Study[90] forecasts cash flows over a ten-year period from FY17 (estimated actual) through FY26. The City prepares a one-year forecast during its budget preparation process but has no plans for a longer-term forecast until the Rate Study is updated after five years (about FY23).

Wastewater Services

Financial Forecasts – Other than the annual budget process, the City has not prepared a longer-term forecast for its wastewater operations budget.

[89] City of American Canyon Response to Request for Information, 2019-10-11.
[90] City of American Canyon Water Rate Study 2017-18, Bartle Wells Associates, May 10, 2018.

WATER SERVICES

The City of American Canyon provides water services to its constituents directly and plans for them in various planning documents, including the Potable Water Master Plan adopted in 2016, Recycled Water Master Plan adopted in 2016, Capital Improvement Plan, and Urban Water Management Plan updated in 2015.

The City's General Plan, which was last updated in 1994, contains a Utility Element. Included in the Element are policies related to:

- Establishing and maintaining a secure water supply and treatment, distribution and storage system to serve the land uses proposed in the General Plan through 1) confirming the reliability of North Bay Aqueduct water supply, 2) obtaining additional water supply sources as necessary to supplement the North Bay Aqueduct supply and serve anticipated growth under the proposed land use plan, 3) increasing ability to share water supply with Napa and Vallejo during emergencies and extended periods of restriction of the North Bay Aqueduct supply, and 4) establishing a water management program to promote water conservation and wastewater reuse.
- Providing a high-quality water supply to City water users through 1) selecting supplemental water supply sources with water quality as a high priority, and 2) ensuring that the water treatment plant meets applicable drinking water standards.
- Developing and maintaining a water treatment and distribution system that meets generally accepted operational criteria for service to provide daily and peak demands, including fire flow requirements, to meet present and future needs in a timely and cost effective manner through 1) expanding water treatment, storage and distribution facilities as necessary to meet increasing water demands, 2) ensuring that the cost of improvements to the water supply, distribution, storage, and treatment system are borne by those who benefit, and 3) providing public funding support for expansion and upgrading of the water supply, distribution, storage, and treatment system when these improvements will benefit the City.

The City's planning efforts are also consistent with the Integrated Regional Water Management Plan.

As a part of water conservation efforts in the commercial sector, the City of American Canyon adopted a Zero Water Footprint (ZWF) Policy, the primary goal of which is that there is no loss in reliability or increase in water rates for existing water service customers due to new demand for water within the City's water service area. According to the policy, developers must minimize their demand for new potable water by using water efficient fixtures and consuming recycled water for non-potable use and ensure that all new developments offset the amount of increased potable water that will be consumed by their project on a one-to-one basis.[91]

[91] https://www.cityofamericancanyon.org/about/community-initiatives/water-rates/zero-water-footprint

Type and Extent of Services

Services Provided

The City of American Canyon provides potable and recycled water to residential, commercial, industrial, and agricultural customers within the City and portions of the surrounding area. Potable water is treated at the Water Treatment Plant (WTP) owned and operated by the City.[92] American Canyon produces disinfected tertiary treated recycled water at its Water Reclamation Facility (WRF) and supplies it to public schools, public parks, industrial, commercial and agricultural users.[93]

Service Area

The City's water service area is approximately 30 square miles, as shown in Figure 4-5. It includes three distinct areas:[94]

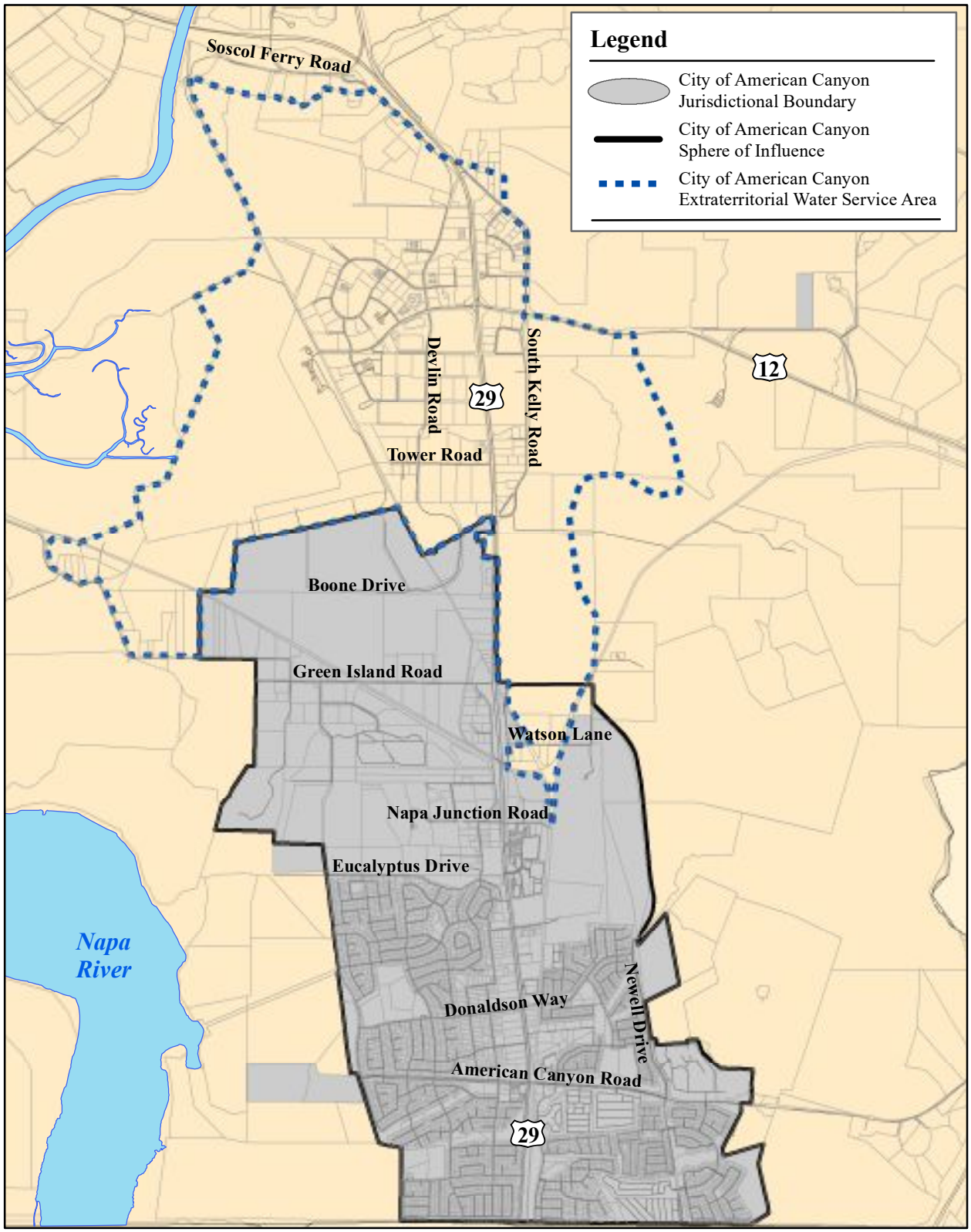
- American Canyon city limits that consists of six square miles and includes residential, commercial, industrial, and agricultural users;
- The unincorporated commercial and industrial areas in and around the Napa County Airport located north of the City that cover about five square miles; and
- The unincorporated largely open space and agricultural areas to the west, east and north of the City boundaries, which include agricultural users and a small number (28 accounts or estimated 70 people in 2015)[95] of single-family residential customers who represent "legacy" accounts that were originally connected and served by the American Canyon County Water District, a predecessor to the City. These accounts represent about one percent of the City's total single-family residential accounts.

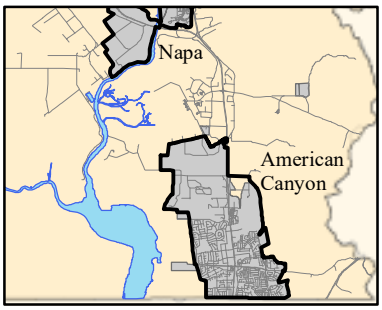
A vast majority of the single-family water customers and all multi-family residential customers are located within the city limits. Most of the out-of-city accounts are commercial and industrial users in and around Napa County Airport.[96] The City serves an estimated 70 additional residents outside of its boundaries in its water service area.[97] The City's water service area has been defined by LAFCO in a formal resolution whereby the City's existing out-of-area services were approved and extension of services in the area defined as the Airport Industrial Area is permitted. Any extension of services outside of the Airport Industrial Area, but within the established water service area requires prior written authorization by LAFCO.[98]

[92] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 3-1.
[93] GHD, Recycled Water Master Plan, City of American Canyon, 2016, p. 9.
[94] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 3-1.
[95] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 3-4.
[96] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 3-4.
[97] Ibid.
[98] LAFCO Resolution No. 07-27.

Figure 4-5

City of American Canyon





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December 20, 2019
Prepared by LAFCO Staff

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Napa, California 94559
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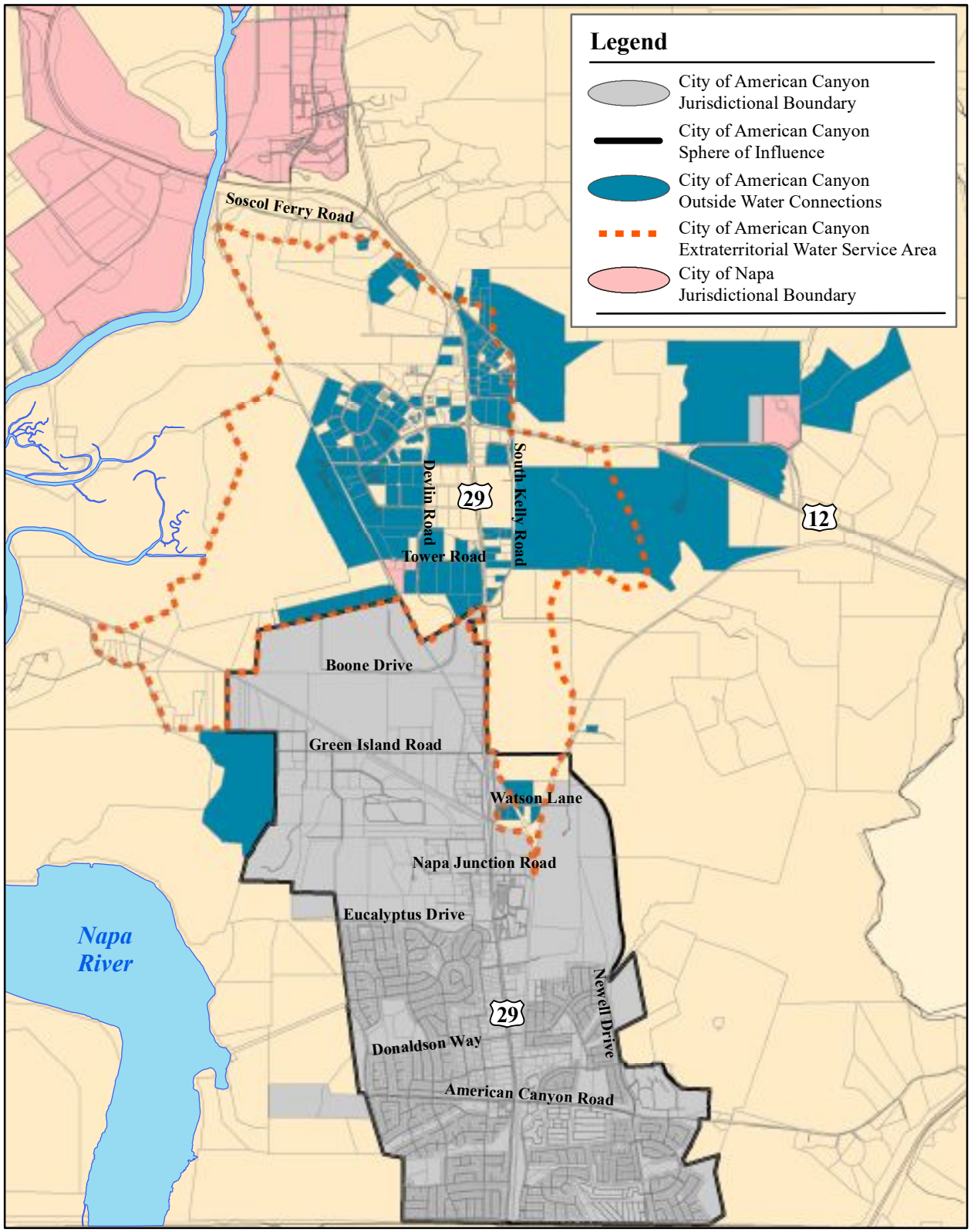
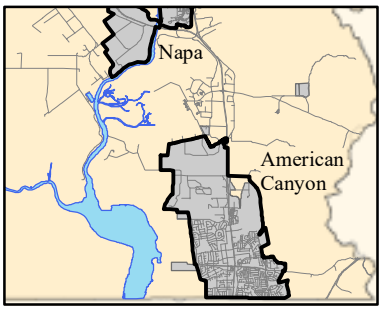
Figure 4-5a

City of American Canyon





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December 30, 2019
Prepared by LAFCO Staff

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http://www.napa.lafco.ca.gov

While the outside services are primarily a remnant of the former American Canyon County Water District, it is important to note that the LAFCO approved extraterritorial area approved in Resolution No. 07-27 is the only defined water service area for the City. As of the merger of the American Canyon County Water District with the City of American Canyon, the water district's former boundaries are no longer relevant in reference to the City as its "service area," meaning the City must seek LAFCO approval by application to serve areas outside of the city limits and the previously mentioned Airport Industrial Area per Government Code §56133.

The City's current service area for recycled water is the same as for the City's wastewater services and includes agricultural irrigation at a vineyard. It is shown in Figure 4-19 and discussed further in the *Wastewater Services* section of this Chapter.

Additionally, the City makes recycled water available for hauling at its Residential Recycled Water Filling Station. Users must get a permit prior to use; however, there are no limitations on where the water may be used.

Services to Other Agencies

The City does not provide any water-related services to other agencies.

Contracts for Services

The City of American Canyon has contracts to purchase water from the State Water Project through Napa County Flood Control and Water Conservation District, and the City of Vallejo. While not a wholesale agency itself, the City of Napa does treat and wheel the City of American Canyon's SWP contract water.[99] These contractual services are further discussed in the *Water Supply* section below.

The City of American Canyon has an agreement with the City of Napa for the purchase of treated (potable) water under emergency conditions or when the NBA system is off-line for maintenance or other reasons. This water source is not included in the reliability assessment since it would be deducted from the City's SWP "Table A" allotment and is only available during emergencies.

Additionally, the City has an interconnection with the City of Vallejo through which it receives purchased water, including Vallejo Permit Water (raw water), and Vallejo Treated Water and Vallejo Emergency Water (raw water).

Overlapping Service Providers

Napa Sanitation District provides recycled water services in the northern portion of the City's water service area, however, there is not a duplication of services as the City does not provide recycled water services to this area.

Collaboration

The City meets regularly with other water purveyors. In particular, the City meets at least monthly with its water wholesaler, the Napa County Flood Control and Water Conservation District (FCWCD) and with other State Water Project (SWP) member units of the Water Resources Technical Advisory Committee (WATRTAC) who purchase water from the Napa

[99] City of Napa, 2015 Urban Water Management Plan for City of Napa, 2015, p. 2-3.

County FCWCD. The active member units include the cities of American Canyon, Napa, and Calistoga. American Canyon also meets with the City of Vallejo for the purchase of Vallejo water.[100]

The City has considered and will continue to consider opportunities for water exchanges or transfers with water right holders, if opportunities present themselves at the right price and under acceptable terms and conditions. These potential opportunities could include, but would not be limited to, one-time transfers from farmers who chose to fallow fields and auction off their water.[101]

Staffing

The Public Works Department is responsible for management of the City's water supply. Engineering staff are responsible for allocating water to City customers and ensuring that the City meets the needs of everyone in the City's water service area.[102]

The Water Distribution Division maintains water mains in the City's water service area. It takes the lead on water conservation efforts, and responds to water leaks, main breaks, water pressure problems, and other service issues. The division also maintains the recycled water distribution system, which was put into service in March 2010.[103] The Water Division operates the Water Treatment Plant.

Water Supply

The City's potable water supply currently consists entirely of imported water sources, mainly State Water Project (SWP) water purchased from the Napa County Flood Control and Water Conservation District and water purchased from the City of Vallejo[104]. A summary of the contracted volumes of imported water is shown in Figure 4-5.

American Canyon's allocation of State Water Project water is sufficient to serve the system's current needs. However, because the SWP allocation is only 62 percent reliable during an average normal year, the City has an agreement with the City of Vallejo to purchase treated water through a connection located on Flosden Road. This connection could provide up to 56 million gallons per month of supplemental treated water for the City. American Canyon also has a treated water connection with the City of Napa.[105]

[100] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 2-3.
[101] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-15.
[102]https://www.cityofamericancanyon.org/city-departments/public-works/engineering/development-engineering/water-supply-will-serve
[103] https://www.cityofamericancanyon.org/city-departments/public-works/water-service/water-distribution
[104] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 3-1.
[105] City of American Canyon, Water Quality Report, 2017.

Figure 4-6: Summary of Contracted Imported Water Sources

Contracted Imported Water Sources		
Source Category	**Source Name**	**Contracted Amount (AFY)**
Water State Project	SWP "Table A" Water	5,200
	Article 21 Water	Varies by year
City of Vallejo	Vallejo Permit (Raw) Water	500
	Vallejo Treated Water	2,074 (2011-2015) 2,640 (2016-2021) 3,206 (2021 onward)
	Vallejo Emergency (Raw) Water	500*
Notes: *Available only in years when the City's "Table A" allotment is curtailed.		
Source: City of American Canyon 2015 Urban Water Management Plan, p. 6-1, Table 6-1.		

Although as shown in Figure 4-5 the City's current "Table A" allotment is 5,200 acre-feet per year, under the "Table A" allocation process (the method used by DWR to allocate water in the SWP system), the actual amount of SWP water available to the City varies from year to year due to hydrologic conditions, water demands of other contractors, SWP facility capacity, and environmental/regulatory requirements.[106] In certain years, the City may also receive additional SWP water known as Article 21 water, which is separate from the "Table A" allotment. Article 21 water is water identified in Article 21 of SWP long-term water supply contracts between DWR and each SWP water contractor, and it becomes available on an intermittent basis only when specific conditions[107] can be met.[108] The water received from the SWP is either treated at the City's Water Treatment Plant or delivered as raw water to the City's agricultural (irrigation) customers.

Water purchased from the City of Vallejo can be grouped in one of the three categories, including Vallejo Permit Water (raw), Vallejo Treated Water and Vallejo Emergency Water (raw). Permit Water is delivered through SWP but is separate from the SWP "Table A" allotment.

Other sources of water available to the City in dry years and in emergencies include the Dry Year Water Purchase Program, Turn-back Water Pool Program, Dry Year Transfer Program, Yuba Accord Dry Year Water, and Treated Water from the City of Napa. These other sources of water are described in more detail in the *Emergency Preparedness* section.

Additionally, the City is a member of the Sites Reservoir Project, which is a potential future water supply source in Colusa County. The City is anticipating that the Site Reservoir will provide up to 4,000 acre-feet per year by 2030.

Figure 4-6 shows the amount of water produced by the City from 2014 through 2018. Potable water supply shown in the figure includes water produced from surface water by

[106] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-2.
[107] 1) Such deliveries do not interfere with SWP Table A allocations and SWP operations; 2)Excess water is available in the Delta; 3) Capacity is not being used for SWP purposes or scheduled SWP deliveries; and 4)Contractors can use the SWP Article 21 water directly or can store it in their own system (i.e., the water cannot be stored in the SWP system).
[108] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-2.

the City through treatment and treated water purchased from the City of Vallejo and the City of Napa.

Figure 4-7: Water Production (2014-2018)

Water Produced (million gallons)					
	2014	**2015**	**2016**	**2017**	**2018**
Treated Potable Water	1,043	959	2,652	2,665	2,665
Recycled Water	52	39	196	195	270

Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.

Recycled water

The City's wastewater is collected through gravity pipelines at a series of pump stations and then pumped to the Water Reclamation Facility (WRF). There are two force mains delivering wastewater to the plant. One comes from the southern end of the City, the Main Basin, and the other comes from the north end of the City, the Industrial Basin. The Industrial Basin wastewater has a much higher salinity level than the Main Basin wastewater, due to its combination of industrial and domestic users. The City's approach for reclamation is to segregate the Industrial Basin flow from the Main Basin flow, thereby increasing the reuse potential of the effluent. As a result, the wastewater from the two basins is treated separately at the WRF using separate headworks and treatment trains.[109]

The City currently produces and delivers recycled water to meet demand on an as-needed basis. Water conservation efforts during the most recent drought have resulted in recycled water users voluntarily conserving water.[110]

Figure 4-7 shows the projected recycled water supply/demand within the City's recycled water service area. Serving additional recycled water users would require expanding the City's recycled water pipeline system, which would incur construction costs; the City is reviewing its capital improvement program and potential funding sources to fund the expansion of the recycled water system.[111]

Recycled water is mostly used for vineyard and landscape irrigation. As of January 2018, the City served recycled water to 56 connections—two multi-family, one commercial, one industrial, 51 landscape irrigation (parks, play fields, and median strips), and one vineyard.[112] There are also six other non-consistently active connections, such as fire suppression, street cleaning, line flushing etc.

[109] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 39.
[110] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-7.
[111] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-8.
[112] City of Amercian Canyon, Annual Drinking Water Report, 2018, p. 6.

Figure 4-8: Projected Recycled Water Demand

Recycled Water Uses Projections									
			Volume (acre-feet per year)						
Use Type	**Use Description**	**Level of Treatment**	**2015**	**2018**	**2020**	**2025**	**2030**	**2035**	**2040**
Agricultural Irrigation	Vineyard Irrigation	Tertiary	13	NP	68	68	173	173	173
Landscape Irrigation (excludes golf courses)	Landscape Irrigation	Tertiary	107	NP	513	552	552	1,063	1,063
Other	Dust Control at Construction Sites	Tertiary	25	NP	5	5	5	5	5
Other	Water Used Within the City WRF	Tertiary	30	NP	30	30	30	30	30

Source: Adapted from 2015 Urban Water Management Plan, p. 6-9, Table 6-4.
Note: NP = Not Provided

Emergency Preparedness

There is a number of emergency supply options available to the City that include:

- Dry Year Water Purchase Program

  In 2009, the City (along with other SWP contractors) entered into an agreement with DWR to obtain emergency supplies, if rice farmers in the Sacramento Valley are willing to make their supplies available.

- Turn-back Water Pool Program

  This DWR's program allows interested SWP contractors the option to sell "Table A" water they will not use to the program and also to purchase water from the program when needed.

- Dry-Year Transfer Program

  During dry years, varying amounts of additional water may be made available to SWP contractors through DWR's Dry-Year Transfer Program, which allows for transfers through a combination of crop idling, groundwater substitution and changes in reservoir operation.

- Yuba Accord Dry-Year Water

  In 2008, DWR adopted the Lower Yuba River Accord, an agreement to settle issues related to in-stream flows in the Yuba River and fisheries habitat. As part of this agreement, DWR is able to purchase water from the Yuba County Water Agency to, in part, offer to participating SWP contractors as a transfer during dry years. The Flood Control and Water Conservation District (FCWCD) has authorized the execution of the Yuba Accord Dry-Year Water Purchase Agreement, and the City has the option to purchase water through this agreement in dry years.

- Treated Water from the City of Napa

  The City of American Canyon has a contract with the City of Napa for the purchase of treated water under the emergency conditions or when the North Bay Aqueduct (NBA) system is off-line for maintenance or other reasons. It provides operational flexibility to American Canyon, such as the ability to provide water in the event the City's WTP is off-line for an extended period of time.

The City receives treated water from the cities of Vallejo (three interconnections) and Napa (one interconnection) through four interconnections. The Montevino and American Canyon High School interconnections serve domestic and fire flow demands, while the La Vigne and Napa interconnections provide demands during fire flow conditions only.[113]

Water Demand

All of the City's customers are metered. The 2015, 2016, 2017, and 2018 demand for potable and raw water in the City's water service area is shown in Figure 4-8.

[113] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 33.

Figure 4-9: Demand for Potable and Raw Water by Customer Type (acre-feet)

Demand for Potable and Raw Water					
User Type	**Level of Treatment When Delivered**	**Volume 2015**	**Volume 2016**	**Volume 2017**	**Volume 2018**
Single-Family Residential	Drinking Water	1,102	1,100	1,184	1,241
Multi-Family Residential	Drinking Water	142	143	146	155
Commercial/Industrial/Institutional	Drinking Water	854	851	904	923
Landscape	Drinking Water	175	174	357	329
Agricultural Irrigation	Raw Water	56	56	34	32
Other Miscellaneous	Drinking Water	16	15	16	61
Losses	Drinking Water	631	342	247	138
TOTAL		**2,976**	**2,681**	**2,888**	**2,879**

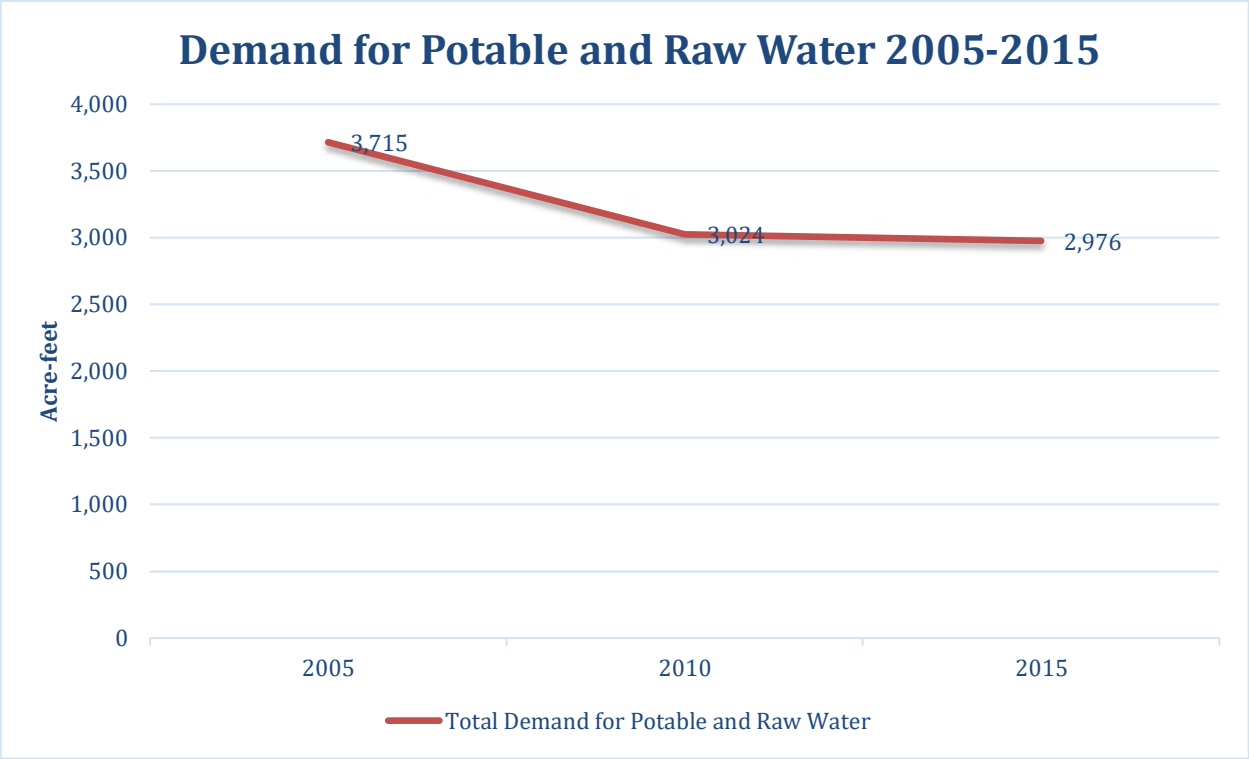
Source: Adapted from 2015 Urban Water Management Plan, p. 4-2, Table 4-2 and City of American Canyon Annual Reports to the Drinking Water Program for 2016, 2017, 2018, and as reported by the City of American Canyon.

A majority of water is utilized by single-family residential customers, followed by the commercial/industrial/institutional sector. As is clear from Figure 9-10, the City's demand for potable and raw water decreased from 2005 to 2015. The reduction in demand is attributed to residential uses and is a result of the City's conservation program and drought emergency measures.[114] As shown in Figure 4-9, the demand has slightly increased since 2015—primarily attributable to increases in use by residential, commercial, and landscape uses.

As was mentioned before, the conservation measures associated with the drought emergency are likely to have resulted in recycled water users, similar to potable water users, also voluntarily conserving water.[115] According to the City's Recycled Water Master Plan, in 2016, demand for recycled water from existing recycled water customers was approximately 180 acre-feet for landscaping irrigation and 68 acre-feet for agricultural (vineyard) irrigation, which was a lot lower than anticipated.[116]

[114] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, pp. 4-3 - 4-6.
[115] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 6-7.
[116] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, pp. 9, 23.

Figure 4-10: Demand for Potable and Raw Water Over Time, 2005-2015[117]



The City's detailed demand projections for potable and raw water through 2040 are shown in Figure 4-11 and summarized in Figure 4-12 as compared to the projected water supply during a normal year. Residential demand represents approximately half of the City's anticipated total water demand. As anticipated, residential demand increased somewhat from 2015 levels, but it is not anticipated that demand will return to the historical high levels.

Commercial/industrial/institutional uses represent about one-third of the City's water demand. There are an additional 811 acres available for future commercial/industrial development, which amounts to a total of 2,401 acres of commercial/industrial properties at build-out. This represents a potential for an increase of up to approximately 50 percent in commercial/industrial development in the future, and it can be expected that water demand from commercial/industrial users may also increase by approximately 50 percent. Potable water demand for landscape irrigation is expected to decline as the City expands its recycled water distribution system.[118]

Future recycled water demands will come from connecting new customers to the existing recycled water distribution system, from connecting additional customers as the network is expanded, and from conditioning new development for use of recycled water where it is available. Future demands also include conversion of existing vineyards north of

[117] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, pp. 4-1, 4-2.
[118] City of American Canyon 2015 Urban Water Management Plan.

Watson Ranch from raw water provided by the City to recycled water.[119] The projected maximum month average day demand at buildout[120] is 2.14 mgd or 1,202 acre-feet a year.[121]

Figure 4-11: Projected Demand for Potable and Raw Water , acre-feet

Projected Demand for Potable and Raw Water					
Use Type	**2020**	**2025**	**2030**	**2035**	**2040**
Single-Family Residential	1,562	1,712	1,861	2,011	2,171
Multi-Family Residential	174	190	207	223	241
Other-Commercial/Industrial/Institutional	1,087	1,177	1,267	1,357	1,448
Landscape	247	247	247	247	247
Agricultural Irrigation	56	0	0	0	0
Other- Miscellaneous	24	24	24	24	24
Losses	255	272	292	313	335
Total	**3,405**	**3,622**	**3,898**	**4,175**	**4,466**

Source: City of American Canyon 2015 Urban Water Management Plan, p. 4-3, Table 4-3.

Figure 4-12: Projected Water Supply and Demand During a Normal Year, acre-feet

Demand/Supply Projections					
	2020	**2025**	**2030**	**2035**	**2040**
Potable/Raw Water Demand	3,405	3,622	3,898	4,175	4,466
Recycled Water Demand	1,007	1,146	1,351	1,862	1,862
PROJECTED WATER DEMAND	**4,412**	**4,678**	**5,249**	**6,037**	**6,328**
SWP "Table A" Water	3,224	3,224	3,224	3,224	3,224
SWP Article 21 Water	189	189	189	189	189
Vallejo Permit Water	500	500	500	500	500
Vallejo Treated Water	2,640	3,206	3,206	3,206	3,206
Subtotal Purchased/Imported Water	**6,553**	**7,119**	**7,119**	**7,119**	**7,119**
City of American Canyon Recycled Water	616	655	760	1,271	1,271
Napa Sanitation District Recycled Water	391	491	591	591	591
Subtotal Recycled Water	**1,007**	**1,146**	**1,351**	**1,862**	**1,862**
PROJECTED WATER SUPPLY	**7,560**	**8,265**	**8,470**	**8,981**	**8,981**

Source: Adapted from 2015 Urban Water Management Plan, p. 4-3, Table 4-3; p. 6-17, Table 6-10

[119] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 17.

[120] Buildout conditions assume that current plans for development projects in the planning and approval stages will be completed and that all other undeveloped land will be developed in accordance with the City Zoning Map and County Land Use Map.

[121] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 23.

According to the City's 2015 Urban Water Management Plan (UWMP), the City's combined projected water supplies are sufficient to meet projected demands during normal water year conditions as can be seen from Figure 4-11. Under single-dry water year conditions, the supply is generally sufficient until sometime after 2030 when shortfalls begin to appear. By 2035, the single-dry year shortfall is estimated at approximately six percent. Under multiple-dry year conditions, the supply is sufficient through 2040.[122]

Water Infrastructure and Facilities

The City's water system served 5,298 municipal connections in 2018.[123] The breakdown by customer type is shown in Figure 4-13.

Figure 4-13: Water Connections by Customer Type (2018)

City of American Canyon Water Connections in Service Area		
Connection Type	**Potable Water**	**Recycled Water**
Single-family Residential	4,836	0
Multi-family Residential	25	2
Commercial/Institutional	357	1
Industrial	5	1
Landscape Irrigation	71	51
Agricultural Irrigation	4	1

Source: City of American Canyon Annual Report to the Drinking Water Program for the Year Ending December 31, 2018

Treatment

The City operates one Water Treatment Plant (WTP) with a capacity to produce up to 5.6 million gallons of potable water per day, and presently operates with an average daily demand of approximately 3.0 mgd.[124]

The plant consists of two separate facilities. The original plant was constructed in 1976, and is a 2.6-mgd conventional treatment plant, consisting of coagulation, flocculation, sedimentation, dual media gravity filtration, chlorination and corrosion control treatment. The City later constructed a 3.0 mgd Zenon ultrafiltration membrane plant, consisting of coagulation, flocculation, membrane filtration, chlorination and corrosion control treatment.[125]

The characteristics of the WTP are shown in Figure 4-14. It appears that the WTP has sufficient capacity to accommodate current peak day demand and projected peak day demand at buildout.

[122] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 7-9.
[123] City of American Canyon, Large Water System Annual Report to the Drinking Water Program for Year Ending December 31, 2017.
[124] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 33.
[125] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 34.

Figure 4-14: American Canyon Water Treatment Plant Characteristics

American Canyon Water Treatment Plant					
Facilities	**Water Sources**	**Location**	**Type of Treatment**	**Year Built/Acquired**	**Condition**
Original Plant	State Water Project "Table A" water, City of Vallejo	250 Kirkland Ranch Road	Conventional sedimentation and filtration treatment	1976	Fair
Zenon ultrafiltration membrane plant	State Water Project "Table A" water, City of Vallejo	250 Kirkland Ranch Road	membrane filtration process	2004	Good
Facilities	**Daily Treatment Capacity (designed)**	**Peak Day Demand (2018)**	**% of Actual Capacity**	**Projected Peak Day Demand at Buildout**	**% of Actual Capacity**
Original Plant	2.6 mgd	1.9 mgd	73%	2.6 mgd	100%
Zenon ultrafiltration membrane plant	3 mgd	2.3 mg	77%	6 mgd	200%
Source: GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 33-34. City of American Canyon Response to the Request for Information.					

Storage

Treated water from the WTP is delivered by gravity to the 2.5 mg water storage tank located at the plant and flows from the tank to the distribution system.[126]

Overall, there are three storage tanks within the City's water system, described in more detail in Figure 4-15.

Figure 4-15: American Canyon Storage System

Storage System					
Tank	**Pressure Zones Served**	**Year constructed/acquired**	**Condition**	**Capacity**	**Composition**
WTP Tank	Zone 1, Zone 3	2002	Good	2.5 mg	Welded steel
Oat Hill #1 Tank	Zone 1	1976	Good	2.0 mg	Welded steel
Oat Hill #2 Tank	Zone 2	1984	Fair	0.2 mg	Welded steel

[126] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 33.

Zone 1 (Main Zone) has two water storage tanks (the WTP Tank and Oat Hill #1 Tank) allowing flexibility in case one tank is taken off-line temporarily. The WTP Tank serves as the primary source of water for Zone 1, feeding Zone 1 demands by gravity. The Oat Hill #1 Tank is connected to the Zone 1 distribution system off Medeiros Lane. Zone 2 is served only by the Oat Hill #2 Tank, which is fed by the Oat Hill Pump Station. Zone 2 does not have backup storage capacity should the Oat Hill Tank #2 be taken out of service. Additionally, the existing storage tank cannot supply the recommended full fire flow capacity of 420,000 gallons. Zone 3 (5 connections) is served by a direct connection from the WTP with a 4,000-gallon hydropneumatic tank to maintain pressure. The other two higher elevation pressure zones, Zone 4 and Zone 5, do not have dedicated storage capacity. These zones are currently served by the City of Vallejo's water distribution system and will eventually be served by the City's high-pressure zone and associated storage.[127]

According to the City's 2016 Potable Water Master Plan, there is a current storage shortfall of 4.0 mg. At buildout, the storage shortfall increases to a total of 6.8 mg, with 5.5 mg for the Zone 1 and 1.3 mg for the high-pressure zones, Zones 4 and 5.[128]

Distribution

The potable water distribution system consists of approximately 82 miles of water mains, two booster pump stations, 831 fire hydrants and 2,080 valves. The principal water transmission mains in the distribution system range in size from 14 to 20-inches. The distribution system in the older sections of the City range in size from two to six inches with the newer areas served by pipes eight to 12 inches in diameter. Distribution system pipelines are constructed primarily of PVC (30 percent), asbestos cement (20 percent), cast iron (35 percent), and steel (15 percent).[129]

The City's pipelines range from 10 to 45 years in age.[130] Parallel transmission mains (one 14-inch welded steel and one 18-inch ductile iron) run along SR 29 to serve the southern portion of Zone 1. The 14-inch steel transmission main is old and in a deteriorated condition.[131]

The water distribution system currently contains five pressure zones, as was briefly mentioned in the previous section: Main (Zone 1),[132] Oat Hill #2 (Zone 2), Kirkland (Zone 3), Montevino (Zone 4), La Vigne and the American Canyon High School (Zone 5). [133]

[127] GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 37-38.
[128] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 38.
[129] City of American Canyon Large Water System Annual Report to the Drinking Water Program for Year Ending December 31, 2018, p 19.
[130] City of American Canyon, Large Water System Annual Report to the Drinking Water Program for Year Ending December 31, 2017.
[131] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 35.
[132] Over 94 percent of the current water demand is within the Zone 1 distribution system.
[133] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 33.

Figure 4-16: American Canyon Water Distribution System

Distribution System				
	Booster Pump Stations		Mains	Potable Water Pipeline
Number/Length	2		102 miles	82 miles
Description	La Vigne Pump Station	Oat Hill Pump Station	Composition: PVC, asbestos, cement and cast iron.	Composition: PVC, asbestos, cement and cast iron.
Year Built/Acquired	2007	1985	1992	1992
Condition	Good	Poor	Fair	Fair

Source: GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 33-38. City of American Canyon Response to Request for Information.

As previously mentioned, the City's water system has four separate connections to neighboring water sources for regular and emergency backup supply, including three interconnections with the City of Vallejo (Montevino Interconnection,[134] La Vigne Interconnection[135] and American Canyon High School Interconnection[136]) and a single interconnection with the City of Napa (City of Napa Interconnection[137]).[138]

The distribution system currently has two booster pump stations to lift water from a lower zone to a higher pressure zone: 1) La Vigne Pump Station, and 2) Oat Hill Pump Station. Both pump stations are intended to only boost potable water demands and are not sized (nor is storage capacity available in that zone) for fire flows. La Vigne station pumps domestic demands from Zone 1 to Zone 5. The Oat Hill Pump Station pumps water from Zone 1 to the Oat Hill #2 Tank, which serves the Zone 2 (Industrial Park).[139]

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system

[134] The Vallejo Montevino Interconnection consists of an 8-inch pipeline in Condor Court. This interconnection serves domestic and fire flows to approximately 65 residential customers at the higher elevations along Highridge Drive along the southern border of the City, east of Highway 29. The Montevino area is separated from the main distribution system by a normally closed valve in Highridge Drive, just west of Hillcrest Court. Demands are served directly off the Vallejo system, and there are no flow monitoring or flow control facilities at this connection.

[135] The Vallejo LaVigne Interconnection consists of a 12-inch diameter pipeline connecting to the Vallejo 14-inch transmission main along Flosden Road near the southern intersection of Via Bellagio. The valve will open when the surrounding area pressure drops below a preset low pressure. A flow meter is installed at the interconnection piping. The area is separated from the main distribution system by normally closed valves in two locations at Via Bellagio and Flosden Road. Flows are monitored at the connection. This interconnection is also referred to as the Vallejo Bypass.

[136] The Vallejo American Canyon High School Interconnection consists of a 12-inch diameter pipeline connecting to the Vallejo 14-inch transmission main along Newell Drive at the intersection of Silver Oak Trail. It was installed in 2010 to serve the new high school until the new higher-pressure zone storage tank and pipeline could be put into service by the City. As of the date of this master plan update, the upper zone facilities have not been constructed and the interconnection agreement will continue to remain in place. Flows are monitored at the connection.

[137] The City of Napa Interconnection is located at the north end of the water service area, near the airport, and north of the intersection of Devlin Road and Sheehy Court. This interconnection consists of a metered 12-inch diameter pipeline and is operated when a predetermined low-pressure setting is reached at the point of connection.

[138] GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 34-35.

[139] GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 37.

and the supplier's storage facilities) as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. The total of real and apparent losses in 2015 amounted to 631 acre-feet, as shown in Figure 4-17.[140] The City reported that it had experienced decreased water loss over the last few years. Most recently, the City reported total losses were 183 acre-feet in 2018 or 6.9 percent of produced/received water. The City attributed this decrease in loss primarily to the replacement of one mile of main.

Figure 4-17: Water Loss Summary (2014-2018)

Water Loss Summary	
Year	**Volume of Water Loss (acre-feet)**
2014	NP
2015	631
2016	342
2017	247
2018	183
Note: NP = Not Provided	

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. The City experienced 16 main breaks in 2014, 14 in 2015, eight in 2016, two in 2017, and four in 2018, which averages to 8.8 main breaks annually and 10.7 breaks per 100 miles of main. This is lower than the national average of between 21 and 27 breaks per 100 miles of pipe per year.[141] Over the five-year period, the City experienced a decline in main breaks, which is reflected in the decrease in water loss over that period.

Recycled Water

The City owns and operates a complimentary water and wastewater utility infrastructure that includes water reclamation and water reuse within the City limits.[142] A summary of the recycled water infrastructure is depicted in Figure 4-18.

Figure 4-18: Recycled Water Infrastructure

Recycled Water Infrastructure		
	Average Dry Weather Flow Capacity (buildout conditions)	**Peak Wet Weather Flow Capacity (buildout conditions)**
WRF	2.5 mgd	5 mgd
	Total Length	**Non-operational (2018)**
Pipelines	13 miles	13,800 lf
	Location	**Design Capacity**
Pump Station	at WRF	1,300 gpm
	Capacity	**Type**
Storage Tank	1 mg	Welded Steel
Source: GHD, Recycled Water Master Plan, City of American Canyon, May 2016		

[140] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, p. 4-7.
[141] WaterRF, Knowledge Portals, 2017.
[142] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 9.

The Water Reclamation Facility (WRF) is designed to treat a buildout flow rate of 2.5 mgd at average dry weather flow conditions and 5.0 mgd at peak wet weather flow conditions. The WRF process train includes an emergency overflow basin, headworks facilities, anoxic basins, aeration tanks with membrane facilities, metering facilities, and disinfection facilities. In order to meet the projected buildout recycled water demands, the City will need to reuse 100 percent of its treated water during peak demands in the summer months.[143]

There are two disinfection facilities at the WRF: ultraviolet (UV) disinfection and chlorine contact tank. The UV disinfection facility has the capacity to disinfect all treated wastewater for discharge to the North Slough during the wet season. The chlorine contact tank is sized to treat all of the flow for reclamation using a sodium hypochlorite solution.[144]

As of 2015, the recycled water distribution system consisted of approximately 10 miles of active water main and one pump station. The principal mains in the system range in size from eight to 16 inches in diameter. The pump station is located at the WRF and a 1.0 mg storage tank located in the hills east of Newell Drive. The pump station has a design capacity of 1,300 gallons per minute (gpm).[145]

Although there are 10 miles of active main, the total length of the existing system is approximately 13 miles (from four to 20 inches in size). Of the 13 miles of existing pipelines, approximately 13,800 linear feet (lf) or nearly three miles are not currently in operation, because at the time of construction the projected recycled water demand was much higher than existing demand, primarily due to residents' conservation practices.[146]

Also, two critical pipeline segments have been planned but not yet constructed, preventing the system from operating at peak capacity—one along SR 29 between North Napa Junction Road and Paoli Loop Road and the second on Main Street through the proposed Watson Ranch development towards Newell Drive. Construction of these two segments will close loops and immediately increase the hydraulic capacity of the system.[147]

The buildout conditions assume that all of the existing pipelines are active and that the 12-inch transmission main from Newell drive, west on South Napa Junction Road, and north along SR 29 to Paoli Loop Road is complete. The planned buildout distribution system thus consists of approximately 22 miles of pipeline.[148]

Figure 4-19: Recycled Water Distribution System

Existing Operational	Existing Non-Operational	Not Yet Constructed	Total Planned at Buildout
10 miles	3 miles	9 miles	22 miles
54,850 lf	13,792 lf	61,530 lf	116,379 lf

[143] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 39.
[144] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 40.
[145] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 9.
[146] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 39.
[147] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 39.
[148] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 43.

Shared Facilities

American Canyon shares interconnections with the cities of Vallejo and Napa as was previously described.

As previously mentioned, the City is a member of the Sites Reservoir Project, which is a potential future water supply source in Colusa County. The City Council unanimously approved spending $240,000 this year to continue participating in the Sites project. Among the few dozen other participants are Los Angeles, Sacramento, San Bernardino, Antelope Valley and Santa Clara. Sites reservoir could be built by 2030 and would hold 1.8 million acre-feet of water. Water would be pumped in during high winter flows from the Sacramento River and its tributaries.

Infrastructure Needs

The potable water system evaluation identified a number of deficiencies with the current distribution network including insufficient water storage capacity, pipeline deterioration, and pipelines that are undersized for the current conditions and fire flow requirements. Capital improvement projects that would enable the City to address the existing system deficiencies include:[149]

- Replacing and upsizing pipelines and mains;
- Construction of a new 2.5 mg potable water tank north of American Canyon High School to address water storage capacity shortfall in Zone 1.
- Creating a new high pressure zone to serve the American Canyon High School and La Vigne and Montevino subdivisions, and reducing the interconnection from the City of Vallejo to an emergency backup supply.

Capital improvement projects needed to serve planned growth include:[150]

- Construction of additional pipelines and mains;
- Slip lining the existing abandoned water main;
- Construction of a new 1.2 mg potable water tank at the WTP to address future storage capacity shortfall in Zone 1.

Near-term (up to 10 years) projects were estimated in 2015 to cost $128,130,000. The projects planned to be fulfilled between 11 and 20 years after the estimates were made in the City's Potable Master Plan are projected to cost $13,590,000.[151]

The City is expanding the recycled water system to connect as many existing and future customers as practical to fully develop this water supply to supplement the potable water supply. The planned improvement projects are primarily focused on creating potable water offsets from existing potable water customers and meeting the recycled water demands for future customers. Targeted demands include irrigation of existing parks, schools and community spaces throughout the City, dual plumbing and process water supplies for the

[149] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 47.
[150] GHD, Potable Water Master Plan, City of American Canyon, May 2016, p. 48.
[151] GHD, Potable Water Master Plan, City of American Canyon, May 2016, pp. 2-3.

industrial area near Napa County Airport, and irrigation supplies for future planned communities such as the Watson Ranch development.[152]

To connect existing potable water customers to recycled water for irrigation and other outdoor or process demands, the Recycled Water Master Plan recommends the construction of additional pipelines, while improvements to serve future customers are focused on serving the Watson Ranch development, serving other known development projects such as the industrial customers in the northern portion of the City and residential customers in the southeast, serving future customers at the locations of undeveloped parcels throughout the City, and serving northern vineyards from a future private seasonal storage pond. Other improvements associated with serving future development are aimed at increasing overall system reliability and distribution pressure for the buildout condition. These projects generally include constructing additional pipelines and upgrading the existing WRF pump station. Recycled water projects to be implemented in the near-term (0 to 10 years) were estimated in 2015 to cost $8,480,000. The long-term (11 to 20 years) project have a total implementation cost of $13,340,000 in 2015 dollars.[153]

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

The State Water Project water is delivered through the North Bay Aqueduct (NBA). The NBA water is surface water that comes from Barker Slough.[154]

The source is considered to be vulnerable to sheep and cattle grazing activities in the watershed that are associated with turbidity, total organic carbon, and coliform bacteria detected in the raw water supply. Although the water source is considered vulnerable to sheep and cattle grazing activities, it is important to note that there are multiple barriers for physical removal of contaminants, and the water is disinfected at the water treatment plant.[155]

The source water may contain microbial contaminants, inorganic contaminants, pesticides and herbicides, organic chemical contaminants, radioactive contaminants, arsenic, and cryptosporidium/giardia.

[152] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, p. 47.
[153] GHD, Recycled Water Master Plan, City of American Canyon, May 2016, pp. 47-49, 6.
[154] City of American Canyon, Water Quality Report, 2017.
[155] City of American Canyon, Water Quality Report, 2017.

The cost of treatment can be impacted by source water quality issues. For example, elevated levels of turbidity and Total Organic Carbon (TOC) can occur during storm events, which can increase the operational cost of the WTP. In addition, low pumping rates at Barker Slough during the winter result in an extended period of turbidity and TOC into the NBA. In order to reduce potential contaminations sources, the agencies receiving NBA water have been working with Napa County FCWCD and the Solano County Water Agency to evaluate watershed management practices that could improve water quality.[156]

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

The EPA documents health and monitoring violations for each public water system in the U.S. Since 2008, the City has had three health violations: two for trihalomethanes (2017 and 2013) and one for treatment technique (2010). There was also one monitoring violation in 2014 for coliform. This equates to approximately 0.75 violations per 1,000 connections served.

In 2018, the City was in compliance with drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year. Of note, is that the City has struggled with water color complaints. In 2017, there were over 100 such complaints registered. Water discoloration is caused by elevated organic activity, algae growth and the presence of soluble minerals in the vicinity of a water body. The color issues were caused by high turbidity in the water during that period. This issue was not addressed in the City's Drinking Water Quality Report.[157]

Recycled Water

The City's WRF produces "disinfected tertiary" treated recycled water.

[156] Kenndy/Jenks Consultants, 2015 Urban Water Management Plan for City of American Canyon, 2015, pp. 7-8.
[157] Napa Grand Jury, Grand Jury Report, 2019, p. 14.

WASTEWATER SERVICES

In its Utilities Element of the General Plan the City adopted a goal to establish and maintain adequate planning, construction, maintenance, and funding for wastewater collection and treatment facilities to support land uses, upgrading existing deficient systems, and expanding where necessary in the City's service area. There are a number of corresponding objectives and policies in the General Plan that were designed to support and implement this established goal.[158]

The City has conducted planning and evaluation of the sewer collection system since its incorporation in 1992. In 1996, the City completed the Wastewater Collection System Master Plan, for the purpose of establishing capital improvement projects that would eliminate existing system deficiencies and accommodate the growth projected in the City's General Plan. In 2001, the City completed the Sanitary Sewer System Survey, which focused primarily on evaluating the system's ability to accommodate a 20-year, 24-hour design storm event as required in the City's 2000 National Pollutant Discharge Elimination System (NPDES) permit for the WRF. Guidelines developed in these studies are updated as necessary for alignment with current industry norms. The City's Public Works Department Engineering Standard Plans and Specifications for Public Improvements, dated May 2005, includes current minimum design standards for sewer facilities, primarily for new development.[159]

Type and Extent of Services

Services Provided

The City of American Canyon provides collection and treatment of wastewater from residential, commercial, industrial, and institutional customers within its service area. Wastewater is treated at the city-owned and operated Water Reclamation Facility (WRF).

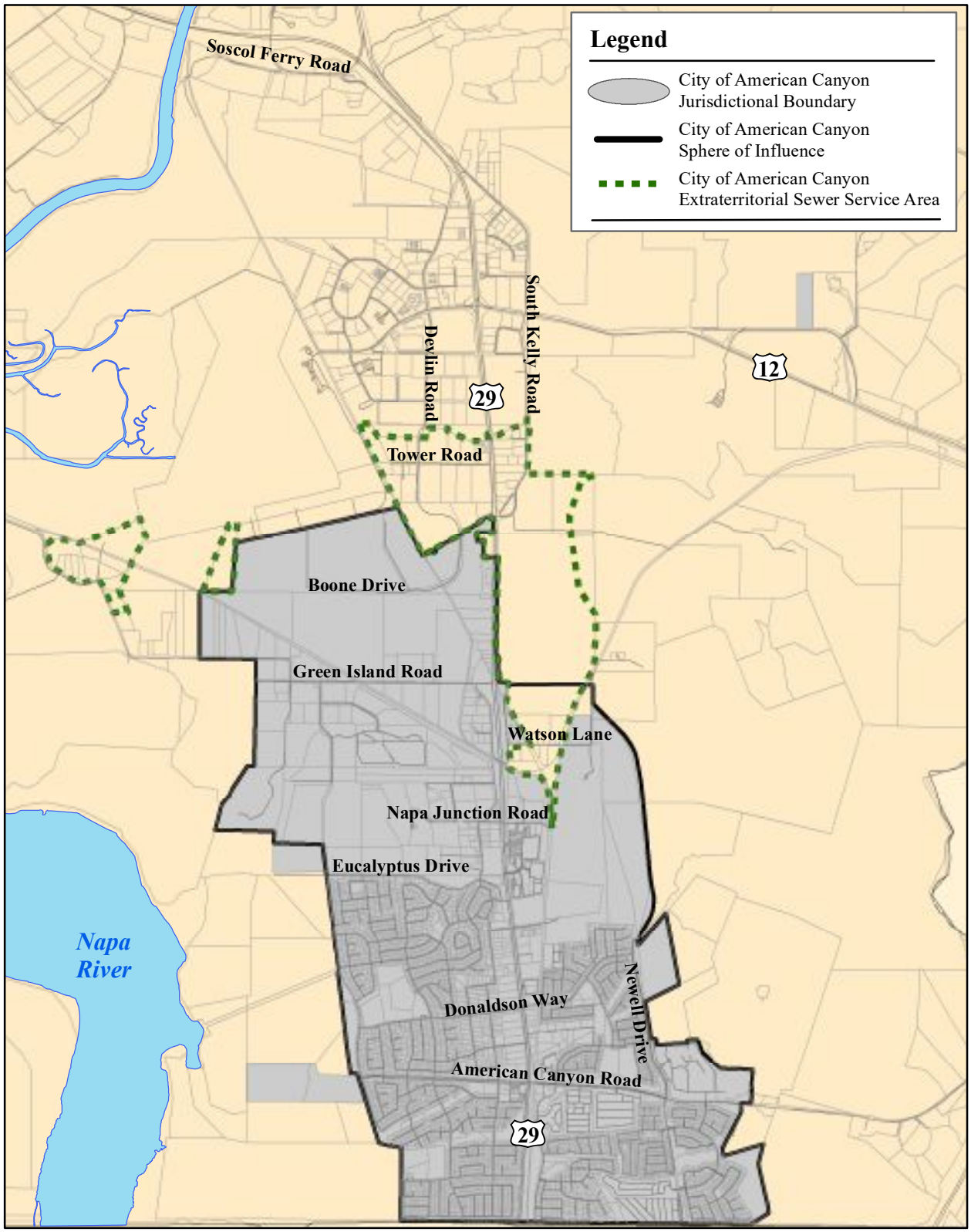
Service Area

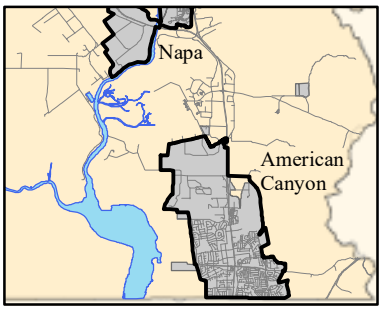
The City's wastewater service area extends northwards outside of its boundaries and was inherited by the City from the previous service provider—the American Canyon County Water District (ACCWD)—upon incorporation in 1992 and merger with the water district. The JPA dissolution agreement from 1994 between Napa Sanitation District (NapaSan) and the City of American Canyon identifies the centerline of Fagan Creek as a general dividing line between NapaSan and the City's respective sewer service areas. According to the agreement, Napa County Airport and Chardonnay Golf Course are to be served by NapaSan. Additionally, on October 15, 2007, Napa LAFCO adopted a resolution 07-27 where it described the City's extra-territorial water and sewer service areas. On the map included in the resolution, Chardonnay Golf Course and Napa County Airport are erroneously shown in the City's service area. To correct this error, LAFCO met with the City and NapaSan to garner agreement regarding an accurate map for the adopted resolution and a new map was created by Napa LAFCO in 2019, which is included in this MSR as Figure 6-20. The map shows the correct adopted service areas for both NapaSan and the City of American Canyon with Napa County Airport and Chardonnay Golf Course included in the NapaSan service area.

[158] City of American Canyon, General Plan, Utilities Element, 1994.
[159] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 23.

Figure 4-20

City of American Canyon





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0 0.25 0.5 Miles

December 20, 2019
Prepared by LAFCO Staff

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According to Napa LAFCO Resolution 07-27, the City may not provide new or extended water and sewer services within its adopted service areas without LAFCO authorization. The Airport Industrial Zone, however, is exempt from this requirement. Similar to the City's water service area, the wastewater outside services are primarily a remnant of the former American Canyon County Water District; however, it is important to note that the LAFCO-approved outside service area is the only defined wastewater service area for the City. As of the merger of the American Canyon County Water District with the City, the District's are no longer relevant in reference to the City as its approved service area, meaning the City must apply and gain approval from LAFCO in order to extend services outside of its city limits and the Airport Industrial Zone per Government Code §56133.

Services to Other Agencies

The City does not provide any wastewater related services to other agencies.

Contracts for Services

Recology provides solids handling for the WRF through its franchise agreement. The City does not contract for services from any other agencies for wastewater services.

Overlapping Service Providers

There are no wastewater service providers that overlap with the City's sewer service area.

Collaboration

Although the sewer service areas of American Canyon and NapaSan are adjacent, the two systems are operated separately. The two agencies have historically closely worked with each other, and still continue the collaboration and exchange of information.

Staffing

The Department of Public Works is responsible for the management and operations of wastewater services for the City of American Canyon. The sewer collection crew maintains sewer mains and responds to reports of sewer spills and backups and monitors compliance with environmental and water quality regulation. The Wastewater Operations Division is in charge of the wastewater treatment plant operations.

Wastewater Flow

The City's sewer collection system serves residential, commercial, and industrial customers.[160] Average dry weather flows (ADWF) for the last five complete years and the buildout conditions are shown in Figure 4-21.

[160] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 9.

Figure 4-21: Average Dry Weather Flows 2014-2018 and Buildout Conditions (mgd)

American Canyon Sewer Flows					
2014	**2015**	**2016**	**2017**	**2018**	**Buildout**
NP	1.263	1.377	1.406	1.403	1.89

Source: City of American Canyon response to the request for information, 2019.
Note: NP = Not Provided

Approximately 40 percent of the total sewer collection system infiltration and inflow (I/I) is found in the Main Basin, or 80 percent when including wet weather overflow into the Main Basin from Sunset Meadows 1 Basin. The ratio of peak wet weather flow (PWWF) to average day weather flow (ADWF), or wet weather peaking factor, is highest in Sunset Meadows 1 Basin, which makes that basin a high priority for identifying potential capacity deficiencies and I/I rehabilitation projects.[161]

Wastewater Infrastructure and Facilities

Wastewater Treatment Plant

The City's Water Reclamation Facility (WRF) is located at the western edge of the sewer service area adjacent to the Napa River. The WRF treats the wastewater to Title 22 standards and discharges to either the Napa River, via wetlands, or to the City's recycled water distribution system.[162] The plant has an average dry weather flow permitted capacity of 2.5 mgd, a peak dry weather capacity of 4.0 mgd, and peak wet weather capacity of 5.0 mgd. The plant has additional facilities for handling peak wet weather flows that include a 5.0 mg capacity earthen basin to store wastewater during instantaneous peak periods greater than the plant capacity during emergency conditions. The plant has been designed for at least a 100-year storm event.[163]

Figure 4-22: American Canyon Water Reclamation Facility

American Canyon Wastewater Treatment Plant			
Flow Types	**Level of Treatment**	**Treatment Type**	**Date built/acquired**
Municipal sewage, industrial wastewater	Secondary/Tertiary	Membrane bioreactor (MBR) and UV disinfection	2001
Capacity	**Average Dry Weather Flow (2019)**	**Peak Dry Weather Flow (2019)**	**Peak Wet Weather Flow (2019)**
2.5 mgd ADWF	1.4 mgd	1.8 mgd	8.0 mgd

Source: Suez, American Canyon Wastewater Treatment Plant, 2008, Case Study. City of American Canyon, Water Reclamation, https://www.cityofamericancanyon.org/city-departments/public-works/water-reclamation
Note: NP = Not Provided

[161] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 29.
[162] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 10.
[163] California Regional Water Quality Control Board San Francisco Region, Waste Discharge Requirements for the City of American Canyon, Napa County, NPDES Permit No. CA0038768, 2000.

The American Canyon MBR facility treats two distinct feed sources, municipal sewage, and industrial wastewater. The sewage flows through the headworks, which consists of 0.1 inch (3 mm) fine screens and a grit removal tank, to the anoxic zone by gravity. There are four process trains, each consisting of an anoxic zone and an aerobic zone that also contains the membranes. Three process trains treat the municipal sewage, while the fourth treats either municipal or industrial wastewater. Effluent is drawn through the membrane fibers via a low-pressure suction created by permeate pumps. The effluent from the plant is either treated with sodium hypochlorite for bacteria re-growth control and stored in a 1.5 million-gallon reuse tank or treated with an ultraviolet (UV) polishing step, and discharged to the Napa River.[164]

Information regarding the condition and infrastructure needs of the Water Reclamation Facility was not provided by the City.

Collection System

The City's sewer collection system is divided into three primary sewer basins and consists of approximately 53 miles of sewer mains, five pump stations, and five miles of sewer force main shown in Figure 4-23.

Figure 4-23: City of American Canyon Wastewater Collection System

Collection System		
Customer Types	**Sewer Basins**	**Pump Stations**
Residential Commercial Industrial	Main Basin Sunset Meadows Industrial Area	Five
Sewer Mains	**Pipeline Size**	**Pipeline Composition**
53 miles of sewer mains 5 miles of sewer force main	Gravity pipeline: 4-24 inches Force mains: 4-18 inches	PVC, vitrified clay, asbestos cement

The three primary sewer basins of the City's collection system are as follows:[165]

- Main Basin: Encompasses the southern portion of the City service area and conveys primarily residential flows to the Main Basin Pump Station (Building E);
- Sunset Meadows: Encompasses the middle portion of the City service area and conveys a combination of residential and commercial flows to the Sunset Meadows Pump Station; and
- Industrial Area: Encompasses the northern portion of the City service area and conveys industrial flows to the Tower Road and Green Island Pump Stations.

Flows from the sewer collection system are conveyed to five pump stations, consisting of the main basin pump station, sunset meadows pump station, green island pump station, tower road pump station, and Kimberly pump station. Pump stations convey flows to the

[164] Suez, American Canyon Wastewater Treatment Plant, 2008, Case Study.
[165] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 9.

WRF where they are treated and either discharged to the Napa River via wetlands or conveyed to the City's recycled water distribution system.

Wet weather has the greatest influence on peak flows within the Main Basins 1 and 3, and in the Sunset Meadows Basin, particularly in the Rio Del Mar area. Pipelines in the Rio Del Mar area are some of the oldest pipelines in the collection system and were installed at a time with lesser performance standards for water tightness compared to today's industry standards. Addressing infiltration and inflow (I/I) in this basin would reduce peak capacity requirements in local sewers, as well as all downstream conveyance infrastructure. Other sewer basins having lower I/I rates do not have the same potential for eliminating capacity upgrades because removal of I/I can be a difficult and expensive undertaking, and there is a point of diminishing returns where capacity upgrades become the more cost-effective option.[166]

In general, the velocities in a majority of the existing pipelines are below the recommended minimum of two feet per second (fps) for the peak day weather flow (PDWF) scenario, which is primarily the result of minimal pipe slopes throughout the system. This may contribute to additional City effort for cleaning pipelines to clear blockages and reduce odors.[167]

The hydraulic evaluation identified a number of deficiencies with the current sewer collection system including pipelines and pump stations with insufficient hydraulic capacity to convey peak flows for existing and/or future conditions. All of the existing capacity deficiencies are related to I/I entering the system in that pipes have adequate capacity to handle peak dry weather flows, but not peak wet weather flows.[168]

To provide more details regarding the integrity of the City's sewer system and adequacy of its services, this report includes analysis of sanitary sewer overflows and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year. Over the last six years (2014-2019) there were eight SSO events, including four in 2014, three in 2018 and one (up to March 31, 2019) in 2019. In 2018, American Canyon's SSO rate was about six spills per 100 miles of sewer mains. Averaged over the five-year period (there was no data for the complete 2019 as of the drafting of this report), the City's SSO rate was about three spills per 100 miles of mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[169] None of the sewage spilled in the last six years reached surface waters.

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The City has both a permit

[166] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 1.
[167] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 43.
[168] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 47.
[169] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

for treatment and discharge at the WRP (NPDES Permit No. CA0038768) and a general permit for its collection system.

The City received one violation in 2016 for failing to timely certify an SSO. There have been no collection system violations since then. However, there were four enforcement actions. In regard to the WRF, since 2009 there have been nine regulatory measures, two violations and four enforcement actions. The two violations occurred in 2015 and 2016 and involved errors in effluent and turbidity analysis. There have been no priority violations associated with the WRF for at least the last 10 years.

Infrastructure Needs

The primary goal of having adequate conveyance capacity in the collection system is to minimize the chance of having sanitary sewer overflows (SSO) during peak flow events. This can be achieved using two approaches: 1) minimize I/I entering the collection system; and 2) eliminating flow restrictions by replacing undersized pipes and pumps with larger facilities that can handle the peak flows. The projects recommended in the Sewer Master Plan addressing hydraulic deficiencies are a combination of both approaches. The projects to address existing deficiencies were estimated to cost $35.5 million in 2015.[170]

One of the primary recommended projects includes I/I reduction in the Rio Del Mar basin by rehabilitating existing sewer mains, manholes and laterals to create a more watertight collection system. The project is budgeted to rehabilitate 50 percent of the sewers, manholes and laterals in the basin. The other four projects are aimed to increase capacity by replacing sewers that are currently leaking, some level of I/I reduction would occur. Depending on the results of further investigation and analysis, potentially also addressing I/I issues at the same time may result in cost savings over the capacity update approach and further reduce peak flows.[171]

In general, the wastewater industry does not have a clear manual of practice for addressing I/I. Reported results vary. For these reasons the recommended CIP projects are budgeted around capacity upgrade costs rather than I/I reduction, with the exception of the project in the Rio Del Mar neighborhood as was mentioned before.[172]

The 2016 Sewer Master Plan suggested the following capital improvement projects to increase capacity and address I/I:[173]

- I/I rehabilitation project within the Rio Del Mar area, including approximately 2.1 miles of gravity sewers, 60 manholes and 230 sewer laterals.
- Upgrading the firm capacity for the Green Island Road Pump Station.
- Upgrading the firm capacity for the Main Basin Pump Station.
- Pipeline upsizing and relaying of sewers to alleviate hydraulic conditions related to the sewers located downstream of the flow split at the intersection of Rio Del Mar and Rio Grande, including the Sunset Meadows Pump Station.

[170] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 1-2.
[171] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 2.
[172] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 48.
[173] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 48.

- Multiple other pipeline and gravity sewer upsizings and relocations in various areas.

The recommended improvements for planned growth in 2015 were estimated to cost $15.7 million. One of the four projects is to upgrade capacity to meet peak flows and serve Watson Ranch. The other three projects are all capacity upgrade projects that replace existing sewers with larger diameter pipelines.[174] These projects are:[175]

- Various improvements to serve future developments southeast of the Napa County Airport, including upgrading the firm capacity for the Green Island Road Pump Station, construction of gravity sewer in between the Tower Road Pump Station and Green Island Road Pump Station and abandonment of the Tower Road Pump Station and force main between the Tower Road Pump Station and Green Island Road Pump Station.
- Pipeline upsizing of the existing gravity sewer in Broadway between Donaldson Way East and American Canyon Road.
- Upgrading the firm capacity for the Main Basin Pump Station.

Shared Facilities

The City does not practice facility sharing with regard to wastewater services. No opportunities were identified for future wastewater facility sharing.

[174] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 3.
[175] GHD, City of American Canyon, Sewer Master Plan, 2016, p. 49.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to the City of American Canyon and its water and wastewater services, consisting of possible service structure modifications. The feasibility of these options is generally assessed in this report; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Countywide Water Agency

There are several challenges to water and wastewater services around the County that could be potentially addressed by alternative governance structures:

- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water services in the County,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for occasional technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Given these challenges, there may be a need for a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from the consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district or a sanitation district. As these options may affect all of the water and wastewater service providers reviewed here, these governance structure options are discussed and assessed in further detail in the *Overview* chapter (Chapter 3) of this report.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to the City of American Canyon regarding its water and wastewater service delivery.

1) The City continues to report that its "water and wastewater service area boundary" is congruent with the former American Canyon County Water District boundaries that was merged into the City upon incorporation. However, the boundaries of the former water district are no longer relevant in reference to the City of American Canyon as the City's service area. The LAFCO-approved outside service areas as defined in Resolution 07-27 are the only defined water and wastewater service areas for the City. Should the City desire to serve areas beyond its boundaries and the Airport Industrial Area defined in the aforementioned resolution, then it would be required to seek LAFCO approval pursuant to Government Code §56133. A meeting between the City and LAFCO may be warranted to clarify the defined service area boundaries and how it relates to potential future services outside the city limits.

2) The City of American Canyon struggled to provide comprehensive service area information, such as the exact number and location of outside water and wastewater service connections. It is recommended that the City improve tracking of information regarding actual out of area services provided, particularly for wastewater services and map the location of all of its connections outside of the city limits.
3) Occasionally, non-residents acquire recycled water in trucks from a station at the City's Wastewater Treatment Plant. There is no limit as to the quantity of recycled water that can be purchased and trucked as long as the purchaser obtains a prior permit. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses for trucking of water be defined in the City's municipal code.
4) It has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of American Canyon's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

CITY OF AMERICAN CANYON DETERMINATIONS

Growth and Population Projections

- The City of American Canyon's population, as of 2019, was approximately 20,629.
- American Canyon's population increased by approximately 10 percent in the last 10 years.
- Future development in the City is limited by the Urban Limit Line (ULL). Additionally, growth is constrained by the airport's flyover zones to the north, City of Vallejo to the south, foothills of the Sulphur Springs Mountain Range to the east, and the Napa River to the west. Most of the undeveloped area in the ULL has been built out.
- Napa County LAFCO anticipates that the City will grow by about 0.78 percent a year through 2030 with an anticipated population of 22,398 in 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The City of American Canyon purchases water from the State Water Project and the City of Vallejo. Water supply is considered to be adequate to meet American Canyon's current needs.
- The City supplements its water supply with recycled water. Recycled water is mostly used for vineyard and landscape irrigation. Potable water demand for landscape irrigation is expected to decline as the City expands its recycled water distribution system. In order to meet the projected buildout recycled water demands, the City will need to reuse 100 percent of its treated water during peak demands in the summer months.
- The City's combined projected water supplies are sufficient to meet projected demands during normal water year conditions. Under single-dry water year conditions, the supply is generally sufficient until sometime after 2030 when shortfalls begin to appear. By 2035, the single-dry year shortfall is estimated at approximately six percent. Under multiple-dry year conditions, the supply is sufficient through 2040.
- There City's Water Treatment Plant (WTP) has sufficient capacity to accommodate current peak day demand and projected peak day demand at buildout.
- There is a current storage shortfall of 4.0 mg. At buildout, the storage shortfall increases to a total of 6.8 mg.

- The City's water distribution infrastructure was reported to be in fair condition. However, over the five-year period, the City experienced a decline in main breaks, which is reflected in the decrease in water loss experienced over that same time period.
- The City appropriately plans for its infrastructure needs in the Capital Improvement Plan. The main planned capital improvement projects address insufficient water storage capacity, pipeline deterioration, and pipelines that are undersized for the current conditions and fire flow requirements. The City is also expanding the recycled water system.
- American Canyon has adequate capacity to accommodate existing and projected demand at its wastewater treatment plant.
- The hydraulic evaluation identified a number of deficiencies with the current sewer collection system including pipelines and pump stations with insufficient hydraulic capacity to convey peak flows for existing and/or future conditions. All of the existing capacity deficiencies are related to I/I entering the system in that pipes have adequate capacity to handle peak dry weather flows, but not peak wet weather flows. The City has planned a number of capital improvement projects to address the I/I concerns.
- The level of wastewater services offered by the City was found to be adequate based on integrity of the wastewater collection system and regulatory compliance. The City's sanitary sewer overflow rate is lower on average than of other wastewater agencies in California. The City didn't experience any violations in the last three years; and there have been no priority violations in at least last 10 years.

Financial Ability of Agencies to Provide Services

- American Canyon has the ability to continue providing water and wastewater services. Combined utility reserves appear to be adequate for ongoing operations of water and wastewater, however, the Water Operations Fund unrestricted net position is only $100,000 which is low compared to annual operating expenditures.
- From FY17 to FY18 the value of capital assets declined, indicating that investments were not keeping pace with depreciation. The City's Five-Year Capital Improvement Program (CIP) identifies future needs, costs and source of funding, but does not identify the projected funding available or shortfalls in funding, if any.
- The City recently adopted rate increases beginning in FY18 anticipated to improve balances and help to maintain investments in capital assets.
- The City evaluates its cost of service as needed to revise its rates and help fund its 5-year CIP. The CIP is not updated annually.

Status of, and Opportunities for, Shared Facilities

- American Canyon shares interconnections with the cities of Vallejo and Napa.
- The City is a member of the Sites Reservoir Project, which is a potential future water supply source in Colusa County. Among the few dozen other participants are Los Angeles, Sacramento, San Bernardino, Antelope Valley and Santa Clara.

- The City has considered and will continue to consider opportunities for water exchanges or transfers with water right holders, if opportunities present themselves at the right price and under acceptable terms and conditions.
- American Canyon closely collaborates and exchanges information with Napa Sanitation District.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The City Council holds regular appropriately noticed meetings.
- American Canyon makes available most documents on its website, including minutes, agendas, and financial and planning reports. The website also provides a means to solicit comments and complaints from customers. The City is compliant with the agenda-posting requirements outlined in AB 2257.

Relationship with Regional Growth Goals and Policies

- The City of American Canyon has adopted an Urban Limit Line (ULL) to manage its growth. The ULL represents an agreement with Napa County and is consistent with the County's General Plan and agricultural protection ordinances.
- The City of American Canyon and four other municipalities of Napa County participate in the Napa Valley Transportation Authority (NVTA), which functions as the region's Congestion Management Agency and provides input to the Bay Area-wide Metropolitan Transportation Commission's (MTC) 20-year Regional Transportation Plan. Plans applicable to American Canyon include *Napa Countywide Pedestrian Plan, Vision 2040 Moving Napa Forward – A Countywide Transportation Plan, Countywide Bicycle Plan, SR 29 Gateway Corridor Implementation Plan,* and *Plan Bay Area.*
- Napa LAFCO has adopted a resolution defining the City's water and wastewater service areas. According to the resolution, the City may not provide new or extended water and sewer services within its adopted service areas without prior written LAFCO authorization, with the exception of the Airport Industrial Zone, which is outside of the City boundaries but is exempt from this requirement. This policy is consistent with the California Code §56133 on out-of-area services.
- The City's boundaries include three non-contiguous parcels that are outside of its Sphere of Influence (SOI), which are owned by the City and used for municipal purposes. Typically, this would indicate LAFCO's anticipation that these areas be detached from the City; however, it has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of American Canyon's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

5. CITY OF CALISTOGA

AGENCY OVERVIEW

City of Calistoga Profile			
Contact Information			
Contact:	Mike Kirn, City Manager		
Address:	1232 Washington Street, Calistoga, CA 94515	*Website:*	http://www.ci.calistoga.ca.us/home
Phone:	707-942-2806	*Email:*	mkirn@ci.calistoga.ca.us
Formation Information			
Date of Incorporation:	Incorporated: 1886	*City type:*	General Law
Governing Body			
Governing Body:	City Council	*Members:*	1 Mayor, 1 Vice-Mayor and 3 Council Members
Manner of Selection:	Election at large	*Length of term:*	4 years
Meetings Location:	Calistoga Community Center 1307 Washington St.	*Meeting date:*	First and third Tuesday at 6 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	5,453
Purpose			
Enabling Legislation:	California Constitution XI	*Empowered Services:*	All municipal services
Municipal Services Provided (directly or by contract)	Law enforcement, fire protection and emergency medical, water, sewer, storm drainage, streets, community recreation, cemetery, solid waste (Upper Valley Waste Management)		
Area Served			
Size:	2.60 square miles (1,651 acres)	*Location:*	North-Western Napa County
Current SOI:	4.61 square miles (2,957 acres)	*Most recent SOI update:*	2016
Municipal Service Reviews			
Past MSRs:	2016 Municipal Service Review and Sphere of Influence Update: City of Calistoga 2008 City of Calistoga Municipal Service Review 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study		

Boundaries

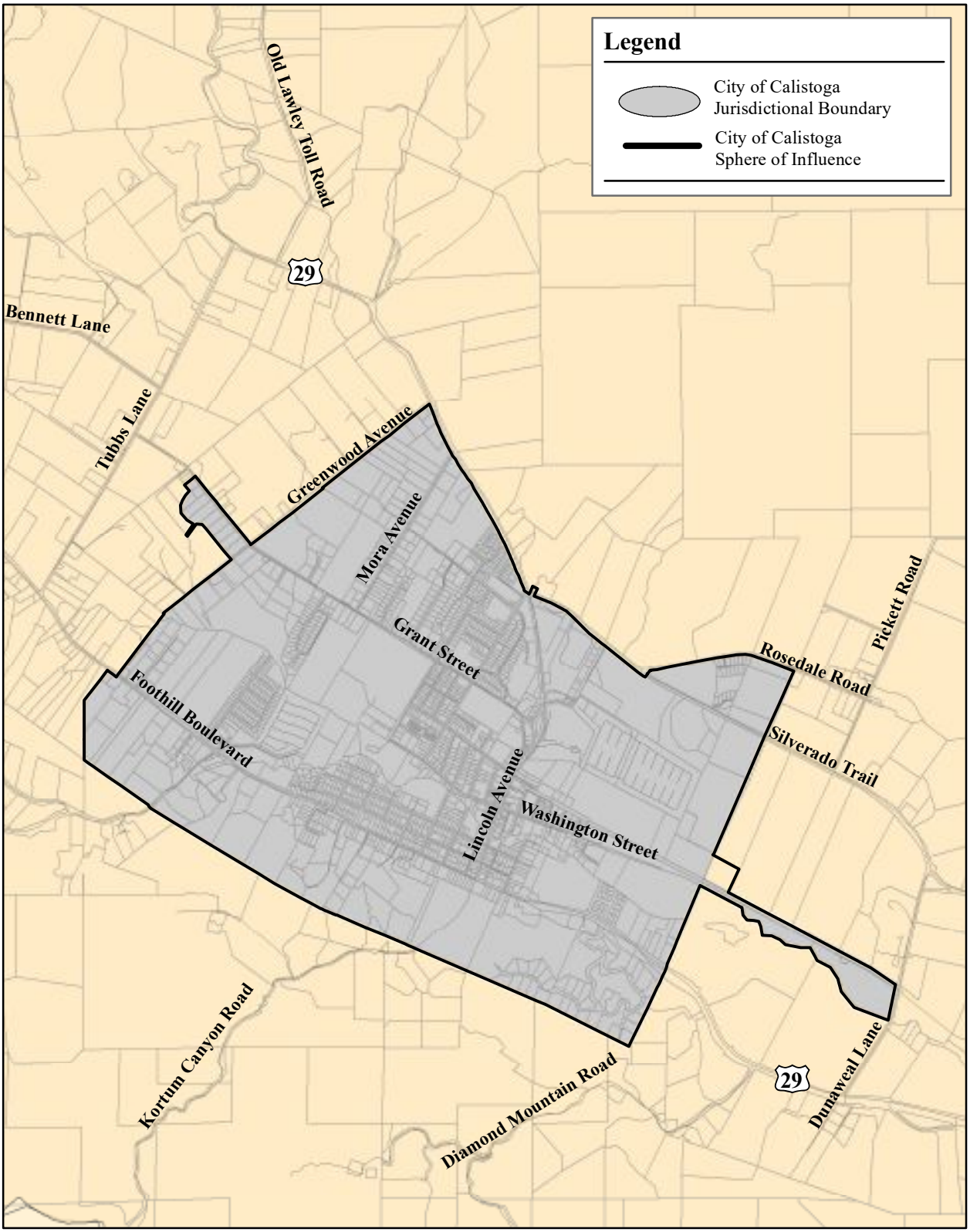
The City of Calistoga is located in the northern part of the Napa Valley. The boundaries encompass 2.6 square miles, as shown in Figure 5-1. There have been no city boundary reorganizations since 2010.

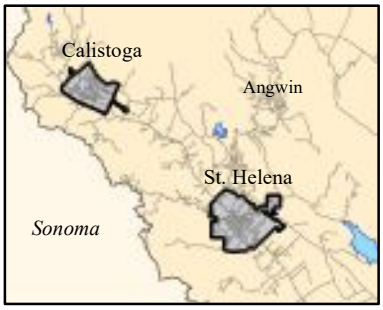
Sphere of Influence

The City's sphere of influence (SOI) was last updated in 2016 with no changes. Calistoga's current SOI is slightly larger than its boundary area and includes an unincorporated five-acre area along Washington Street. This area is owned by the City and used as a part of its wastewater system. Currently, the City does not have any plans to annex this territory. Calistoga considers its current SOI appropriate.

Figure 5-1

City of Calistoga





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December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The City of Calistoga is governed by a three-member Council and one Mayor and one Vice Mayor, all elected at large to staggered four-year terms.[176] The Council meets on the first and third Tuesdays of every month at 6:00 p.m. at the Calistoga Community Center.[177] Agendas and minutes are posted on the website.[178]

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda.

Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[179]

The City of Calistoga complies with the new agenda posting requirement under the latter option. The City maintains a dedicated webpage with the required agenda information with the direct link to this webpage posted on its homepage.[180]

Calistoga accepts water quality complaints through phone calls to a Department of Public Works assistant. A summary report is prepared and, if warranted, an action request is issued to a city employee for follow-up. A majority of the complaints received are related to taste and odor (T&O).[181]

The City demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The City responded to the questionnaires and cooperated with the document requests.

[176] http://www.ci.calistoga.ca.us/city-hall/city-council
[177] http://www.ci.calistoga.ca.us/city-hall/city-council
[178] http://www.ci.calistoga.ca.us/city-hall/city-council/agendas-minutes
[179] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/
[180] http://www.ci.calistoga.ca.us/city-hall/city-council/agendas-minutes/-toggle-next30days
[181] Napa County Grand Jury Report, Napa County Water Quality: It's a Matter of Taste, June 14, 2019.

GROWTH AND POPULATION PROJECTIONS

According to the California Department of Finance (DOF), the City's population as of 2019 was about 5,453. Calistoga's population increased by approximately six percent in the last 10 years.

Residential uses occupy nearly half of the land within the city limits. Agricultural land comprises approximately one-fifth. Parks and public space are also major existing uses within the city limits in terms of area. Commercial development constitutes only two percent of land area.[182] Currently, about 400 acres of land within the city boundaries are vacant or used for agriculture. These sites are significant because their development could have a profound impact on the appearance and function of the community.[183] The City is generally surrounded by agricultural lands that are protected by the County's Measure J.[184]

The City has been a relatively slow growing community. This is partially because limitations in the availability of water and wastewater treatment capacity restricted growth throughout the 1990s. Calistoga's Resource Management System (RMS), which limits the amount of residential development allowed each year, was instituted in 1990. Partly as a result of the RMS, both population growth and construction occurred at rates much lower than was the case elsewhere in the region. While Calistoga's population grew by 15 percent between 1990 and 2010, Napa County's total population (including all cities and the unincorporated area) grew by 25 percent during this same time period. The purchase of water supply from Kern County and the expansion of the wastewater treatment system have largely put an end to the necessity for the RMS. However, the City continues to manage its growth to maintain its small-town character.[185]

In 2005, the City Council established a Growth Management System to regulate the rate of development within the city boundaries. The System provides a program for allocating 20 acre-feet (af) of water per year in accordance with the City's Resource Management System, with 60 percent (12 af) available for residential uses and eight acre-feet for non-residential uses. The Growth Management System establishes five-year cycles within which annual allocations are granted and measured. During a cycle, water awarded to new development cannot result in an annual population growth that exceeds 1.35 percent.[186]

Projects that are exempt from the allocation requirement include (but are not limited to) accessory dwelling units, units on lots existing prior to 2005 or in new small subdivisions, and development projects subject to a development agreement. However, exempt residential units are still subject to the population cap and are counted towards the City's total water and wastewater capacities under the RMS.[187]

Residential water allocations for 34 dwellings were granted for building permits issued between 2015 and December 2019. Permits for an additional 39 units were exempt from the allocation requirement. The construction of these 65 units is not expected to cause the annual growth rate to exceed the maximum 1.35 percent during the current five-year

[182] City of Calistoga, General Plan, Land Use Element, 2015, p. LU-1.
[183] City of Calistoga, General Plan, Land Use Element, 2015, p. LU-7.
[184] City of Calistoga, General Plan, Land Use Element, 2015, p. LU-7.
[185] City of Calistoga, General Plan, Land Use Element, 2015, LU-6.
[186] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[187] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.

program cycle (2015-2019). The average household size for the 30 senior apartments and three accessory dwelling units will be considerably lower than the 2.56 persons per household average that the State estimates per dwelling unit citywide. Additionally, several of the 20 homes at Silver Rose will likely not be occupied by permanent residents.[188]

Since the beginning of 2015, water allocations totaling 4.076 acre-feet have been granted to five non-residential projects. Permits for an additional 23.13 acre-feet were exempt from the allocation requirement (i.e., the Boys & Girls Club and Silver Rose projects).[189]

Therefore, 17.153 acre-feet of water can still be allocated through the remainder of the cycle (i.e., through 2019).[190]

Approved projects that may be issued building permits during the remainder of the cycle, and their associated water usage and wastewater generation, currently include the following:

Figure 5-2: Approved Projects (2015-2019), acre-feet

Project Name	Water Usage	Wastewater Generation
Craftsman Inn Expansion	1.360	1.2
Calistoga Vista	7.448	4.382
Highland Court – 5 Single Family Dwellings (SFD)	2.140	1.120
1320 Fair Way – 2 duplexes	0.747	0.438

Source: City Council Staff Report: Growth Management System Report, 2018.

The following entitlement applications are currently being reviewed for potential approval during the current Growth Management System cycle:

Figure 5-3: Projects in Progress (2015-2019), acre-feet

Project Name	Water Usage	Wastewater Generation
The Veranda – expansion of existing resort	24	21.6
Gas station, store, restaurant, car wash	2.017	1.657
2 SFD (TBD)	0.856	0.448

Source: City Council Staff Report: Growth Management System Report, 2018.

As part of the 2014 Development Impact Fee Study, City staff estimated the types and amounts of development that might occur over the following 20 years. Water usage and wastewater generation associated with potential development through 2034 is summarized in Figure 5-4. It should be noted that the figures below include approximately 90 percent of the projected water usage and 78 percent of the projected wastewater generation assumed

[188] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[189] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[190] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.

for the pending Veranda project listed in Figure 5-3.[191] Water supply availability and wastewater system capacity will be discussed in more detail later in this chapter.

Figure 5-4: Potential Development through 2034, acre-feet

Potential Development through 2034	Water Usage	Wastewater Generation
71 SFD	30.39	15.90
118 multi-family dwellings (MFD) (split between 1 and 2 bedroom units)	22.01	12.92
222 guest rooms	37.74	33.30
240,000 square feet of commercial development	26.40	23.76
3,000 restaurant square feet	1.74	1.57
Totals	118.28	87.45
% of available supply/capacity	26.2-53.8%	71%

Source: City Council Staff Report: Growth Management System Report, 2018.

The Association of Bay Area Governments (ABAG) projects that the total growth within the City between 2020 and 2030 will be 3.8 percent or about 0.4 percent a year on average. Based on these projections, the City's population would increase from 5,453 in 2019 to approximately 5,683 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017 based on the DOF population estimates for these years.[192] Population growth was then projected in five-year increments through 2030. According to LAFCO's projections, the population of Calistoga in 2025 is anticipated to be about 5,652 and approximately 5,818 in 2030. LAFCO projects that Calistoga will grow by 0.61 percent a year through 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[193]

[191] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[192] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[193] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

FINANCIAL ABILITY TO PROVIDE SERVICES

The City of Calistoga provides water and wastewater services as City enterprise ("business-type" activities). City departments provide administrative and overhead services to the water and wastewater enterprises, which in turn reimburse the City departments for "Central Services Overhead" expenses. The enterprises are supported by rate revenues and charges; no property tax revenue accrues directly to the enterprises. The FY19 budget shows a $20,000 "General Fund Subsidy" to the Water Operations Fund which is less than prior years (e.g., the subsidy was about $80,000 annually in FY14 through FY16). The City reported a $250,000 rates stabilization transfer from the General Fund to the Water Fund at the start of FY20, of which about half had been refunded by the end of the first quarter of FY20; the Wastewater Fund required no transfer.[194]

The City's CAFR[195] reports City financials. The CAFR provides financial information separately for the water and wastewater "business-type" activities. The City's annual budget reports revenues and expenses separately for water and wastewater enterprises.

Figure 5-5: Summary of Selected Financial Information, City of Calistoga Water Operations

City of Calistoga Water Operations	
FY18-19 Water Budget Net	**$630,000**
Operating Revenues	$4,000,000
Operating Expenditures (exc. debt)	$3,370,000
Ending Fund Balance as % of Operating Revenues	**26%**
Ending Fund Balance	$1,050,000
Debt Service as a % of Operating Revenues	**11.1%**
Total Debt Outstanding	$7,510,000
Monthly Water Rates as a % of Household Income	**2.1%**
Typical Monthly Rate	$102
Median Household Income (2017)	$58,533
Pension Payments % of Revenues	**3.4%**
Pension+OPEB Total Payments	$140,000
Unfunded Pension Liability	$1,360,000

2019-10-01

[194] City of Calistoga Response to Financial Data Request, rec'd 10/07/19.
[195] City of Calistoga FY18 Comprehensive Annual Financial Report (CAFR).

Figure 5-6: Summary of Selected Financial Information, City of Calistoga Wastewater Operations

City of Calistoga Wastewater Operations	
FY18-19 Wastewater Budget Net	**$380,000**
Operating Revenues	$2,820,000
Operating Expenditures (exc. debt)	$2,440,000
Ending Fund Balance as % of Operating Revenues	**19%**
Ending Fund Balance	$540,000
Debt Service as a % of Operating Revenues	**23.6%**
Total Debt Outstanding	$2,918,000
Monthly Water Rates as a % of Household Income	**2.7%**
Typical Monthly Rate	$132
Median Household Income (2017)	$58,533
Pension Payments % of Revenues	**6.0%**
Pension Payments	$170,000
Unfunded Pension Liability	$1,520,000

2019-10-01

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves and/or require General Fund subsidies.

The City's utility operations' operating revenues have covered operating expenses (excluding depreciation) in recent years' FY17 through the proposed FY19 budget (before funding debt service and capital improvements). As described below, the FY19 Water Fund indicates a positive net surplus after debt and capital, while the Wastewater Fund shows shortfalls in recent years including FY19. The City anticipates that recently adopted utility rate increases will help provide sustainable enterprise operations.[196]

Water Services

Operating revenues covered operating expenditures (excluding depreciation) FY17 through FY19. However, FY17 and FY18 show net operating revenues insufficient to fully fund debt service. FY19 is projected to end with a net surplus after debt service, but no capital improvements were funded in FY19 from net operating revenues. The FY19 net surplus is partly the result of a General Fund subsidy of $20,000 which helped to maintain fund levels required to meet debt service coverage requirements.[197]

[196] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital Improvement Budgets, Transmittal Letter, pg. 1.
[197] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital Improvement Budgets, pg. 131 (FY17 actual, FY18 revised, and FY19 proposed budgets).

Wastewater Services

Operating revenues covered operating expenditures (excluding debt service and depreciation) FY17 through FY19. However, FY18 and FY19 both show net deficits after debt service; in FY19 the projected ending deficit, after debt service and a contribution to the Capital Fund, totals a shortfall of $476,000.[198] As noted previously, the City indicates that recent rate adjustments will eliminate shortfalls.[199]

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The City Council's goal for utility operating reserves is 20 percent of operating expenditures,[200] a goal met by both utilities in FY19 based on allocations shown for ending fund balances. This goal exceeds a "warning" minimum 8 percent.[201]

In the longer term, an Agency's Unrestricted Net Position can indicate the longer-term availability of funds, which could be greater or less than a Fund Balance. The Net Position reflects net value remaining after including all current and long-term assets such as capital assets and advances to other funds, and current and long-term liabilities such as unfunded pension and OPEB liabilities.

Water Services

The Water Operations Fund projected ending FY19 balance of $1,050,864 represents about 36 percent of operating expenditures (excluding depreciation). This balance is allocated to operating reserves (about 20% of expenditures), required debt service reserves of $94,000, operating contingency (3% of expenditures), and a capital reserve of $300,000.

The Water Operations liquidity ratio at the end of FY18 was 0.7, which falls below a standard of 1.0. Although the Water Operations Fund projects an ending FY19 balance over $1 million, those funds are offset by current liabilities.

Wastewater Services

The Wastewater Operations Fund projected ending FY19 balance of $541,263 represents about 22 percent of operating expenditures (excluding depreciation). This balance is allocated to operating reserves (about 20% of expenditures), required debt service reserves of $103,800, a negative capital reserve of $49,861 and no operating and capital contingency.[202]

The Wastewater Operations Fund liquidity ratio significantly exceeds 1.0, indicating that current assets exceed current liabilities by a factor of four. This positive ratio is based on the FY18 CAFR and the FY18 budget that included $1.2 million of WWTP CIP. The current

[198] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital Improvement Budgets, pg. 143 (FY17 actual, FY18 revised, and FY19 proposed budgets).
[199] City of Calistoga Response to Financial Data Request, rec'd 10/07/19.
[200] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital Improvement Budgets, Transmittal Letter, pg. 1. "Operating Expenditures" for this purpose appear to exclude depreciation shown in the operating budgets.
[201] The California Municipal Financial Health Diagnostic: Financial Health Indicators, League of California Cities, 2014.
[202] City of Calistoga Budget Fiscal Year 2018-19 Wastewater Operations Fund, pg. 143.

liquidity ratio should decline correspondingly with the use of the CIP funds that occurred in FY19 for collection and treatment improvements.[203]

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

Water Services

The Water Operations Fund's unrestricted net position was a negative $880,000 at the end of FY18.[204] This position indicates that total liabilities exceed non-capital assets. This negative position is generally consistent and partially the outcome of the zero cash shown in the FY18 CAFR and liquidity ratio less than 1.0 noted previously.

Wastewater Services

The Wastewater Operations Fund's unrestricted net position was $1.8 million at the end of FY18.[205]

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility;[206]

Calistoga's rates for water equal 2.1 percent of median household incomes, and typical wastewater rates equal 2.7 percent of median household incomes.[207] The combined 4.8 percent rates are near the maximum 4 to 5 percent measure.

The City collects water and wastewater connection impact fees to pay for system improvements required to serve new development.[208]

The City offers a low-income water rate program providing 20 percent reductions in water service charges for ratepayers experiencing financial hardship.[209]

Water Services

In 2018 the City adopted updated water rates and a schedule of increases[210] based on recommendations of a water rate study.[211] The initial rate increase of 15 percent in 2018

[203] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital Improvement Budgets, Wastewater CIP Fund, pg. 144.
[204] City of Calistoga FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 20.
[205] City of Calistoga FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 20.
[206] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[207] Based on median household income of $58,533 according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[208] See the City of Calistoga Development Fee Schedule.
[209] City of Calistoga website 1/8/19
http://www.ci.calistoga.ca.us/city-hall/departments-services/utility-billing-services/low-income-rate-adjustment-lira
[210] Ordinance 734 adopted March 6, 2018.
[211] City of Calistoga Water Rate Study Final Report, Bartle Wells Associates, 2/20/2018.

declines to 14 percent in 2019 and 10 percent the following years through 2022. The City's goal is to address prior year operating deficits and "…the significant cost of water and capital improvements to repair aging infrastructure."[212] The City anticipates that planned rate increases will reduce or eliminate the need for General Fund transfers to maintain required debt reserve levels.[213]

Wastewater Services

In 2018 the City adopted updated wastewater rates and a schedule of increases[214] based on recommendations of a wastewater rate study.[215] The initial rate increase of 15 percent in 2018 declines to 13 percent in 2019 and 10 percent the following years and 3 percent in 2022. The City's goal is to address prior year operating deficits and the "…Cease and Desist Order placed on the City and stringent Regional Water Quality Control Board (RWQCB) Permit conditions."[216]

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10 percent and 30 percent of their total operating revenues on debt service.[217]

The water and wastewater funds currently are meeting required debt service coverages of 20 percent[218] However, the City reported a $250,000 rates stabilization transfer from the General Fund to the Water Fund at the start of FY20, of which about half had been refunded by the end of the first quarter of FY20; the Wastewater Fund required no transfer.[219]

The City's Insured Rating: S&P is "AA" and Underlying Rating:S&P: "A-" per April 2018 statement.[220]

Water Services

The City's water services debt outstanding totals $7.5 million at the end of FY19. The debt includes three Certificates of Participation.[221] Water services spend about 13 percent of expenditures (including debt) for debt service.[222] To meet debt service coverage requirements, the City's General Fund transferred $250,000 of which about half has been refunded to the General Fund.[223]

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[212] City of Calistoga website 1/8/19
http://www.ci.calistoga.ca.us/city-hall/departments-services/utility-billing-services/water-wastewater-rates
[213] City of Calistoga Response to Financial Data Request, rec'd 10/07/19.
[214] Ordinance 735 adopted March 6, 2018.
[215] City of Calistoga Wastewater Rate Study Final Report, Bartle Wells Associates, 2/20/2018.
[216] City of Calistoga website 1/8/19
http://www.ci.calistoga.ca.us/city-hall/departments-services/utility-billing-services/water-wastewater-rates
[217] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[218] City of Calistoga Response to Financial Data Request, rec'd 10/07/19. (City of Calistoga)
[219] City of Calistoga Response to Financial Data Request, rec'd 10/07/19.
[220] Correspondence from D.Raynor, City of Calistoga, 1/16/2020.
[221] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, Debt Schedule, pg. 203.
[222] Appendix A, City of Calistoga Water Operations Fiscal Profile.
[223] City of Calistoga Response to Financial Data Request, rec'd 10/07/19.

Wastewater Services

The City's wastewater services debt outstanding totals $5.4 million at the end of FY19, including one State revolving loan fund obligation.[224] Calistoga wastewater services spend about 27 percent of expenditures (including debt) for debt service.[225]

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts.

However, current costs and potential increases in Calistoga pension and OPEB costs do not appear to be a significant adverse factor relative to its total budget. The City's total unfunded liability for all plans and employees is $10.5 million;[226] CalPERS projects the City's largest plan's required contributions towards its unfunded liability to increase by about 50 percent through 2025, or about an additional $200,000.[227]

The City's total unfunded OPEB liability was estimated to be $2.3 million at the end of FY18. The City is on a "pay as you go" plan and the net liability is equal to the total liability.

Water Services

Unfunded pension liabilities allocated to the water system total $1.4 million; payments toward these liabilities total about 3.4 percent of total revenues.[228]

Wastewater Services

Unfunded pension liabilities allocated to the wastewater system total $1.5 million; payments toward these liabilities total about 6 percent of total revenues.[229]

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The City's 5-Year CIP Summary shows major water and wastewater capital improvements through FY23.[230] The City's budget displays system improvements for the past five years.[231]

[224] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, Debt Schedule, pg. 203.
[225] Appendix A, City of Calistoga Wastewater Operations Fiscal Profile.
[226] City of Calistoga FY18 CAFR, Note D Pension Plans, pg. 50.
[227] CalPERS Actuarial Valuation as of June 30, 2017 for the City of Calistoga, Misc. Plan, Projected Employer Contributions, pg. 5.
[228] City of Calistoga FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 20. See also Town of Calistoga Fiscal Profile, Appendix A-5.
[229] ibid, City of Calistoga FY18 CAFR.
[230] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, Major Capital Projects, pg. 197-200.
[231] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 133 (water system capital improvements) and pg. 145 (wastewater system capital improvements).

Water Services

Years prior to FY17 indicate capital expenditures averaging an amount similar to budgeted depreciation of $400,000.[232]

The value of depreciable capital assets increased by about 1.6 percent from FY17 to FY18; capital additions more than offset reduced value due to depreciation.[233]

The City's proposed FY19 budget shows $3.1 million of capital improvements, and the CIP indicates $1.8 million and $1.4 million of expenditures in FY20 and FY21, respectively.[234]

Wastewater Services

Years prior to FY17 indicate capital expenditures averaging an amount nearly equal to budgeted depreciation of $660,000.[235]

The value of depreciable capital assets increased about 3.8 percent from FY17 to FY18; additions more than offset value reductions due to depreciation.[236]

The City's proposed FY19 budget shows $2.4 million of capital improvements in FY19, and the CIP indicates $1.3 million and $250,000 of expenditures in FY20 and FY21, respectively.[237]

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The City's website includes descriptions of and access to current and past water and wastewater financial documents.

Comprehensive Annual Financial Report (CAFR) -- The City includes its water and wastewater operations in its CAFR which is published in a timely manner within six months of the end of the fiscal year. The document is a scan of a printed page and not easily searched electronically.

Capital Improvement Program – The City creates a 5-Year CIP and updates the CIP for each budget year as a part of its annual budget process.

Water Services

Cost of Service/Rate Study – The City updated its rates based on a Rate Study and created a 5-year schedule of rate increases which took effect beginning FY18.[238]

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[232] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 133 (water system capital improvements); see Water Operations Fund Sources and Uses, pg. 131 for depreciation budget item.
[233] City of Calistoga CAFR FY18, Note D Capital Assets Business-Type Activity, pg. 38. Excludes water rights.
[234] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, Major Capital Projects Summary of Proposed Projects FY19-FY23, pg. 200.
[235] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 145 (wastewater system capital improvements). see Wastewater Operations Fund Sources and Uses, pg. 143 for depreciation budget item.
[236] City of Calistoga CAFR FY18, Note D Capital Assets Business-Type Activity, pg. 38.
[237] City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, Major Capital Projects Summary of Proposed Projects FY19-FY23, pg. 200.
[238] City of Calistoga Water Rate Study Final Report, Bartle Wells Associates, 2/20/2018.

Financial Forecasts – The Town's 2018 Rate Study included a 5-year financial forecast.

Wastewater Services

Cost of Service/Rate Study – The Town updated its rates and created a 5-year schedule of rate increases which took effect beginning FY18.[239]

Financial Forecasts – The Town's 2018 Rate Study included a 5-year financial forecast.

[239] City of Calistoga Wastewater Rate Study Final Report, Bartle Wells Associates, 2/20/2018.

WATER SERVICES

The City of Calistoga conducts planning for its water services in its General Plan. The Infrastructure Element that provides information and policy guidance related to community infrastructure, including water facilities and services was last updated in 2003. As of the drafting of this report, the City was in the process of updating this element. The 2003 Infrastructure Element lists the following objectives and associated policies for the City's water services:

Objective I-1.1 Plan, manage and develop the public water conveyance and distribution systems in logical, timely and appropriate manner.

- P1.1-1 The City shall base water capacity and supply plans and projections on the "below normal year" but will also look for ways to decrease the impacts of a "dry year."
- P1.1-2 The City shall not extend water infrastructure to new areas until existing infrastructure is brought to adequate standards or unless such extensions contribute to infrastructure improvements.
- P1.1-3 Potable water should generally be available to the City's residents and businesses.
- P1.1-4 Properties which utilize an on-site well where treated water is generally available may connect to the City's water system provided that there are sufficient resources. Where resources are limited, priority for treated water should be given to vacant parcels and existing developed parcels proposing an expansion of use.

Objective I-1.2 Maintain water storage, conveyance and treatment infrastructure in good condition.

Objective I-1.3 Encourage coordination between land use planning and water facilities and service.

- P1.3-1 The approval of new development shall be conditional on the availability of sufficient water for the project.
- P1.3-2 The City shall ensure a fair and equitable distribution of costs for water service expansion.
- P1.3-3 Structures with plumbing that are located within city limits shall connect to the water system, unless topography, distance from the public water system, or other factors indicate a need for an exemption.
- P1.3-4 Extension of water service beyond the current service area shall be prohibited.
- P1.3-5 Needed water supply and pressure for fire suppression shall be maintained.
- P1.3-6 Users of the cold-water aquifer shall meet all City and governmental requirements.
- P1.3-7 If and when 95 percent of the capacity of existing water storage, supply and/or distribution systems has been reached, further development in Calistoga will be prohibited until the City has provided sufficient new capacity to accommodate new development.

Objective I-1.4 Promote water conservation.

- P1.4-1 Voluntary reductions by existing users in per capita water use shall be encouraged.
- P1.4-2 Water conservation shall be a required component of the Water Supply Plan. This element of the Plan shall quantify the targeted minimum reduction in water use for each user category. No new water purchase by the City shall be pursued until these minimum conservation targets have been achieved.
- P1.4-3 Projects using the City's cold-water aquifer shall be required to use reclaimed wastewater for landscaping.
- P1.4-4 The City shall adopt a series of Best Management Practices for water conservation measures that will be mandatory in new development and strongly encouraged in existing development, to achieve the 32 percent reduction in water use consistent with the American Water Works Association study.

Objectives and policies for water reclamation services include:

Objective I-3.1 Plan, manage and develop the water reclamation system in a logical, timely and appropriate manner.

Objective I-3.2 Maintain water reclamation infrastructure in good condition.

Objective I-3.3 Encourage coordination between land use planning and water reclamation.

- P3.3-1 The approval of large new development projects shall be conditional on the use of reclaimed water for irrigation unless the subject project is unable to use reclaimed water with high boron concentrations.
- P3.3-2 The use of graywater for public and private landscaping irrigation shall be encouraged.
- P3.3-3 The City shall ensure a fair and equitable distribution of costs for reclaimed water service expansion.

Additionally, the City plans for its water services in the Capital Improvement Program contained in annual budgets. Calistoga does not adopt any other planning documents pertaining to water services.

Type and Extent of Services

Services Provided

The City of Calistoga provides potable and recycled water services to residential, commercial, institutional, industrial, and landscape irrigation customers within its service area. A majority of the customers are residential.

Service Area

Calistoga provides water services within its boundaries as well as to 78 connections outside of its boundaries. Given a lack of records regarding timing of connection, exact dates of connection are unknown; however, the City reported that most likely all of the outside

properties were connected before 2001 and therefore did not require LAFCO prior approval. The City has since adopted code that prohibits new connections to the water system by properties outside of the city limits after 2005. Water customers residing outside of the city boundaries pay a 115 percent surcharge on the volumetric rate which recovers costs associated with operating and maintaining the infrastructure required to serve these customers.[240]

With regard to recycled water services, the City serves 17 customers, one of which (Frediani Ranch) extends outside of the city limits. Recycled water services are exempt from requiring LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133.

Occasionally, residents from outside of the city boundaries acquire recycled water in trucks from a station at the City's Wastewater Treatment Plant (WTP). There is no limit as to the quantity of recycled water that can be purchased and trucked as long as the purchaser obtains a prior permit through the City's WWTP.[241]

Potable and recycle water out-of-area service connections are shown in Figure 5-7.

Services to Other Agencies

The City does not provide any water-related services to other agencies.

Contracts for Services

Calistoga maintains an agreement with City of Napa, wherein the City of Napa treats the State Water Project (SWP) water at the Jamison Canyon WTP or the Hennessey WTP to drinking water standards and conveys the water up the Napa Valley to the location of Calistoga's wholesale water meter. The SWP water supplied is purchased and treated by the City of Napa prior to delivery to Calistoga at an annual cost to Calistoga of approximately $1 million. The agreement does not have an expiration date.

Calistoga contracts with the independent Alpha Analytical Laboratory and Caltest Analytical Laboratory for water testing and State Water Resources Control Board (SWRCB) reporting.

Overlapping Service Providers

There are no overlapping water service providers within the City of Calistoga.

Collaboration

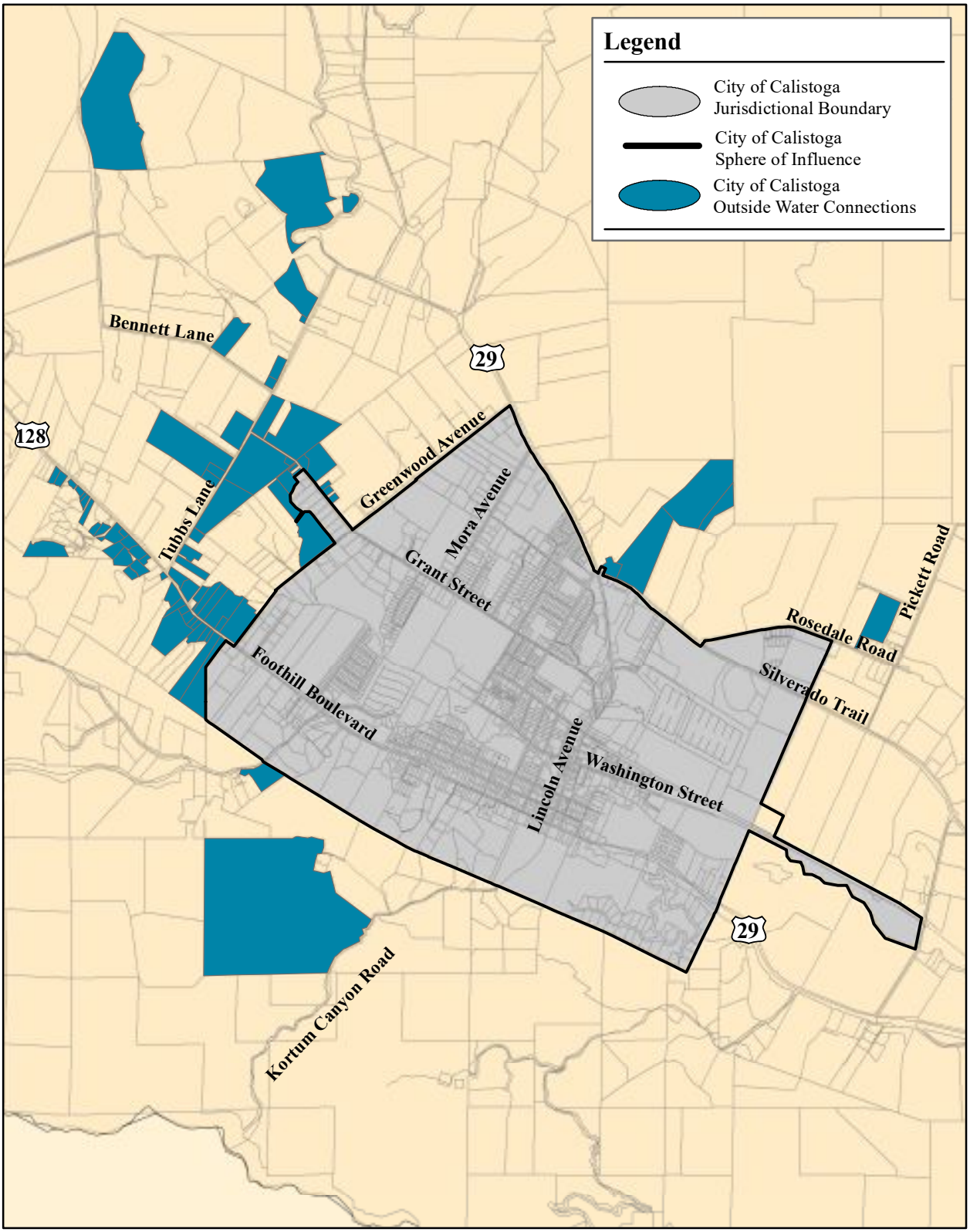
The City participates in the Bay Area Integrated Regional Water Management Plan (IRWMP). The City also has a collaborative relationship with the City of Napa, which transports and treats a portion of Calistoga's water supply.

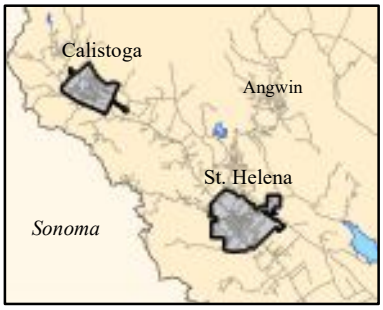
The City additionally is participating in a Memorandum of Understanding (MOU) among Napa County municipal water purveyors to develop a drought contingency plan. As part of this collaboration, participating agencies are evaluating opportunities for supplemental water supply and constraints of their current utility systems.[242]

[240] City of Calistoga, Water Rate Study, 2018, p. 11.
[241] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.
[242] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.

Figure 5-7

City of Calistoga





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December 30, 2019
Prepared by LAFCO Staff

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Staffing

The City's Department of Public Works is responsible for operations and maintenance of Calistoga's water treatment and distribution infrastructure. The Water Distribution Division responds to water leaks, after-hours service calls, and reads water meters every other month for billing purposes.

Water Supply

Calistoga's water is supplied by two sources—Kimball Reservoir (about 40 percent of the City's supply) and water transported by the City of Napa (about 60 percent of Calistoga's supply).[243] In 2018, the City supplied about 25 percent of potable water from Kimball Reservoir and 75 percent from SWP.[244]

Water supply from Kimball Reservoir was negatively affected when the City of Calistoga started bypassing more water around the dam to protect fish populations. The supply from the reservoir was reduced by 41 afy from 328 afy to 287 afy.[245] Water lost due to the bypass was replaced by the water delivered by the City of Napa.

Calistoga contracts with the City of Napa to treat and deliver its SWP entitlement through an interconnection between the two agencies' transmission lines. SWP water delivered from the City of Napa comes from the Sacramento Delta via the North Bay Aqueduct (NBA) and is treated and wheeled by the City of Napa from its Jamison Water Treatment Plant; alternatively, water may also be provided by the City of Napa from its Hennessey WTP or Milliken WTP.[246]

Water from the SWP is secured through a contract with the Napa County Flood Control and Water Conservation District (Agreement No. 1926) and currently allocates Calistoga an annual entitlement of 1,925 acre-feet. The agreement was extended through 2085.[247]

The North Bay Aqueduct sources include 500 afy of original SWP entitlement, 925 afy of Kern County water, and 500 afy of American Canyon-purchased water for a total of 1,925 afy. A firm yield of 52 percent delivery reportedly can be expected, which equals a firm yield of 1,001 afy.[248] However, recent year allocations have fallen below the firm yield. The average NBA water allocation from the State Water Project for the past 10 years has been 51 percent (982 afy). The average NBA water allocation from the State Water Project between 2013 and 2017 was 48 percent (924 afy). The 2018 allocation was 40 percent (770 afy).[249]

In 2013 the NCFCWCD, on behalf of the member cities, succeeded in establishing access to an additional 5,659 acre-feet of "back-up" water per year, up to a cumulative 21,900 acre-feet of water, based on an Area of Origin Settlement Agreement (the "2013 Settlement Agreement") with the State. The back-up water, referred to as "Advanced Table A Water," can be accessed only after all other available carryover and Table A water is consumed. In

[243] City of Calistoga, Response to Grand Jury Report on Napa County Water Quality: It's a Matter of Taste, 2019.
[244] City of Calistoga, Large Water System Annual Report to the Drinking Water Program, 2018.
[245] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[246] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[247] City of Calistoga Resolution No. 2014-094.
[248] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[249] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.

addition to Advanced Table A Water, each year a north of delta allocation is calculated and applied to the parties of the 2013 Settlement Agreement.[250]

The City estimates that after all the current demand needs are satisfied from the available supply, there are between 220 and 451 AFY of available water supply left for future development based on a firm water yield supply of 90 percent reliability, considering no other supplemental sources of water are acquired. Estimates also show that by 2034, the City will be using between 26 and 54 percent of this excess availability, as is explained in more detail in the *Water Demand* section.[251] The City's water sources with the allotted amounts are shown in Figure 5-8.

Figure 5-8: City of Calistoga Water Sources, acre-feet

Potable Water Supply by Source		
Source	**Normal Year Supply**	**Dry Year Supply**
Kimball Reservoir	287	180
State Water Project	1,925	1,001
TOTAL	**2,212**	**1,181**

Source: City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.

In 2005, the City, in conjunction with other Napa Valley agencies, completed the 2050 Napa Valley Water Resources Study to determine water supply and demand projections through 2050. Based on the City's existing local reservoir and the State Water project supply, the City does not expect to experience any reductions in water supply during minor drought conditions and expects to experience only minor reductions in water supply during severe droughts.[252] During the most recent four-year drought, Calistoga was able to maintain two years of water storage between State Water Project entitlements and local storage.[253]

To protect against potential shortfalls in dry years, the City explored the possibility of groundwater supply opportunities and concluded that it was not a feasible source due to a lack of quality and quantity.[254] Opportunities to address potential shortfalls in the dry years is to be addressed as a part of the Drought Contingency Plan that is underway.

Figure 5-9 shows the amount of water produced by the City from 2014 through 2018. Potable water supply shown in the figure includes water produced from surface water by the City through treatment and treated water delivered by the City of Napa.

Figure 5-9: Water Production (2014-2018), acre-feet

Water Produced					
	2014	**2015**	**2016**	**2017**	**2018**
Treated Potable Water	655.90	597.65	674.42	734.87	722.88
Recycled Water	359.02	373.68	291.64	460.57	541.03

Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.

[250] City of Calistoga, 2018 Water and Wastewater Certificates of Participation Statement, 2018, p. 24.
[251] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[252] City of Calistoga, 2018 Water and Wastewater Certificates of Participation Statement, 2018, p. 24.
[253] City of Calistoga, 2018 Water and Wastewater Certificates of Participation Statement, 2018, p. 24.
[254] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.

Recycled water

The City of Calistoga's Dunaweal Wastewater Treatment Plant (WWTP) produces recycled water. After tertiary treatment, effluent may be discharged to the Napa River from November 1st through June 15th or during the remainder of the year, distributed for recycled use and spray irrigation, or stored for future use in effluent storage ponds.[255]

The City distributes its recycled water from the WWTP to 17[256] customers through recycled water infrastructure described later in the *Water Infrastructure and Facilities* section. The City's recycled water is also trucked to customers outside of the City's boundaries. Individual owners of tanker trucks, as well as truck operators, must have a permit from the City to fill up with recycled water at the WWTP station.

Typically, upwards of 100 million gallons (around 300 acre-feet) of reclaimed water are distributed for irrigation each year, including spray field irrigation.[257] In 2018, the City produced 541.03 af of recycled water.[258]

Emergency Preparedness

During the 2012-2015 California drought years, the City maintained solid supplies including over two years of future storage throughout the period. During 2013-14, when the SWP allocation was at an unprecedented low of five percent, the City had 980 af of SWP supplies (including carryover water) available, along with local supplies of 328 af in the Kimball Reservoir. Total supplies were 1,330 af, and customers consumed 640 af during that same period. In addition, if all SWP supplies were consumed (including carryover water), the City could call on Advanced Table A supplies in accordance with the 2013 Settlement Agreement. The City maintains about two years of water storage between SWP entitlements and local storage; this has been the case throughout the recent four-year drought.[259]

Depending on availability, Calistoga is able to purchase additional water from the City of Napa in emergencies.

During power outages, all systems which move water into Calistoga are shut down, meaning the City must rely on local water storage until power can be restored. The City's three water storage facilities provide almost 4.5 days of water based on average daily demand, which does not account for conservation efforts.

Water Demand

As of 2019, the City had 1,594 water service connections, including 78 out-of-area service connections.[260] There were 1,194 single-family residential, 133 multi-family residential, 237 commercial, five industrial, and 25 landscape irrigation.

[255] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/dunaweal-wastewater-treatment-plant
[256] City of Calistoga, Large Water System Annual Report to the Drinking Water Program, 2018.
[257] City of Calistoga, *Budget*, FY 19-20.
[258] City of Calistoga, Large Water System Annual Report to the Drinking Water Program, 2018.
[259] City of Calistoga, 2018 Water and Wastewater Certificates of Participation Statement, 2018, p. 25.
[260] City of Calistoga, *Budget*, FY 2019-2020.

Calistoga's average annual water demand between 2013 and 2017 as measured by the Napa and Kimball meters amounted to 681 AFY.[261] The 2015, 2016, 2017, and 2018 demand for potable and recycled water in the City's water service area is shown in Figure 5-10.

Figure 5-10: Demand for Potable and Recycled Water by Customer Type (acre-feet)

Demand for Potable and Recycled Water					
User Type	**2014**	**2015**	**2016**	**2017**	**2018**
Single-Family Residential	307.88	286.19	289	319.71	260.77
Multi-Family Residential	75.84	85.04	87.93	90.75	158.71
Commercial/Institutional	188.64	181.34	175.09	177.36	177.08
Industrial	6.98	7.23	5.87	5.29	5.25
Landscape Irrigation	0	0	0	0	12.64
TOTAL POTABLE	**579.34**	**559.8**	**557.89**	**593.11**	**614.45**
Recycled Water	**233**	**206**	**195**	**251**	**315**
Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.					

Figure 5-11 shows the daily average demand in comparison to the daily maximum supply from 2009 to 2018. As can be seen in Figures 5-9, 5-10 and 5-11, there appears to be sufficient water supply to accommodate current demand.

Figure 5-11: Daily Demand vs. Supply (gallons)

User Type	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Daily Average Gallons Produced	679,930	670,449	670,449	632,903	642,000	600,000	633,360	534,360	641,349	618,000
Estimated Maximum Daily Available	1,872,000	1,872,000	1,872,000	1,864,393	1,864,393	1,864,393	1,864,400	1,864,400	1,864,400	1,864,400
Supply/Demand Difference	**1,192,070**	**1,201,551**	**1,201,551**	**1,231,490**	**1,222,393**	**1,264,393**	**1,231,040**	**1,330,040**	**1,223,051**	**1,246,400**
Source: City of Calistoga, *Budget*, FY 2019-2020.										

As was previously discussed in the *Growth and Population* section, the City has a Resource Management System and a Growth Management System according to which Calistoga allocates 20 af of water per year for new construction. There are certain development projects that are exempt from the allocation requirement, as was also described earlier. The City makes a semi-annual assessment of all the granted allocations.[262]

The City estimates that potential development through 2034 will add about 118 af in water demand, which amounts to between 26 and 54 percent of the available water supply left (220 to 451 afy) after all the current demands are satisfied.[263] Due to the Growth Management System and the Resource Management System, the City is projected to grow at a fairly predictable pace, and the current available water supply will be able to accommodate future needs, at least through 2034.

[261] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[262] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[263] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.

The Town's projected demand for potable and recycled water is depicted in Figure 5-12.

Figure 5-12: Projected Demand for Potable and Recycled Water (acre-feet)

Projected Demand for Potable and Recycled Water					
Use Type	**2020**	**2025**	**2030**	**2035**	**2040**
Single-Family Residential	294	303	305	307	311
Multi-Family Residential	181	188	188	190	190
Commercial/Institutional	202	207	209	212	215
Industrial	8	7	8	8	8
Landscape Irrigation	15	15	15	15	16
TOTAL POTABLE	**700**	**720**	**725**	**732**	**740**
Recycled Water	**243**	**285**	**326**	**326**	**326**
Source: As reported by the City of Calistoga.					

As was mentioned before, the City provides recycled water services to 17 connections, including two single-family residential, two multi-family residential, six commercial, one industrial, and six landscape irrigation.[264]

The recycled water customers currently include Little League Field, La Pradera Apartments, Stevenson Manor Inn, Calistoga Mineral Water, Calistoga Grove Inn, Community Presbyterian Church, Calistoga Elementary School, Logvy Community Park, Napa County Fairgrounds, Indian Springs Resort, Solage, two residences, Boys and Girls Club, and Calistoga High School. Additionally, as mentioned, the City allows permitted haulers to pump and truck recycled water for construction and irrigation. In 2018, the total volume of recycled water pumped and trucked was 23.4 af. During the same year, the total volume of recycled water produced was 315 af.

Water Infrastructure and Facilities

The City of Calistoga's water system has grown from a small municipal reservoir in Feige Canyon in the first half of the century to include a municipal reservoir in Kimball Canyon, drinking water production from wells in Feige Canyon and the construction of the 12.3-mile North Bay Aqueduct (NBA) connection to the City of Napa's water system. The latter development, completed in 1984, represents the most recent major water facilities upgrade in the City. Since the Feige wells are currently inactive, all public water in Calistoga is currently provided by the Kimball Reservoir and NBA sources.[265]

Key components of the water system include the Kimball Reservoir and Water Treatment Plant, storage tanks with a capacity of 2.5 million gallons, and 30 miles of distribution and 20 miles of transmission mains. Twenty percent of the City's water system is over 50 years old and in five years the percentage will increase to almost 50.[266]

[264] City of Calistoga, Large Water System Annual Report to the Drinking Water Program, 2018.
[265] City of Calistoga, *General Plan, Infrastructure Element*, 2003, p. I-1.
[266] City of Calistoga, *Water Rate Study*, 2018, p. 6.

Water Reservoir

Kimball Reservoir has a surface drainage area of approximately 3.4 square miles. The City owns a portion of the surrounding watershed with the remainder owned by the State Parks Department and a private landowner.[267]

Kimball Canyon Dam was constructed in 1939 by the City and was subsequently raised in 1948 to increase the storage capacity of the reservoir. The dam is an earthfill structure approximately 300 feet long, 200 feet wide at the base, and about 75 feet high. The spillway crest elevation is 575 feet above mean sea level. The original storage capacity of the reservoir measured in a 1954 survey at the spillway crest was approximately 345 af and 409 af at the top of the flashboards (elevation 579 feet). The accumulation of sediment in the reservoir has since reduced the storage capacity to 312 af at the flashboard elevation according to a 1991 reservoir sounding study. Much of the sediment accumulation has been attributed to wet weather runoff that followed a 1985 fire which burned a large portion of the surrounding watershed.[268]

The dam (National ID No. CA00310) is under the jurisdiction of the State of California. Annual inspections of the reservoir are conducted by the State Division of Dam Safety to ensure the structure is satisfactory for continued use.[269] The dam is certified and considered to be in satisfactory condition by the State. The dam is considered a high-risk dam, as the downstream hazard is categorized as high, and is continuously being watched for leakage.

Between 2017 and 2019, the City made some improvements with Measure A funds to the reservoir to address concerns of aging infrastructure. However, the reservoir still requires the new intake tower and a drain valve. The City is seeking additional grant funds to complete the construction. Calistoga anticipates finishing the work by summer/fall of 2021. After these planned improvements the reservoir will be in good condition, with the exception of sediment buildup and the anticipated water loss of two af annually.

Water Treatment Plant

Kimball Surface Water Treatment Plant (WTP) features the standard operating design with a maximum capacity of 350,000 gallons per day (gpd). Average water generation at the plant is 269,000 gpd,[270] which indicates sufficient capacity to accommodate current demand.

The treatment processes at the WTP include chemical coagulation, flocculation and sedimentation in a circular clarifier, chlorination, filtration and storage in a 100,000-gallon clearwell.[271] Three finished water pumps supply water from the clearwell to the distribution system. These pumps are responsible for maintaining the level in the Feige one-mg storage tank and the distribution system pressure.[272]

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[267] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/kimball-dam-water-reservoir
[268] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/kimball-dam-water-reservoir
[269] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/kimball-dam-water-reservoir
[270] Napa County Grand Jury, Napa County Water Quality: It's a Matter of Taste, June 14, 2019.
[271] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/kimball-surface-water-treatment-plant
[272] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/kimball-surface-water-treatment-plant

Measure A funds also funded improvements at the WTP in 2009. Further upgrades totaling $1 million are planned for FYs 23-24 and possibly another $6 million through FY 27-28. The plant is generally considered to be in good condition.

Water Distribution

The water distribution system consists of 30 miles of distribution and 20 miles of transmission mains, 404 valves, and 202 fire hydrants. The City owns and maintains 5.5 miles of recycled water distribution pipeline with two booster stations.[273]

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. The City-reported total losses in 2018 of 108 af or 15 percent of the water produced in that year.

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. In 2018, Calistoga distribution system experienced 13 service connection breaks or leaks and six main breaks or leaks. The City averaged about 3.5 water main breaks per year between 2015 and 2018, which averages to about seven breaks per 100 miles of main per year. This is significantly lower than the national average of between 21 and 27 breaks per 100 miles of pipe per year.[274]

The City addresses water loss through metering and monitoring pressures in the system. Any water leaks or breaks are repaired as quickly as possible to reduce these losses. Additionally, included in the losses are hydrant flush water that the City completes annually for about 200 fire hydrants to maintain good drinking water quality in the distribution system.

Storage Facilities

There is a total of three storage tanks with a combined storage capacity of 2.75 million gallons. The storage tanks are described in detail in Figure 5-13.

Figure 5-13: City of Calistoga Storage Tanks

Storage	Capacity	Material	Year Installed	Condition
Fiege Tank	1 mg	Glass fused steel	2018	Excellent
High Street Tank	20,000 g	Concrete	1993	Fair
Mt. Washington	1.5 mg	Concrete	2017	Excellent

Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.

The new Feige Tank with one-mg capacity has been operational since December 2018. The tank sits on a large concrete base and is weighted with seismic anchors. The anchors keep the tank from overturning during a seismic episode. The tank has sufficient capacity to accommodate current and projected demand.

The new tank's technology includes a computer system that monitors the water level inside the tank, how much water is going in or out, and how much chlorine is in the water. It

[273] City of Calistoga, *Water Rate Study*, 2018, p. 8.
[274] WaterRF, Knowledge Portals, 2017.

also includes mixers and a THM (trihalomethanes) removal system, and automated chlorination. Because this tank is glass-lined it will not have to be periodically recoated like steel tanks. Maintenance for the Feige tank includes vacuuming the tank every five years to keep it clean of any sediment.

Shared Facilities

Calistoga shares an interconnection with the City of Napa through which the City of Calistoga receives potable treated water from the City of Napa on a regular basis and in case of emergencies.

In conjunction with the cities of Napa and St. Helena, Calistoga is looking for grant funding to make improvements to the Dwyer booster pump station in order to ensure reliable and adequate pressure for fire protection purposes.

Given the separation of municipal systems, further opportunities for facility sharing are limited.

Infrastructure Needs

Calistoga's water infrastructure needs are discussed in the Capital Improvement Program updated annually as part of the City's budget.

Projects for FY 19-20 include 1) continue designs to replace water mains with street improvement projects, 2) continue to install additional automatic read meters and finish upgrade hardware and software for meter reading, 3) complete THM water quality study, 4) complete Kimball inundation mapping and emergency plan, and 5) pursue grant projects. The goal is to establish a water fund reserve at a minimum of 20 percent within the next two fiscal years and increase the CIP reserves to meet anticipated needs over the next three fiscal years.

The City is reviewing options and is planning long-term capital projects to upgrade the Kimball WTP to include additional treatment capacity and processes to reduce taste, odor and color issues.

The City is planning to build a new water transmission pump station to replace Dunaweal and Pope Street stations. The project is anticipated to cost $6.7 million and will include treatment to reduce disinfection byproducts and provide improved hydraulic protection to the transmission main.

The City is also going to replace the drain valve and install a new intake at Kimball Reservoir which is anticipated to cost $2.2 million. The project is mandated by Division of Safety of Dams.

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when

the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

The City reports that due to the nature of its surface water sources and the length of the transmission main from the City of Napa, taste, odor and color issues occur. Raw water is influenced by what happens in the watershed, runoff intensity temperature, soil conditions, algal growth and many other variables. As was previously mentioned, the City is planning to upgrade the Kimball WTP to reduce taste, odor and color issues. The City of Napa is also undertaking infrastructure upgrades that benefit Calistoga's water supply.[275]

The most significant potential sources of contaminants in Kimball Reservoir are wild animals, geological hazards and fires. The City of Napa's sources are affected by the following hazards: 1) Lake Hennessey by the Pacific Union College Wastewater Treatment Plant, vineyards, fires, invasive species, potential hazardous material spills due to traffic accidents on SR 128, septic tank systems, and grazing and wild animals; 2) Lake Milliken by fires, vineyards and grazing and wild animals; and 3) Sacramento Delta by recreational use, urban and agricultural runoff, grazing animals, herbicide application, and seawater intrusion.[276]

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

According to the EPA report, the City had nine health-based violations between 2008 and 2018, two of which occurred in 2018. Violations that occurred between 2016 and 2018 were for exceeding Total Haloacetic Acids (HAA5), while prior violations were related to exceeding TTHMs.

Calistoga reported that the violations in both the Kimball Reservoir and City of Napa sources were primarily related to disinfection byproducts.[277]

The water treatment process at the Kimball WTP is SCADA monitored and lab tested daily. Calistoga contracts with the independent Alpha Analytical Laboratory and Caltest Analytical Laboratory for SWRCB reporting. To address the problem of violations the City of Calistoga 1) installed a new sprinkler system and a mixer in the Mt. Washington storage tank, 2) implemented a State approved pre-oxidant at the Kimball WTP to improve the removal of organic carbon prior to disinfection, and 3) resumed a water system flushing program, which had been suspended during the drought.[278] The City of Napa also changed the disinfection method to ozone at the Jamieson Canyon WTP and installed new mixers. Reportedly, these corrective actions from both cities resulted in water quality improvements.[279]

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[275] City of Calistoga, Response to Grand Jury Report on Napa County Water Quality: It's a Matter of Taste, 2019.
[276] City of Calistoga, *2017 Consumer Confidence Report*, June 1, 2018.
[277] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.
[278] Napa County Grand Jury, Napa County Water Quality: It's a Matter of Taste, June 14, 2019.
[279] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.

The City reported that it had contracted with a consultant to help reduce the concentration of THMs/HAAs in its drinking water system and THMs in wastewater effluent discharge.

In 2018, the City was in compliance with primary drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

Recycled Water

The City currently provides Tertiary Title 22 unrestricted reclaimed water for irrigation and landscaping uses through recycled water distribution infrastructure and via trucking. In 2018, the City reused 60 percent of its wastewater flows.

WASTEWATER SERVICES

The City of Calistoga conducts planning for its wastewater services in its General Plan. The Infrastructure Element that provides information and policy guidance related to community infrastructure, including wastewater facilities and services was last updated in 2003. As of the drafting of this report, the City was in the process of updating the Infrastructure Element. The 2003 Infrastructure Element lists the following objectives and associated policies for the City's wastewater services:

Objective I-2.1 Plan, manage and develop wastewater conveyance, treatment and disposal systems in a logical, timely and appropriate manner.

- P1.2-1 The City shall not extend wastewater infrastructure to new areas until existing wastewater infrastructure is brought to adequate standards or unless such extensions contribute to city-wide wastewater infrastructure improvements or correct septic problems.
- P1.2-2 Municipal sewer treatment should generally be available to the City's residents and businesses.

Objective I-2.2 Maintain wastewater infrastructure in good condition.

Objective I-2.3 Promote coordination between land use planning and wastewater treatment and conveyance.

- P2.3-1 Extension of sewer service beyond the current service area shall be prohibited.
- P2.3-2 The approval of new development shall be conditioned on the availability of sufficient capacity in the wastewater treatment system to serve the project.
- P2.3-3 The City shall ensure a fair and equitable distribution of costs for sewer service expansion.
- P2.3-4 Structures with plumbing that are located within city limits shall connect to the public wastewater collection system, unless topography, distance from the public water system or other factors indicate a need for an exemption.
- P2.3-5 If and when wastewater flows to the Wastewater Treatment Plant reach 95 percent of the plant's design capacity of 0.84 MGD, development in Calistoga will be halted until the City provides additional treatment capacity sufficient to accommodate new development.

Objective I-2.4 Enforce City wastewater regulations.

- P2.4-1 Restaurants and others that discharge grease into the wastewater treatment system shall be required to reduce impacts through individual or collective pretreatment facilities that retain wastewater long enough to permit solids to settle and oil and grease to separate.
- P2.4-2 Regulations related to the discharge of mud and silt into the wastewater treatment system shall be enforced.

Objective I-2.5 Promote innovation in the treatment of wastewater.

Additionally, the City plans for its wastewater services in the Capital Improvement Program contained in annual budgets. Calistoga also adopts a Sewer System Management Plan (SSMP), which was last updated in 2018.

Type and Extent of Services

Services Provided

The City of Calistoga provides wastewater collection and treatment services within its boundary area. Similar to the water system, most of the wastewater customers are residential.

Service Area

All sewer connections are located within the city boundaries, with no out-of-agency sewer services provided.

Services to Other Agencies

The City does not provide wastewater related services to any other agencies.

Contracts for Services

Calistoga does not receive contract services related to wastewater from other agencies.

Overlapping Service Providers

No other agencies provide services that overlap with the City of Calistoga. However, approximately half of the properties within the city limits rely on private septic systems.

Private septic systems have the potential to generate problems due to failure and discharge of contaminants into the environment. The City's Municipal Code requires all structures with plumbing which are on properties within two hundred feet of a wastewater sewer to connect to the public system. This measure has not always been enforced, however.[280]

Collaboration

At present, there is not a collaborative relationship amongst the Napa agencies regarding wastewater services, as the service areas are distant and distinct from one another.

Staffing

Wastewater services in Calistoga are provided by the Public Works Department via the Sewer Collection Division and the Wastewater Treatment Division.[281]

The Public Works Department goals include the proper management, operation, and maintenance of all parts of the wastewater collection system, maintaining adequate capacity to convey peak flows, minimizing the frequency and volume of Sanitary Sewer Overflows (SSOs), and mitigating the impact of SSOs. The Sewer Collection Division maintains four sewer lift stations in the City and all of the City's existing sewer mains and recycled water

[280] City of Calistoga, General Plan Infrastructure Element, 2003, p. 1-9.
[281] City of Calistoga, Sewer System Management Plan, 2018, p. 1-1.

mains, making repairs and replacements when necessary and installing new sewer mains and recycled water mains when required. The Wastewater Treatment Division operates and maintains the Dunaweal Wastewater Treatment Plant (WWTP) and disposal system.[282]

Wastewater Flow

The City provides sewer service to approximately 1,370 connections,[283] of which 1,027 are single-family residential, 110 are multi-family residential and 233 are commercial/industrial. Inputs to the sewer system are mainly domestic in origin and include residences, hotels, and geothermal spas. However, there are also several restaurants, a micro-brewery, and two mineral water bottling companies that discharge to the sanitary sewer system.[284]

The City's wastewater flows over time are depicted in Figure 5-14. The table shows the actual recycled water used for irrigation purposes as a percentage of total effluent produced by the WWTP. The percentages shown in the figure do not include spray field irrigation.

Figure 5-14: Average Dry Weather Flows 2014-2018 and Buildout Conditions (mgd)

City of Calistoga Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
ADWF (mgd)	0.43	0.39	0.49	0.45	0.46	0.84
% Recycled	37%	47%	38%	37%	61%	NA

Source: City of Calistoga MSR Request for Information.

In 2017, the third wettest year on record, the City's system experienced a peaking factor (peak wet weather flow/average dry weather flow) of approximately 4.9, which is indicative of a high level of I/I.

The Peak Wet Weather Flow (PWWF) design for the Calistoga WWTP is 4.0mgd. Although the plant exceeded PWWF for one day in 2017 (third wettest year on record) during a heavy storm event, it was below the Peak Maximum Wet Weather Flow (PMWWF) of 7.0 mgd that the plant is designed for. The plant is well below its ADWF capacity and only averaging about 50 percent of the design capacity.

Wastewater Infrastructure and Facilities

The City is responsible for the operation and maintenance of the 18 miles of underground sewer collection system and a wastewater treatment plant. The City of Calistoga's sanitary sewer collection system conveys wastewater for the area within the city limits to the Dunaweal Wastewater Treatment Plant (WWTP).

Wastewater Treatment Plant

Dunaweal Wastewater Treatment Plant is a 0.84 million gallon per day (mgd) average dry weather flow activated sludge tertiary treatment plant. The plant can treat up to 4.0 mgd

[282] City of Calistoga, Sewer System Management Plan, 2018, p. 1-1.
[283] City of Calistoga, Comprehensive Annual Financial Report, 2018.
[284] City of Calistoga, Sewer System Management Plan, 2018, p. i.

during wet weather flow events.[285] Although the treatment plant is capable of treating a peak wet weather flow of four mgd, the headworks structure is designed for flows up to seven mgd.[286]

Figure 5-15 depicts average dry weather flows at the WWTP over the period of 10 years. It appears that the plant has sufficient capacity to accommodate current demand.

The City estimates that based on the permitted treatment plant capacity of 0.84 mgd and current average dry weather flow of about 0.5 mgd along with other allocations and obligations (including current development agreements and building permits), the excess available treatment capacity available for future development amounts to about 0.1 mgd or 123.2 afy. It is estimated that 71 percent of this available capacity will be allocated by 2034.[287]

Figure 5-15: Wastewater Flows at the WWTP

Wastewater Treatment Plant Flows										
User Type	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
Average Dry Weather Flow (Gallons)	490,000	490,000	490,000	500,000	500,000	500,000	500,000	396,000	502,000	440,000
Maximum Daily Permit Dry Weather Flow (Gallons)	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000	840,000

Source: City of Calistoga, *Comprehensive Annual Financial Report*, 2018.

The WWTP was last upgraded in 2002 converting the plant to tertiary treatment capability to provide Title 22 recycled water.[288] The treatment processes consists of primary treatment by coarse bar screening at the headworks structure, secondary treatment by aeration and clarification, tertiary treatment by coagulation, filtration and disinfection. After tertiary treatment, effluent may be discharged to the Napa River from October 1st through May 15th.[289] During the remainder of the year, effluent is distributed for recycled water use or stored for future use in effluent storage ponds.[290]

Collection System

The City's wastewater collection system includes 18 miles of sewer collection piping, 330 manholes, four pump stations, and 50 MG of storage ponds.

The wastewater collection system includes all residential and commercial customers in the City limits. All sewage from the City drains by gravity either to one of the four pump stations or to the WWTP directly. The system also includes recycled water distribution infrastructure described in the *Water Infrastructure and Facilities* section.[291]

To investigate the extent of the infiltration and inflow (I/I) issues in its collection system, the City performed a smoke test, which uncovered a need for repairs to reduce the I/I. The

[285] City of Calistoga, Sewer System Management Plan, 2018, p. i.
[286] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/dunaweal-wastewater-treatment-plant
[287] City of Calistoga, Periodic Report on Growth Management System and Water/ Wastewater Availability, 2018.
[288] City of Calistoga, Water Rate Study, 2018, p. 8.
[289] NPDES Permit No. CA0037966, Order 00-1312.
[290] http://www.ci.calistoga.ca.us/city-hall/departments-services/public-works-department/water-wastewater-treatment/dunaweal-wastewater-treatment-plant
[291] City of Calistoga, Water Rate Study, 2018, p. 8.

City replaced some mains, capped several connections, replaced the Pine Street lift station, replaced the trunk main from Lincoln Avenue to the WWTP, and sealed about 12 manholes. However, reportedly, there is still a lot of old infrastructure which causes high I/I. Calistoga is in the process of designing a project that would replace a section of infrastructure on Cedar Street that is very old.[292]

To provide more details regarding the integrity of the City's sewer system and adequacy of its services this report includes the analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

The City reported that it typically has one to two small (less than 150 gallons) collection system overflows per year. The number of overflows is decreasing as older pipelines are replaced and repairs are made.[293] The City schedules regular maintenance of certain sewer lines that are known to have problems with oil and grease on a quarterly and semi-annual basis. Once a week, the Maintenance Technicians also make observations at manholes, inspect the lift stations, time the pumps, and test the emergency power systems.[294]

Over the last six years (2014-2019) there were three SSO events consisting of one in 2014 and two in 2016. All the spills were Category 3, and no sewage reached surface waters. Averaged over the five-year period between 2014 and 2018 (there was no data for the entirety of 2019 as of the drafting of this report), the City's SSO rate was about three spills per 100 miles of mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[295]

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The City has both a permit for treatment and discharge at the WWTP and a general permit for its collection system.

For its collection system the City encountered one regulatory measure in 2006; there have been no violations. Calistoga received one enforcement action in 2004.

With regard to the WWTP, there were 11 regulatory measures, four of which occurred in the last 10 years and were related to the NPDES permit requirements. Two of these four regulatory measures (from 2013 and 2016) are still active. Additionally, there is an active regulatory measure from 2005 related to water reclamation requirements (WRR).

There was a total of 10 violations at the WWTP, none of which were priority violations. Most of the violations (including the most recent in 2017 and 2018) were for exceeding the dichlorobromomethane limit. Other issues included exceeding allowed Biochemical Oxygen

[292] Interview with the City of Calistoga, Michael Kirn and Derek Rayner, 10/7/19.
[293] City of Calistoga, Sewer System Management Plan, 2018, p. i.
[294] City of Calistoga, Sewer System Management Plan, 2018, p. 4-1.
[295] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

Demand (BOD) levels. Calistoga reported that the City had contracted with a consultant to help reduce the concentration of THMs/HAAs in its drinking water system and THMs in wastewater effluent discharge. The City implemented chloramine disinfection on the wastewater treatment system in place of chlorine and has not had a THM violation since.

The City's WWTP encountered 15 enforcement actions, two of which are still active. Both active enforcement actions, from 2010 and 2016, are cease and desist orders. The 2016 cease and desist order is related to the dichlorobromomethane levels.

Infrastructure Needs

The City identifies the current Cease and Desist Order (CDO) and strict Regional Water Quality Control Board (RWQCB) Permit Conditions imposed with the 2016 renewal of the City's permit to operate a WWTP as the basis of its main infrastructure needs and costs.[296]

The CDO and permit conditions require the City to make system enhancements including the expansion of the reclaimed water storage facilities, relocation or lining of the Riverside Ponds, pipeline improvements, flow measurement of significant geothermal dischargers, identification of point sources of antimony and boron, reduction in disinfection by-products, and reduction of infiltration.[297]

The City's Wastewater Capital Improvement Plan addresses aging infrastructure and Cease and Desist Order requirements.[298] Projects planned for FY 19-20 include rehabilitation of the Palisades Lift Station, replacement of sewer mains in anticipation of street improvement projects, installation of geothermal meters at Roman Spa and Wilkinson's Spa, rehabilitation or replacement of manholes to reduce groundwater infiltration, replacement of main pump station for improved recycled water delivery, improvement at the WWTP headworks, and THM water quality compliance and emergency generator improvements. The City aims to achieve a minimum of 20 percent in wastewater fund reserve in the next two fiscal years and increase the CIP reserves to meet the anticipated needs over the next three fiscal years.[299]

Shared Facilities

The City does not share wastewater infrastructure with other agencies. Due to the distance between the municipal systems, no opportunities for further facility sharing were identified.

[296] City of Calistoga, Water Rate Study, 2018, p. 8.
[297] City of Calistoga, Water Rate Study, 2018, p. 9.
[298] City of Calistoga, Water Rate Study, 2018, p. 13.
[299] City of Calistoga, *Budget*, FY 2019-2020.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, some governance structure options were identified with respect to the City of Calistoga and its water and wastewater services, including possible service structure modifications and reorganizations with other agencies. The feasibility of each of these options is generally assessed in this report; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Countywide Water Agency

There are several challenges to water and wastewater services around the County that could be potentially addressed by alternative governance structures:

- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water services in the County,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for occasional technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Given these challenges, there may be a need for a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from the consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district or a sanitation district. As these options may affect all of the water and wastewater service providers reviewed here, these governance structure options are discussed and assessed in further detail in the *Overview* chapter (Chapter 3) of this report.

While the City of Calistoga has indicated that these options might not be preferred for its municipality, it is interested in continued regional collaboration such as the existing MOU for the Napa Valley Drought Contingency Plan.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to the City of Calistoga regarding its water and wastewater service delivery.

1) The City of Calistoga relies on its General Plan and Capital Improvement Plan as planning documents for its water system, neither of which give a comprehensive assessment of the City's water system and operations. It is recommended that the City develop a water master plan or some other comprehensive water planning document.
2) Occasionally, residents from outside of the city boundaries acquire recycled water in trucks from a station at Calistoga's Wastewater Treatment Plant. There is no limit as

to the quantity of recycled water that can be purchased and trucked as long as the purchaser obtains a prior permit through the City's WWTP. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses for trucking of water be defined in the City's municipal code.

CITY OF CALISTOGA DETERMINATIONS

Growth and Population Projections

- The City of Calistoga's population, as of 2019, was approximately 5,453.
- Calistoga's population increased by about six percent in the last 10 years.
- The City manages its growth to maintain its small-town character through the Resource Management System and the Growth Management System.
- Napa County LAFCO anticipates that the City will grow by about 0.61 percent a year through 2030 with an anticipated population of 5,818 in 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- Although water supply from Kimball Reservoir declined, Calistoga was able to replace the lost supply with the water delivered by the City of Napa. Depending on the availability, Calistoga is able to purchase additional water from the City of Napa in emergencies. Water supply is considered to be adequate to meet Calistoga's current needs.
- Based on the City's existing local reservoir and the State Water project supply, the City does not expect to experience any reductions in water supply during minor drought conditions and expects to experience only minor reductions in water supply during severe droughts.
- Calistoga currently has excess water supply available for future development. Estimates show that by 2034, the City will be using between 26 and 54 percent of this excess availability. Due to the Growth Management System and the Resource Management System, the City is projected to grow at a fairly predictable pace, and the current available water supply will be able to accommodate future needs, at least through 2034.
- The City currently reuses about 60 percent of its wastewater flows. Recycled water from the WWTP is distributed to 17 customers through recycled water infrastructure and trucked to customers outside of the City's boundaries.
- The City appropriately plans for its infrastructure needs in the Capital Improvement Plan. The most significant long-term planned infrastructure project is the upgrade of the Kimball Water Treatment Plant. No unplanned for water infrastructure needs were identified.

- Calistoga has adequate capacity to accommodate existing and projected demand at its wastewater treatment plant. It is estimated that 71 percent of the plant's excess capacity will be allocated by 2034.
- The level of wastewater services offered by the City were found to be marginally adequate based on the integrity of the wastewater collection system and regulatory compliance.
- The City's Wastewater Treatment Plant encountered multiple violations and enforcement actions in recent years, most of which were related to dichlorobromomethane limits. The 2016 Cease and Desist order is also related to the dichlorobromomethane levels.
- The City identifies the current Cease and Desist Order (CDO) and strict Regional Water Quality Control Board (RWQCB) Permit Conditions imposed with the 2016 renewal of the City's permit to operate a WWTP as the basis of its main infrastructure needs and costs related to wastewater services.
- The City's sanitary sewer overflow rate is lower on average than of other wastewater agencies in California. Although there is still a lot of old infrastructure that causes high infiltration and inflow, Calistoga continues to repair and replace old pipelines and other infrastructure thus further reducing I/I and overflows.

Financial Ability of Agencies to Provide Services

- The City of Calistoga has the ability to continue providing water and wastewater services. Water and wastewater revenues were insufficient to cover operations and debt service in FY18, however FY19 was anticipated to end with a slight surplus after debt as rates were updated and increased in FY18 to address shortfalls.
- Utilities met and exceeded their reserve goal of 20 percent reserves. Wastewater operations liquidity exceeded a minimum 1.0 ratio of current assets to current liabilities, and its net position was positive.
- Current water operations assets, however, were exceeded by current liabilities, reducing water operations liquidity to less than a 1.0 ratio; the water operation's net position was negative at the end of FY18, reflecting liabilities exceeding net capital assets.
- Combined utility rates approach a maximum of 5 percent of median household incomes and may exceed the measure with future rate increases, depending on growth in household incomes.
- During FY19 the City's General Fund transferred $250,000 to assure that debt service coverage requirements were met; a portion of that transfer has since been repaid.
- Investments in utility capital assets equaled or exceeded annual depreciation, indicating that the City is generally keeping pace with depreciation of facilities.
- The City reviews and updates its rates regularly based on cost of service studies and CIP forecasts.

Status of, and Opportunities for, Shared Facilities

- The City participates in the Bay Area Integrated Regional Water Management Plan (IRWMP). The City additionally is participating in a Memorandum of Understanding (MOU) among Napa County municipal water purveyors to develop a drought contingency plan.
- Calistoga shares an interconnection with the City of Napa through which the City of Calistoga receives potable treated water from the City of Napa on a regular basis and in case of emergencies.
- The City does not share wastewater infrastructure with other agencies. Due to the distance between the municipal systems, no opportunities for facility sharing were identified.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The City Council holds regular appropriately noticed meetings.
- Calistoga makes available most documents on its website, including minutes, agendas, and financial and planning reports. The website also provides a means to solicit comments and complaints from customers. The City is compliant with the agenda-posting requirements outlined in AB 2257.

Relationship with Regional Growth Goals and Policies

- Calistoga has adopted the Resource Management System and the Growth Management System to manage growth within the City and maintain its small-town character. This objective protects agriculture within and surrounding the municipality, which aligns with the County's Measure J Agricultural Preserve policy.
- The City of Calistoga and four other municipalities of Napa County participate in the Napa Valley Transportation Authority (NVTA), which functions as the region's Congestion Management Agency and provides input to the Bay Area-wide Metropolitan Transportation Commission's (MTC) 20-year Regional Transportation Plan. Plans applicable to Calistoga include *Napa Countywide Pedestrian Plan, Vision 2040 Moving Napa Forward – A Countywide Transportation Plan, Countywide Bicycle Plan, SR 29 Gateway Corridor Implementation Plan,* and *Plan Bay Area.*
- The City participates in the Bay Area Integrated Regional Water Management Plan (IRWMP) that aims to coordinate and improve water supply reliability, protect water quality, manage flood protection, maintain public health standards, protect habitat and watershed resources, and enhance the overall health of the San Francisco Bay.
- The City of Calistoga provides water services to 78 connections outside of its boundary area. Although the exact dates of connection are unknown, most likely water service to these unincorporated properties was established prior to G.C. §56133 and is specifically exempt given that the service was extended prior to January 1, 2001. New water connections to parcels outside the City's jurisdictional

boundary have been prohibited by the municipal code since 2005, which aligns with State legislation and LAFCO policy.

- The City provides recycled water services to 17 customers, one of which (Frediani Ranch) extends outside of the city limits. Recycled water services are exempt from requiring LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133.
- The City makes its recycled water available for trucking through a filling station at the City's Wastewater Treatment Plant. There is no limit as to the quantity of recycled water that can be purchased and trucked as long as the purchaser obtains a prior permit through the City's WWTP. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses for trucking of water be defined in the City's municipal code.

6. CITY OF NAPA

AGENCY OVERVIEW

City of Napa Profile			
Contact Information			
Contact:	Phil Brun, Utilities Director		
Address:	1700 Second Street Suite 100 Napa, CA 94559	*Website:*	https://www.cityofnapa.org/
Phone:	707-257-9521	*Email:*	pbrun@cityofnapa.org
Formation Information			
Date of Incorporation:	1872	*City type:*	Charter-Law City
Governing Body			
Governing Body:	City Council	*Members:*	4 Council Members and 1 Mayor
Manner of Selection:	Election by district (Council Members) Election at large (Mayor)	*Length of term:*	4 years
Meetings Location:	Council Chambers 955 School Street Napa, CA 94559	*Meeting date:*	First and third Tuesday of each month at 3:30 and 6:30 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	79,490 (87,134 Served Water)
Purpose			
Enabling Legislation:	California Constitution XI	*Empowered Services:*	All municipal services
Municipal Services Provided (directly or by contract)	Water, fire protection and emergency medical, police, parks and recreation, street maintenance and traffic, stormwater, solid waste (franchise agreement), cable television (franchise agreement), natural gas and electricity (franchise agreement)		
Area Served			
Size:	18.4 square miles	*Location:*	Central Napa County
Current SOI:	20.0 square miles	*Most recent SOI update:*	2014
Municipal Service Reviews			
Past MSRs:	2014 Central County Region Municipal Service Review 2005 Comprehensive Study of the City of Napa 2004 Comprehensive Water Service Study		

Boundaries

The City of Napa is located in south central Napa County near the base of the Napa Valley. The City is bisected by the Napa River and is bounded to the west by the Mayacamas Mountains and to the east by the Howell Mountains. Agricultural and open-space uses characterize unincorporated areas to the north and southwest of the City. Unincorporated areas to the northeast and south of the City are characterized by rural residential and industrial uses, respectively. The City's boundaries are approximately 18.4 square miles in area.

In 1999, the City of Napa established a Rural Urban Limit Line (RUL) as a part of its Charter[300] to demark the allowable growth for the City. In 2014, voters approved an expansion to the RUL to include the 154-acre Napa Pipe Property. Since the adoption of the RUL, all annexations to the City of Napa that have been approved by LAFCO were consistent with the RUL boundaries.

Since 2010, the City has had 12 changes to its boundaries as outlined in Figure 6-1.

Figure 6-1: City of Napa Annexations Since 2010

City of Napa Annexations		
Reorganization Name	**Acres**	**Date of Approval**
Trancas Crossing Park Reorg	33	2/1/10
Grandview Drive #1 Reorg.	1.1	1/7/13
Forest Drive #2 Reorg.	6	2/4/13
2012 Imola Avenue	1.9	4/1/13
Levitin Way #1	19	10/7/13
West Pueblo Avenue #1	3.34	10/6/14
Wyatt Avenue #1	15.15	10/6/14
Easum Drive #2 Reorg.	3.14	12/1/14
Mallard Court #1	0.2	12/1/14
Napa Pipe Reorg.	109.1	9/22/15
Penny Lane #4 Reorg	0.9	8/7/17
Silverado Trail/Saratoga Drive #2 Reorg.	4.2	8/6/18

Sphere of Influence

Napa's SOI was established by the Commission in 1972 and was most recently updated in 2014. Since then, the City has had two amendments to its SOI to include the County Jail (2014)[301] and the Napa Pipe project area (2015).[302] The City's SOI presently encompasses 20.0 square miles. A thorough documentation of the history of the City's SOI and the reasoning for LAFCO's decisions can be found in LAFCO's 2014 Municipal Service Review on the Central County Region. The City's boundaries and SOI are shown in Figure 6-2.

[300] City of Napa, Charter of the City of Napa, Section 180.
[301] Napa LAFCO, Resolution 2014-02.
[302] Napa LAFCO, Resolution 2015-11.

Figure 6-2

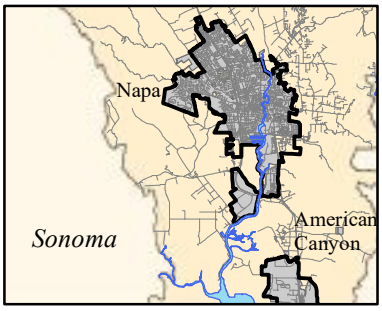
City of Napa

29
Big Ranch Road
Dry Creek Road
Silverado Trail
Redwood Road
Trancas Street
Hagen Road
Partrick Road
Soscol Avenue
Lincoln Avenue
Browns Valley Road
Coombsville Road
Old Sonoma Road
Imola Avenue
Henry Road
Old Sonoma Road
12
Cuttings Wharf Road
Los Carneros Avenue
221
29
Napa River
12

Legend

City of Napa Jurisdictional Boundary

City of Napa Sphere of Influence



N

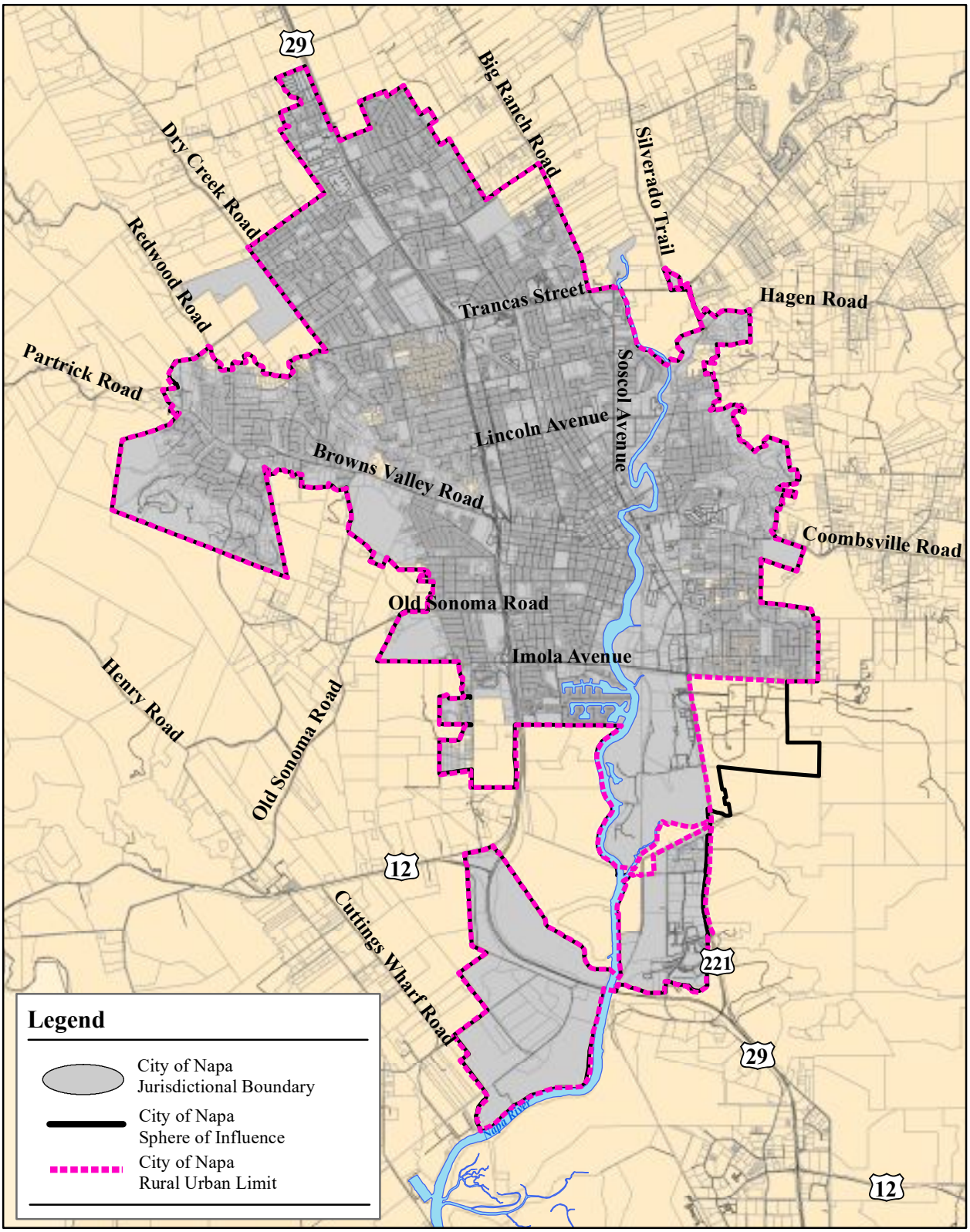
0 0.425 0.85 Miles

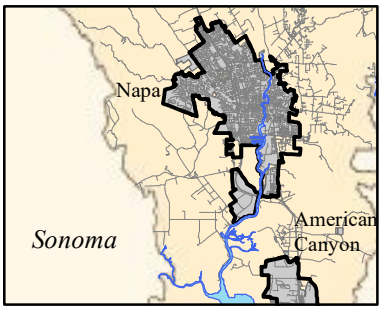
December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

Figure 6-3

City of Napa





N

0 0.425 0.85 Miles

December 17, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

Two territories are within the City's boundaries but outside of its SOI—city-owned Alston Park and Trancas Crossing Park. Typically, this would indicate LAFCO's anticipation that these areas be detached from the City; however, it has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of Napa's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

ACCOUNTABILITY AND GOVERNANCE

The City of Napa is governed by a four-member Council and one Mayor, all elected to staggered four-year terms.

Regular meetings of the City Council take place on the first and third Tuesday of every month at 3:30 and 6:30 p.m. in the Council Chambers. The meetings are broadcast live on the City's website. Agendas and minutes are posted on the website, along with other information pertaining to city services and operations.

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019.

AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda.

Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[303]

The City of Napa has a designated web page for City Council and Commission meetings accessible from the homepage, which appears to meet the legislative requirements; however, the City needs to ensure that it complies with the new agenda posting requisites.

The City demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The City responded to the questionnaires and cooperated with document requests.

[303] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/

GROWTH AND POPULATION PROJECTIONS

According to the California Department of Finance (DOF), the City's population as of 2019 is approximately 79,490. Based on the California Department of Finance (DOF) estimates, the City's population increased from 76,090 in 2009 to 79,490 in 2019, or by about 4.5 percent over the 10-year period.

The City Council adopted the current General Plan in 1998. The General Plan outlines policies, standards, and programs to guide day-to-day decisions concerning Napa's development through the year 2020. The 1998 General Plan contemplates a total buildout population for Napa of 90,000 by 2020, which has not been realized. Given that the General Plan was adopted over 20 years ago, the City is in the process of developing an updated General Plan intended to "take into account Napa's cherished past and vibrant present to build an even more livable, sustainable, and inclusive future." It will outline the City's plan for land use, housing, transportation, community facilities, parks and recreation, historic resources, health and safety, economic development, and more through the year 2040. The updated General Plan will plan for land within Napa city limits, unincorporated land within the City's Sphere of Influence, and some areas outside of city/sphere limits where the City provides public services. At present the City is in the process of developing its vision and guiding principles. The General Plan Update is anticipated to be adopted in the spring of 2021.

Future development is limited by the RUL. Figure 6-3 shows the RUL as compared to the city limits and SOI. Most of the undeveloped area in the RUL has been built out. There are 24 territories that are within the RUL that have not yet been annexed into the City. Of the property available for development in the RUL, only a portion is considered suitable for development due to environmental constraints.[304]

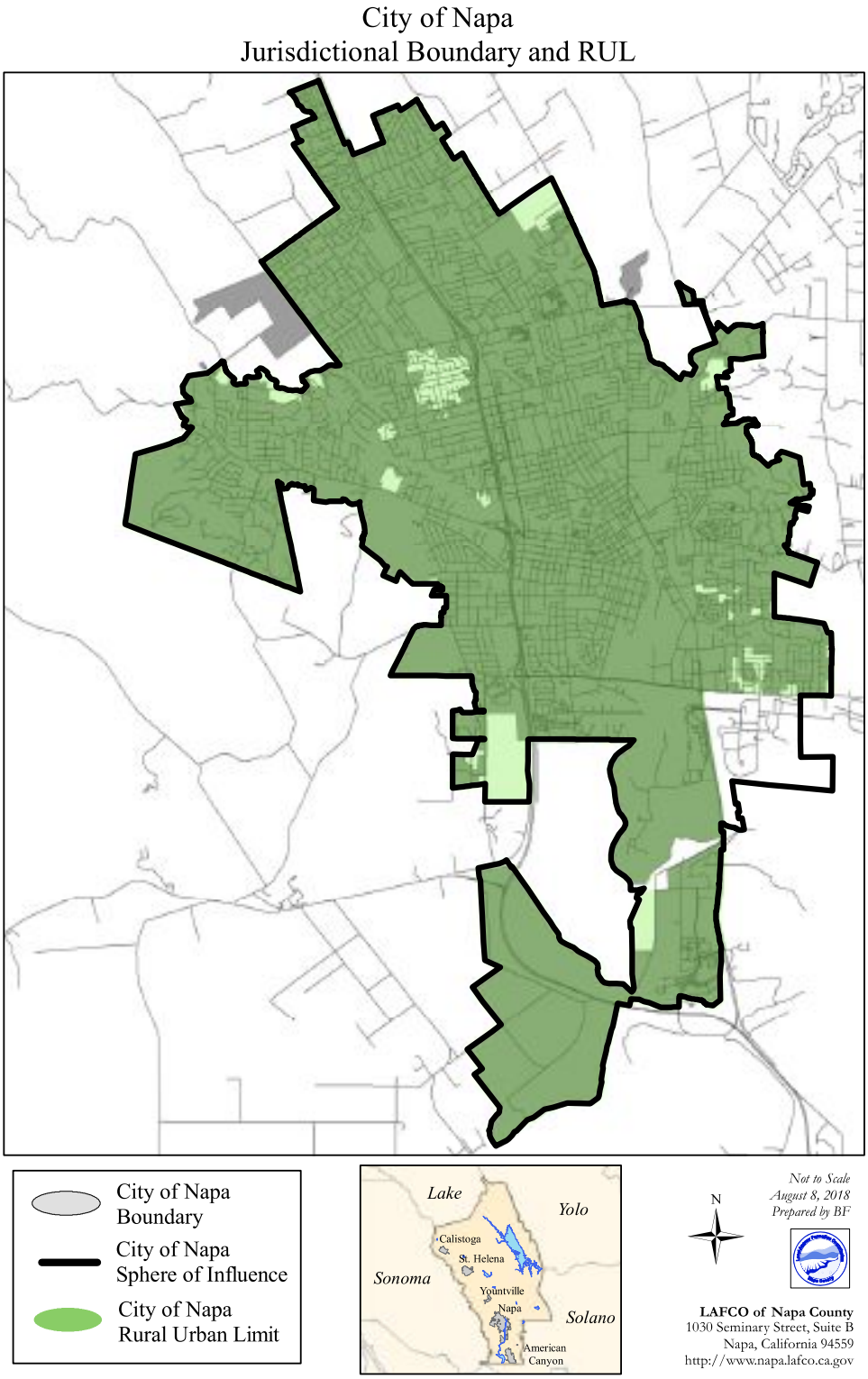
The majority of the unincorporated lands inside the SOI lie within the islands that are either entirely or substantially surrounded by Napa. In the 2005 MSR, it was noted that Napa should be more proactive in working to eliminate the 20 islands within its sphere of influence. The 2014 MSR reported that there continued to be 20 islands of unincorporated territory. As of the drafting of this report there were still 18 areas that met Napa LAFCO's definition of an island within the City.

The City has divided the entirety of General Plan planning area into 12 sub-planning areas, as follows:

1. Linda Vista
2. Vintage
3. Browns Valley
4. Pueblo
5. Beard
6. Alta Heights
7. Westwood
8. Central Napa
9. Soscal
10. Terrace/Shurtleff
11. River East
12. Stanly Ranch

[304] City of Napa, General Plan 2020, 1998, p. 1-4.

Figure 6-3: City of Napa Rural Urban Limit Line



The City of Napa has three large development projects that it is considering or recently considered.

The proposed Napa Oaks II project was to be located at 3095 Old Sonoma Road on the south side of Old Sonoma Road between Casswall Street and Congress Valley Road inside the city limits. The Project consisted of the subdivision of the 80.63-acre hillside property into 51 single family residential lots and associated roadways, a 0.5-acre neighborhood park, and 49.43 acres of open space. The Final EIR was completed in 2017; however, on June 20, 2018, rezoning of the property was denied by the City Council. There are no indications whether the developer will continue to try to develop the area.

The Valle Verde and Heritage House Housing Project is proposed on a 2.9-acre project site located at 3700, 3710, and 3720 Valle Verde Drive, just north of the intersection of Firefly Drive and Valle Verde Drive inside the city limits. The project proposes to rehabilitate the vacant Sunrise Napa Assisted Living Facility with 58-unit single-room occupancy units of permanent supportive housing with on-site supportive services and eight one-bedroom accessible units (Heritage House) facility. The project would also include construction of a new three-story multi-family apartment building with 24-unit apartment complex (Valle Verde). The Final EIR was certified and Use and Design Review Permits were approved by the City Council in February 2020.

The Napa Pipe Project site is located at 1025 Kaiser Road about three miles south of downtown Napa, on the east side of the Napa River, and northwest of the intersection of State Routes 29 and 221. The owner of the 154-acre property has proposed a high-density residential neighborhood with open space, neighborhood-serving retail, restaurants and a hotel on the western portion of the site, and a Costco on the eastern portion of the site. The project is projected to have a buildout residential population of 2,304.[305] The proposed project site was approved for annexation into City of Napa by LAFCO at its November 18, 2019 meeting.

The Association of Bay Area Governments (ABAG) projects that the population of the City of Napa will grow by about 5.45 percent from 2020 to 2030. Thus, the average annual population growth in the City is anticipated to be approximately 0.52 percent between 2020 and 2025 and increase slightly to 0.55 percent between 2025 and 2030. Based on these projections, the City's population would increase from 79,490 in 2019 to 84,256 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017, based on DOF population estimates for these years.[306] The population growth was projected in five-year increments through 2030. According to LAFCO's projections, the population of the City of Napa in 2025 will be about 82,230 and approximately 84,513 in 2030, which equates to 6.3 percent growth in the 10-year period.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

[305] City of Napa, Urban Water Management Plan, 2015, p. 3-7
[306] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[307]

FINANCIAL ABILITY TO PROVIDE SERVICES

The City of Napa provides water services as a City enterprise ("business-type" activity). City departments provide administrative and overhead services to the water enterprise, which in turn reimburses the City departments for those expenses. The water enterprise is supported by rate revenues and charges; no property tax revenue accrues directly to the enterprise, and no General Fund revenues support the enterprise.

The City's CAFR reports City financials and separately reports financial information for the water "business-type" activity.

The following table summarizes selected financial information for the City of Napa's water operations. The agency's Fiscal Profile in Appendix A provides additional detail and indicators.

Figure 6-4: Summary of Selected Financial Information, City of Napa Water Operations

City of Napa Water Operations	
FY18-19 Water Budget Net	**$2,820,000**
Operating Revenues	$30,430,000
Operating Expenditures (inc. debt)	$27,610,000
Ending Fund Balance as % of Operating Revenues	**41%**
Ending Fund Balance	$12,450,000
Debt Service as a % of Operating Revenues	**11.2%**
Total Debt Outstanding	$42,196,000
Monthly Water Rates as a % of Household Income	**0.8%**
Typical Monthly Rate	$52
Median Household Income (2017)	$82,361
Pension+OPEB Total Payments % of Revenues	**7.1%**
Pension+OPEB Total Payments	$2,150,000
Unfunded Pension Liability	$14,550,000
Unfunded OPEB Liability	$0

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

[307] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

The City's budget projected operating shortfalls FY17 through FY19 for its water operations.[308] However, rate increases adopted by the City Council effective December 2017 generated an additional $4.8 million of revenue that enabled the City's mid-cycle budget update to show a positive operating budget for FY19.[309]

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

After accounting for capital expenditures, the Water Fund's projected balance declined about $1.2 million from FY18 to FY19, to an ending balance of $12.4 million,[310] or about 41 percent of operating revenues.

According to the City's 2016 Cost of Service report, the Water Division has six reserves designated for various activities, in unreserved/undesignated fund balances. The reserves consist of the following (as of June 28, 2019):[311]

Operating Reserve	$2.55 mill.
CIP Reserve	$4.55 mill.
Renewal and Replacement (R&R) Reserve	$0.40 mill.
Emergency Reserve	$1.10 mill.
Long Term Water Supply Reserve	$1.13 mill.
Rate Stabilization Reserve	$2.59 mill.

The Water Operations' projected FY19 ending fund balance of $12.4 million[312] provides a cushion for cash flow needs and short-term contingencies, representing 41% of annual revenues.[313] The Water Operations' liquidity ratio, which is positive (current assets exceed current liabilities), indicates the short-term (less than one year) availability of these funds if needed.

Over the longer term (greater than one year) the Water Operations Fund has an unrestricted net position of $21.5 million available;[314] the balance of its net position (assets exceeding liabilities) is invested in capital assets.

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

[308] City of Napa Adopted Budget Fiscal Years 2017/2018 and 2018/2019, Program Summary Water Utility Summary (pg. 192).
[309] City of Napa Mid-Cycle Budget FY 2018/19, Adopted June 5, 2018, Water Fund, pg. 14.
[310] City of Napa Mid-Cycle Budget FY 2018/19, Adopted June 5, 2018, Water Fund, pg. 14.
[311] City of Napa GL 5003: Budget to Actual with Encumbrances by Fund, Key, Object, as of June 28, 2019.
[312] City of Napa Mid-Cycle Budget FY 2018/19, Adopted June 5, 2018, Water Fund, pg. 14.
[313] See City of Napa Water Operations Financial Profile.
[314] City of Napa FY18 CAFR, Statement of Net Position, Proprietary Funds, Water Utility, pg. 41.

The Water Operations Fund has a significant net position of $75.6 million which represents the value of assets in excess of liabilities. The net position is primarily invested in $54 million of net capital assets. Unrestricted funds (including reserves) total about $21.5 million, which include about $7.2 million of current and noncurrent receivables.[315]

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility.[316]

Based on a 2017 cost of service study,[317] the City adopted a 5-year schedule of water rates and increases that took affect December 1, 2017; the increases average 2 to 3 percent annually. Rates for customers outside of the City are about 44% higher than rates for customers in the City.[318]

The City of Napa offers a water bill discount to assist customers "who may be struggling to meet their basic needs"; the 'RateShare' program, adopted by the City Council on April 17, 2012, currently offers a $25 discount on bi-monthly bills.[319]

The City collects Water Capacity Fees from new development;[320] the current balance is approximately $800,000.[321]

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10% and 30% of their total operating revenues on debt service.[322]

In February 2016 the City refunded the Series 2007 Water Revenue Bonds and paid off other debt obligations of the Water Enterprise, through the issue of the Series 2016 Water Revenue Bonds for the principal amount of $43.5 million.[323] As a result, the City of Napa's water operations spend about 11 percent of operating revenues for debt service, on the lower end of the scale for water and wastewater agencies.[324]

In FY 2016, the City established a Rate Stabilization Reserve Fund of $1.6M to meet debt service ratio requirements.[325] Due to revenue collection falling short of the bond covenant requirement of 1.20 times debt service, the City set aside funds to maintain the Water Enterprise Fund's AA- (double A minus) Bond Rating. This rating is important for the City to

[315] City of Napa FY18 CAFR, Statement of Net Position, Proprietary Funds, Water Utility, pg. 41.
[316] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[317] Water Cost of Service Rate Study, Black and Veatch, Prepared for the City of Napa Water Division, Sept. 20, 2017.
[318] City of Napa Rate Schedules, Adopted Nov. 7, 2017.
[319] City of Napa RateShare Program (downloaded from City website).
[320] City of Napa Water Service Fees, FY2018-19.
[321] City of Napa Response to Financial Questions 2019-06-25.
[322] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[323] City of Napa FY18 CAFR, Note 7D Water Fund Obligations, pg. 73.
[324] Appendix A-6, City of Napa Fiscal Profile.
[325] Water Cost of Service Rate Study, Black and Veatch, Prepared for the City of Napa Water Division, Sept. 20, 2017, pg. 20.

have the ability to secure funding for long-term projects that exceed the capacity of rate-payers to support on a pay-go basis. The City's bond rating was raised to AA in 2019.[326]

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts. The potential increases in current City of Napa pension costs do not appear to be a significant adverse factor relative to its total budget; however, increasing pension costs could result in increases to water rates.

The City of Napa provides pension benefits to its employees through the City's CalPERS plans. The City's Water Enterprise's unfunded pension liability is approximately $14.6 million.[327] The City's total pension liabilities are approximately 64 percent funded as of the end of FY17.[328]

The City participates in the California Employer's Retiree Benefit Fund (CERBT), which provides post-retirement benefits to retired employees. A retiree is generally eligible for a fixed monthly payment. The City's net OPEB liability for all City employees is $6.8 million.[329] The City's CAFR does not allocate OPEB liabilities to the Water Utility.

The combined water operation total pension payments (normal and unfunded liabilities) plus its estimated proportional share of OPEB payments is about $2.2 million annually, or 7.1 percent of operating revenues.[330]

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The City's financial reports show that the value of depreciable water capital assets increased by about 3.7 percent from FY17 to FY18 indicating that capital expenditures exceeded depreciation losses.[331]

According to the City's Cost of Service Study, the City funds its Capital Improvement Program (CIP) through a combination of debt service, capacity fees and rate-generated revenue.[332]

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

[326] S&P Global Ratings, Napa City, California, Outstanding Water Revenue Bonds, Series 2016, letter to the City, May21, 2019.
[327] City of Napa FY18 CAFR, Proprietary Funds Statement of Net Position, pg. 41.
[328] City of Napa FY18 CAFR, Note 10 – Employee Retirement System (Misc. Plan), pg. 84.
[329] City of Napa FY18 CAFR, Proprietary Funds Statement of Net Position, p. 41)
[330] Appendix A-6, City of Napa Fiscal Profile.
[331] City of Napa FY18 CAFR, Note 6 (pg. 71) – Transmission and Distribution.
[332] Water Cost of Service Rate Study, Black and Veatch, Prepared for the City of Napa Water Division, Sept. 20, 2017, pg. 17.

Website – The City's website includes descriptions of and access to current and past water planning and financial documents.

Comprehensive Annual Financial Report (CAFR) -- The City includes its water and operations in its CAFR which is published in a timely manner within six months of the end of the fiscal year.

Capital Improvement Program – The City's annual CIP includes water facilities and is updated each year as part of the budget process. The Water Division developed a 20-year Master Plan in 2010[333] to identify system needs including routine testing, inspections, maintenance, and renewal and replacement requirements which provided the basis for establishing rates.

Asset Management Plan – The City is in the process of implementing the Lucity Workorder Asset Management Plan initially focusing on the distribution network; the routine preventative maintenance program for treatment plan assets and pump stations is being migrated into the system.[334]

Financial Forecasts – The City's Water Rate Study[335] forecasts cash flows over a five-year period. The City plans to perform the next long- term financial plan in 2021 in anticipation of a bond issuance or funding mechanism for major capital improvements of the Hennessey Treatment plant and increased investment including lining and replacement of aging pipes.[336]

[333] [need reference]
[334] City of Napa Response to Financial Questions 2019-06-25.
[335] Water Cost of Service Rate Study, Black and Veatch, Prepared for the City of Napa Water Division, Sept. 20, 2017.
[336] City of Napa Response to Financial Questions 2019-06-25.

WATER SERVICES

The City plans for its water services in several planning documents, including the Urban Water Management Plan, the Capital Improvement Plan, and the Water Cost of Service Rate Study.

Additionally, the City's General Plan 2020 includes goals and policies to achieve those goals regarding the City's water services.

Goal CS-9: To ensure adequate, reliable, and safe water supplies to the community, even through drought periods of similar intensity as the 1986-1992 drought.

> Policy CS 9.1: The City shall continue to implement water conservation programs that show promise of saving significant amounts of water at a reasonable cost.
>
> Policy CS 9.2: The City shall acquire or develop additional water supplies that would be available during drought periods to offset the shortages anticipated from existing supplies.
>
> Policy CS 9.3: The City of Napa shall determine the firm yield available from existing and future SWP water supply sources and shall monitor and, if necessary, limit growth (new water system hook-ups) in order to guarantee drought year water supplies to existing and proposed development.
>
> Policy CS 9.4: The City shall implement the "Water System Optimization and Master Plan" (adopted 11/97) which refines policies and implementation programs for efficient water supply, storage, and delivery for projected demand to the year 2020.
>
> Policy CS 9.5: The City shall evaluate the feasibility and pursue the efficient use of reclaimed wastewater in appropriate locations to offset the demand for potable water supplies.
>
> Policy CS 9.6: The City shall promote voluntarily conservation efforts to conserve water to a reasonable extent during multi-year droughts to avoid inordinate expenditures for new water supplies.
>
> Policy CS 9.7: The City shall work cooperatively with other agencies having similar needs to identify water supply options that could have mutual benefit and consider entering into joint powers agreements to develop and manage a candidate project.
>
> Policy CS 9.8: The City shall encourage state and federal agencies to cooperatively establish programs and projects that will enable the State Water Project to meet its contractual obligations to the city predictably and reliably.
>
> Policy CS 9.9: The City shall monitor the State Water Contract and work with other agencies to ensure continued and increased reliable water supply deliveries from the State Water Project.
>
> Policy CS 9.10: The City shall seek to control urban development in the city's Water Service Area beyond the RUL. To this end, the City shall continue applying Policy Resolution #7 (Outside Water Service Policy) as an effective means of limiting and preventing urban development beyond the city's RUL.

Type and Extent of Services

Services Provided

The City of Napa provides potable water to residential, commercial, industrial, and agricultural customers within the City and portions of the surrounding area. All distributed water is treated at one of the City's three treatment plants— Hennessey Water Treatment Plant, Milliken Water Treatment Plant, and the Edward I. Barwick Jamieson Canyon Water Treatment Plant. The City is a drinking water provider only and does not distribute raw water to customers. Recycled water demands within the City's service area are met by Napa Sanitation District (NapaSan) via their Soscol Water Recycling Facility (WRF).

Service Area

While the vast majority of city water is delivered to customers within the City limits, the City does provide water outside the city limits and even outside the RUL, including to customers in the Monticello Road/Silverado Resort community and the independent Congress Valley Water District (CVWD), and to accounts along the Conn Transmission Main. The City provides water service within an area generally coinciding with its RUL; however, approximately 10 percent of all city water customers reside outside the RUL. There is a high concentration of connections northeast of the RUL in the Vichy/Silverado Country Club area. In total the City provides service to 2,213[337] connections outside the City limits. The City also serves the approximately 1,175 residents of Napa State Hospital located outside the City limits and RUL.[338] Of the out-of-area service connections, 40 were added after 2001[339] when it was legislated that cities and special districts must have LAFCO approval to extend services beyond their boundaries.

It was noted in LAFCO's 2004 MSR of the City that Napa needed to revisit its outside water service program and comply with a new requirement for cities and special districts to only provide new or extended services beyond their boundaries after receiving approval from LAFCO. Since then, the City has been diligent in receiving LAFCO approval for extension of services beyond its boundaries.

The process of adding outside services has been streamlined for health and safety issues, as the LAFCO Executive Officer can approve the extension with agreement by the Commission Chair and present the extension to the Commission for ratification at the next meeting.[340] The City noted that there is a need to further define in policy what constitutes a health and safety issue.

The City has adopted policy limiting extension of services outside of the RUL in its Charter Section 180. City Charter Section 180 is as follows:

B. Except as expressly provided herein, no City of Napa water service shall be provided for any area or site outside the RUL. The City of Napa shall provide City water service to all properties within the incorporated area of the City of Napa and may, in its sole discretion,

[337] As reported in correspondence from Doug DeMaster, Associate Engineer, July 24, 2019.
[338] City of Napa, Urban Water Management Plan, 2015, p. 3-3.
[339] Actions indicated as approved after January 1, 2001 in Napa Outside Water Service Index.xslx.
[340] Local Agency Formation Commission of Napa County, Policy on Outside Service Agreements, adopted November 3, 2008.

provide City water service for areas or sites outside the RUL and outside the incorporated area of the City of Napa as of March 1999 as follows:

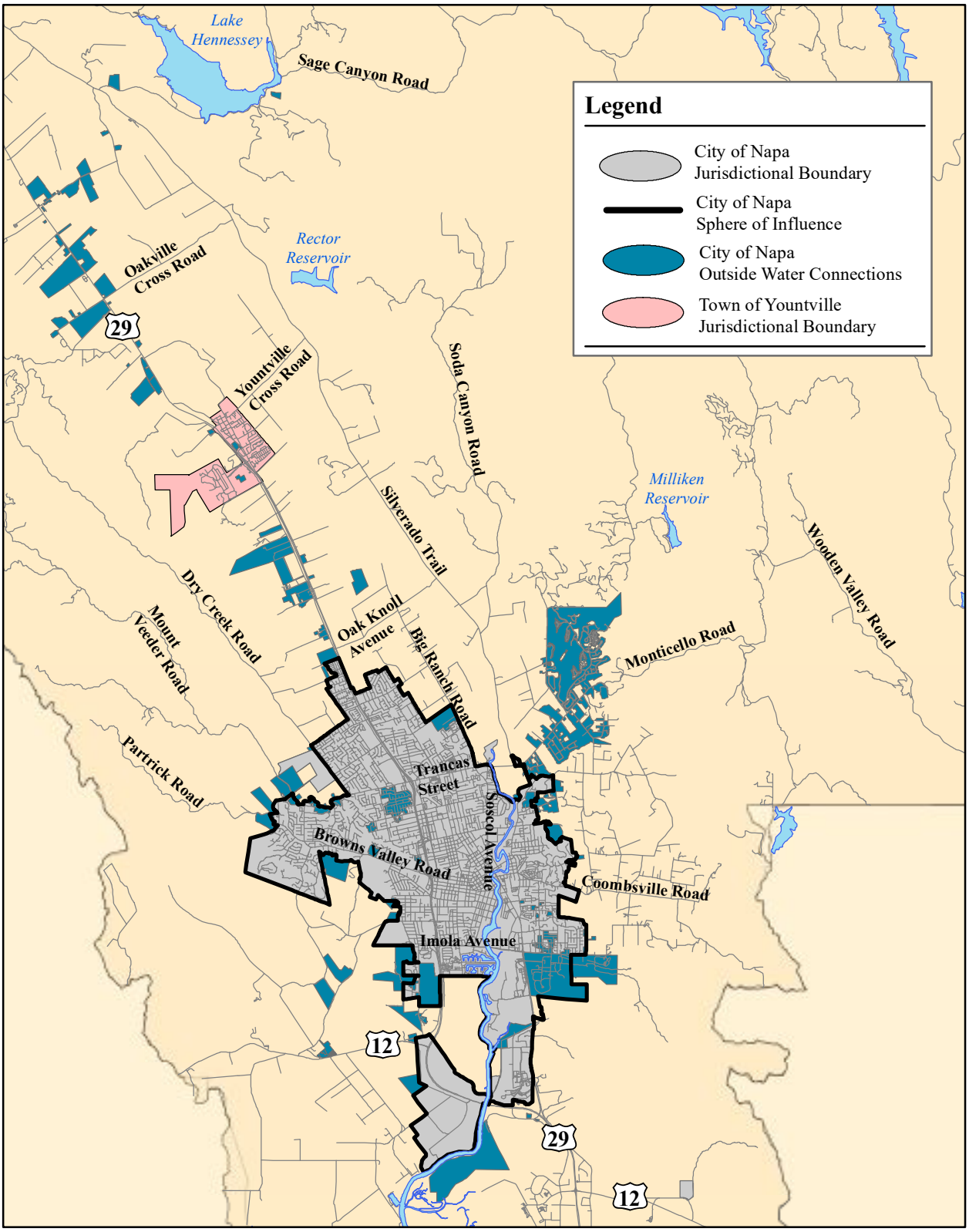
- To be used for municipal purposes by any other incorporated city or municipality;
- To be used for community facilities, recreational facilities, parks, public service facilities including, but not limited to, fire and police stations and substations, any similar facilities, as well as any public school facilities sponsored or developed by the City of Napa, the Napa Valley Unified School District or other public educational bodies;
- If such area or site qualifies for interruptible surplus agricultural water service pursuant to Napa Municipal Code Section 13.04.050 as the same may be amended from time to time;
- For existing uses which have been provided with City of Napa water prior to the effective date of this charter amendment;
- As necessary to fulfill any contractual obligation existing prior to the effective date of this charter amendment;
- For any other uses approved by four-fifths (4/5) vote of the City Council.

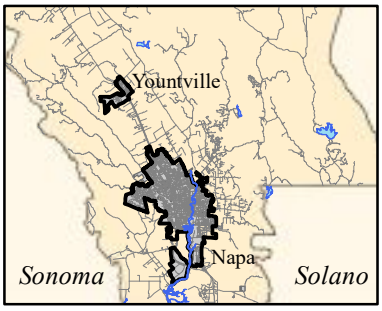
Also, in 1999, the City adopted Policy Resolution No. 7 determining that residential properties within the RUL but not within the City Limits shall be required to annex to the City prior to receiving water services.

The City makes its potable water available for trucking via a filling station or rental of a hydrant meter. Historically, this trucked water was primarily used for construction sites. At present, there are no limitations on who may make use of the water for trucking; however, the City is in the midst of developing policy to create possible geographical and use limits. Users must sign up and pay the associated fee, but the water supplied is surplus water with no guarantee of availability. In 2018, there were 118 trucked water users or hydrant meter rentals; however, some truckers serve multiple end-use customers.

Figure 6-5

City of Napa





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December 26, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
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Napa, California 94559
http://www.napa.lafco.ca.gov

Services to Other Agencies

Southwest of the RUL, the independent Congress Valley Water District (CVWD) contracts with the City of Napa to supply water and maintain its system. The City provides all services related to the operation of the water system. Additionally, CVWD customers are billed directly by the City for water services. Given that the City provides all services to the community, previous MSRs have identified the need for the district to be dissolved and services continued by the City. The original agreement was set to expire in 2017; however, their current agreement was recently extended to 2022 in order to establish a water service transition plan.

The City also exports water to the Cities of American Canyon, St. Helena, and Calistoga, the Town of Yountville, and the California Veterans Home. Calistoga and American Canyon have contractual entitlements to SWP water from the North Bay Aqueduct (NBA), and the City simply treats their water at its Edward I. Barwick Jamieson Canyon Water Treatment Plant (WTP) and wheels it to them. St. Helena and Yountville are also "wholesale" customers of the City, as any city water they purchase is then sold to their own retail customers who make end use of the water. St. Helena is contractually obligated to purchase at least 600 acre-feet of City of Napa water each year. Yountville and Veterans Home purchases of City water are rare and minimal due to their own sufficient local supply sources.[341] The City also provides 20 hours of water conservation education in Yountville, which includes a booth at Yountville Days.

Contracts for Services

The City does not contract for water services from other agencies.

Overlapping Service Providers

In 1998, the City and NapaSan entered into a 20-year agreement that permits NapaSan to solicit and provide recycled water service within a specified portion of the City's water service area. The agreement originally defined the recycled service area as lands east of the Napa River, south of Imola Avenue, west of Highway 221, and north of American Canyon, along with other specified areas. Generally, this means NapaSan recycled water can be made available to Napa State Hospital, Stanly Ranch, Napa Valley Commons, South Napa Marketplace, and other nearby sites. The agreement includes a "make whole" calculation to ensure that City water revenues are not adversely affected by existing customers converting to recycled water. NapaSan also agreed to furnish up to 50 af per year to Kennedy Park and Napa Valley College at no cost.[342] A 1998 amendment to the agreement added Tulocay Cemetery and Silverado Middle School to the recycled service area. The existing agreement terms automatically extend if the agreement is not renewed; however, the City of Napa and NapaSan are in the process of reviewing the agreement for renewal.

There are no overlapping potable water service providers within the City of Napa; however, both the Cities of Napa and St. Helena provide water services to the Rutherford Road area, which is outside both cities. There is an opportunity for greater collaboration between the two cities to ensure that duplicative services do not occur in other locations.

[341] City of Napa, Urban Water Management Plan, 2015, p. 3-3.
[342] City of Napa, Urban Water Management Plan, 2015, p. 6-8.

Collaboration

The City participates in the Bay Area Integrated Regional Water Management Plan (IRWMP).

The City additionally is participating in a Memorandum of Understanding (MOU) among Napa County municipal water purveyors to develop a Napa Valley Drought Contingency Plan. As part of this collaboration, participating agencies are evaluating opportunities for supplemental water supply and constraints of their current utility systems.

Staffing

The Water Division of the Utilities Department is responsible for the operation, maintenance, and improvement of the municipal drinking water utility owned by the City of Napa. The Division is led by the Deputy Utilities Director who reports to the Utilities Director. The Water Division is organized into four sections—Water Treatment, Water Distribution, Engineering, and Water Resources/Conservation.

Water Supply

The City of Napa currently meets its demands by supplying water from three major sources—Lake Hennessey, Milliken Reservoir, and the State Water Project (SWP) water delivered through the North Bay Aqueduct (NBA).

Lake Hennessey and Milliken Reservoir are two local surface water reservoirs along tributaries of the Napa River. SWP water is supplied through an agreement with the Napa County Flood Control and Water Conservation District (NCFCWCD), the SWP contract administrator for several municipalities in Napa County. Water from these three sources is introduced into the City of Napa distribution system from three separate water treatment plants. Hennessey WTP treats the Lake Hennessey supply. Milliken WTP treats Milliken Reservoir water. SWP water is treated at the Edward I. Barwick Jamieson Canyon WTP southeast of the City.

Lake Hennessey

Lake Hennessey is the major local water source for the City of Napa system. Located approximately 13 miles north of the City, Lake Hennessey was formed in 1946, and became the City's primary source for the next several decades until supplemented by SWP entitlements in the late 1960's. The City's water rights to Lake Hennessey are secured through a permit with the SWRCB Division of Water Rights. The permit authorizes the City to divert and store up to 30,500 af per year from Conn Creek for beneficial use. Lake Hennessey has an approximate storage capacity of 31,000 af. Lake Hennessey's storage capacity is much greater than its average annual inflow of 19,692 af.

Milliken Reservoir

In 1923, the Milliken Dam was constructed, which allowed storage of water from Milliken Creek, a tributary of the Napa River. The resulting Milliken Reservoir served as the City's sole water source until Lake Hennessey was created in the 1940's. Located approximately five miles northeast of the City, Milliken Reservoir is now a seasonal source of supply used in the high-demand summer period when turbidity levels in the reservoir can be effectively treated

at the Milliken WTP. The City's water rights to Milliken Reservoir are secured through a license with the SWRCB. It authorizes the City to divert and store up to 2,350 af of water per year from Milliken Creek for beneficial use. Milliken Reservoir has an approximate storage capacity of 1,390 af, much smaller than its average annual inflow of 3,656 af. The storage capacity of Milliken Reservoir is limited to 1,390 af due to seismic stability concerns by the State Division of Safety of Dams that necessitated the boring of five holes which have lowered the reservoir storage elevation by 16 feet. The City's UWMP (2015) assumes a maximum yield for Milliken of only 700 af in all but critical single-dry years.[343]

State Water Project

In 1966, the City added a third source of supply by sub-contracting with NCFCWCD for imported surface water from the SWP. The NCFCWCD acts as the SWP contract administrator on behalf of municipalities in Napa County. The SWP diverts water from the Sacramento-San Joaquin Delta at the Barker Slough Pumping Plant east of Vacaville and conveys it approximately 21 miles via the North Bay Aquaduct (NBA) to Cordelia Forebay to serve contractors in Napa and Solano Counties.

The original 1966 agreement with NCFCWCD provided the City of Napa with gradually increasing annual allotments of SWP water, known as "Table A" entitlements. In 2009, the SWP contract was amended to accelerate the entitlement schedule, with the City granted its full 2021 entitlement of 18,800 beginning in 2010. The current SWP contract was extended to 2085.

In 2000, the City obtained an additional 1,000 af per year of SWP water in a transfer agreement between NCFCWCD and the Kern County Water Agency (KCWA). The City of Napa subsequently purchased the City of St. Helena's 1,000 af KCWA entitlement in 2006. In 2009, the City signed a water transfer agreement with the Town of Yountville, obtaining Yountville's total SWP Table A entitlement of 1,100 af per year, along with its NBA conveyance capacity.

The City's complete current Table A entitlements (21,900 af) are shown below. These amounts represent the absolute maximum annual yields of Table A water. Actual deliveries are determined by DWR depending on each year's hydrologic conditions.

- City of Napa - 18,800 af
- 2000 KCWA Purchase - 1,000 af
- 2006 St. Helena Purchase – 1,000 af
- 2009 Yountville Purchase – 1,100 af

Additional SWP water beyond the Table A entitlements is available to the City of Napa depending on the year's conditions. Carryover Water is water from a previous year's entitlement that was available for use, but exceeded demands, and was therefore stored for use in subsequent years. Carryover water is stored in San Luis Reservoir and if San Luis Reservoir spills, the carryover water is considered the first water to be lost. The City typically uses carryover water in the first few months of the year and will continue to do so. Over the

[343] City of Napa, Urban Water Management Plan, 2015, p. 6-3.

long term, this is not considered new supply but taking better advantage of existing SWP entitlements.

Actual Table A deliveries in any given year have been bolstered by a 2013 legal settlement with DWR. Resolution of Solano County Water Agency et. al. v. Department of Water Resources, known as the "Area of Origin" settlement, entitles the City of Napa to the North of Delta allocations and Advanced Table A program.

Each year, DWR calculates a separate SWP Table A allocation for North of Delta (NOD) contractors in Solano, Napa, and Butte Counties and Yuba City. The NOD Allocation is expected to be five percent to 25 percent beyond the standard Table A allocation each year, depending on hydrologic conditions and regulatory and operational constraints applicable to only the North Delta.

Additional SWP water becomes available from a credit account once all available Table A supplies are exhausted, including any carried over from previous years. Known as Advanced Table A, this credit account can provide the City of Napa an additional 3,772 af in a year when the standard (South of Delta) allocation is less than or equal to 20 percent. When the standard allocation is greater than 20 percent, the City may borrow 5,659 af. An additional amount may be requested if Solano County Water Agency and Yuba City do not use their maximum Advanced Table A. The cumulative balance in the Advanced Table A account must not exceed 21,900 af and it resets to zero whenever Lake Oroville spills.

"Article 21 Water" is an interruptible surplus SWP supply the City uses. Article 21 of the SWP contract allows for the purchase of surplus water beyond Table A quantities, provided that the contractor can take delivery during the wet season when excess water is available in the Delta without affecting Table A deliveries to other contractors. NCFCWCD uses an annual delivery schedule that maximizes the City's use of Article 21 prior to consumption of carryover water.

In dry years, DWR decides whether to operate a Dry Year Water Purchase Program based on Article 56 of the SWP contract. Also, a "Turn-Back Pool" may be established, with water from agencies not using their full Table A entitlement distributed to other agencies requesting additional supplies. NCFCWCD has purchased water through the program and will continue to do so, but it is not considered a reliable source, due to its unpredictable nature.

Figure 6-6: Summary of Potable Water Sources

City of Napa Potable Water Sources				
Source Category	**Source Name**	**Maximum Yield (afy)**	**Normal Year (afy)**	**Dry Year (afy)**
State Water Project	SWP "Table A" Water	21,900	13,578	1,095
	Carryover Water	Varies by year	Varies by year	Varies by year
	North of Delta Allocation	5% to 25% above the standard Table A allocation	5% to 25% above the standard Table A allocation	5% to 25% above the standard Table A allocation

City of Napa Potable Water Sources				
Source Category	**Source Name**	**Maximum Yield (afy)**	**Normal Year (afy)**	**Dry Year (afy)**
	Advanced Table A Program	5,659	5,659	3,772
	Article 21 Water	Varies by year	Varies by year	Varies by year
Surface Water	Lake Hennessey	31,000	17,500	11,500
Surface Water	Milliken Reservoir	700	700	500
Total		>59,259	>37,437	>16,867
Source: City of Napa 2015 Urban Water Management Plan.				

Recycled Water

As mentioned, the City of Napa is a drinking water supplier only, and recycled water for non-potable uses is provided in the City's water service area by Napa Sanitation District (NapaSan). NapaSan has the capacity to produce up to 3,700 af of recycled water; however, at present average production is about 2,200 af a year depending on inflow and demand. Approximately 24 percent of the total recycled water produced and delivered by NapaSan is provided within the City's "water service area" that applies under the aforementioned agreement.

Water Production

Figure 6-7 shows the amount of potable water produced by the City from 2014 through 2018. The City receives a majority of its water from the SWP water source. Over the last five years SWP water has comprised 62 percent of the City's water produced. Lake Hennessey water has provided 36 percent and Milliken Reservoir two percent. As shown, the City has produced water well within its capacity even in dry years.

Figure 6-7: Potable Water Production by Source (2014-2018), acre-feet

Potable Water Produced					
	2014	**2015**	**2016**	**2017**	**2018**
Lake Hennessey	2,801.55	3,443.72	6,163.38	7,568.71	4,294.39
Milliken Reservoir	564.99	733.61	0	242.99	0
SWP	11,303.64	8,403.50	6,606.87	5,724.00	9,153.82
Total	14,670.18	12,580.82	12,770.25	13,535.69	13,448.21
Source: City of Napa Request for Information, January 23, 2019.					

Emergency Preparedness

To address outages during a supply interruption, the City has developed an Emergency Response Plan (ERP). Given that the City has three separate supply sources, which are supplied via three treatment plants, there is depth in the supply sources to allow for backup supply in case of outages in one of the three systems. Two of the three water treatment plants can produce 20 mgd, have auxiliary power supplies, their own water sources, and redundant

systems for backup purposes. The plants are separated by more than 20 miles, lessening the likelihood of impacts on both plants at the same time.

Should the City lose all of its sources at once, the system's tank storage of 33 mg can help the City weather the emergency. Additionally, in an extreme emergency, the City is able to deliver raw water to town from both Lake Hennessey and Milliken Reservoir. That allows the City to provide water for fire protection even if the pipelines have numerous leaks. The raw water would also be available for human consumption as long it was boiled or treated with iodine. With some events, it could be necessary for the City to use an emergency source of supply to maintain system pressure. The City has intertie connections with the Cities of American Canyon, St. Helena, and Calistoga, and the Town of Yountville. American Canyon would be capable of supplying Napa with approximately 4 mgd for a limited time.

To address supply shortages as a result of drought conditions, or other conditions that may require use reduction regulations, the City has developed a Water Shortage Contingency Plan and Moderate and Severe Water Shortage Regulations contained in Napa Municipal Code Chapters 13.10 and 13.12. These regulations were enacted during the drought between June 2015 and May 2016, when the State required a 20 percent reduction in total water consumption compared to those months in 2013. Through public outreach and implementation of its updated Moderate Water Shortage Regulations, the City beat its target. Some months even saw savings of 30 percent or more, and the Napa community achieved 25 percent savings for the overall 12-month period. Largely through reductions in lawn irrigation, the City of Napa demonstrated the large savings potential that is available in the event of a local supply shortage.

Water Demand

The City's water system served 25,841 municipal connections in 2018.[344] The breakdown by customer type is shown in Figure 6-8.

Figure 6-8: Water Connections by Customer Type (2018)

City of Napa Water Connections in Service Area	
Connection Type	**Potable Water**
Single-family Residential	21,777
Multi-family Residential	1,178
Commercial/Institutional	1,658
Industrial	0
Landscape Irrigation	489
Agricultural Irrigation	28
Other (includes Fire Services)	711
Total	25,841

Source: City of Napa, Annual Report to the Drinking Water Program for the Year Ending December 31, 2018

Approximately 89 percent of the City's water accounts are single-family or multi-family residential. Commercial and institutional customers are primarily confined to the downtown

[344] City of Napa, Large Water System Annual Report to the Drinking Water Program for Year Ending December 31, 2018.

area and shopping complexes along several major streets. The City does serve 28 agricultural accounts outside City limits, primarily located along the Conn Transmission Main. By agreement, these are interruptible services that can be cut off during extreme water supply shortages.[345]

All of the City's customers are metered, with the exception of fire services. Since 2018, separate fire services include tattle meters to ensure accounting and reduction of non-revenue water. The 2015, 2016, 2017, and 2018 demand for potable water in the City's water service area is shown in Figure 6-9. Exports to Calistoga and American Canyon are excluded, as the City simply treats and delivers those agencies' own SWP supplies.

Figure 6-9: Demand for Potable Water by Customer Type (acre-feet)

Demand for Potable Water					
User Type	**Level of Treatment When Delivered**	**2015**	**2016**	**2017**	**2018**
Single-Family Residential	Drinking Water	5,462	5,450	5,934	6,048
Multi-Family Residential	Drinking Water	1,600	1,615	1,667	1,672
Commercial/Institutional/ Governmental	Drinking Water	2,669	2,762	2,898	3,051
Landscape	Drinking Water	739	648	709	773
Agricultural Irrigation	Drinking Water	195	218	135	130
Sales/Transfers/Exchanges to other agencies	Drinking Water	582	586	620	679
Other Miscellaneous	Drinking Water	29	29	31	31
Losses (Real and Apparent)	Drinking Water	758	878	1,147	643
TOTAL		**12,034**	**12,186**	**13,141**	**13,027**

Source: Adapted from 2015 Urban Water Management Plan, p. 4-3, Table 4-1 and City of Napa Annual Reports to the Drinking Water Program for 2016, 2017, 2018.

Population is a key factor in determining water use; however, reductions in per capita water use over the last decade have offset gradual population increases. Although the City of Napa service area population has been slowly rising, total water use declined dramatically through 2015 as a result of conservation efforts and the statewide mandatory urban water use reductions during the drought. Use in 2015 represents the lowest annual demand on the system since the 1987-1992 drought, when population served was 15,000 fewer and extensive hotel development had yet to occur. The moderate increase in total water demand since 2015 is driven largely by a "drought rebound" effect with resumption in landscape irrigation in the single-family residential and commercial sectors.

The City's detailed demand projections for potable water through 2035 are shown in Figure 6-10 and summarized in Figure 6-11 as compared to the projected water supply during a normal year. Residential demand represents approximately 62 percent of the City's anticipated total water demand. As anticipated, residential demand increases somewhat from 2015 levels, but it is not anticipated that demand will return to historical peak levels.

[345] City of Napa Urban Water Management Plan, 2015, p. 3-6.

Figure 6-11 compares demand projections and available water supply projections in an average year. The City's raw water sources are projected to have a combined 31,778 af available in an average year, with NapaSan recycled water supplies/demands increasing over the period. Recycled water supply volume for users in the City service area is equivalent to demand.

Figure 6-10: Projected Demand for Potable Water, acre-feet

Projected Demand for Potable Water					
Use Type	**2020**	**2025**	**2030**	**2035**	**2040**
Single-Family Residential	6,405	6,556	6,720	6,906	NR
Multi-Family Residential	1,876	2,122	2,378	2,645	NR
Commercial	2,970	3,108	3,254	3,412	NR
Institutional/Governmental	177	180	185	191	NR
Landscape	755	773	792	814	NR
Agricultural Irrigation	300	300	300	300	NR
Sales/Transfers/Exchanges to other agencies	600	600	600	600	NR
Other- Miscellaneous	36	37	38	39	NR
Losses (Real and Apparent)	1,070	1,040	789	534	NR
Total	**14,189**	**14,716**	**15,056**	**15,441**	NR

Note: NR = Not reported.
Source: City of Napa 2015 Urban Water Management Plan, p. 4-6, Table 4-2.

Figure 6-11: Projected Water Supply and Demand During a Normal Year, acre-feet

Demand/Supply Projections					
	2020	**2025**	**2030**	**2035**	**2040**
Potable Water Demand	14,189	14,716	15,056	15,441	NR
Recycled Water Demand	650	855	1,095	1,095	NR
PROJECTED WATER DEMAND	**14,839**	**15,571**	**16,151**	**16,536**	**NR**
SWP "Table A" Water[346]	13,578	13,578	13,578	13,578	NR
Lake Hennessey	17,500	17,500	17,500	17,500	NR
Milliken Reservoir	700	700	700	700	NR
Subtotal Stored/Imported Water	**31,778**	**31,778**	**31,778**	**31,778**	**NR**
Napa Sanitation District Recycled Water	650	855	1,095	1,095	NR
Subtotal Recycled Water	**650**	**855**	**1,095**	**1,095**	**NR**
PROJECTED WATER SUPPLY	**32,428**	**32,633**	**32,873**	**32,873**	**NR**

Note: NR = Not reported.
Source: Adapted from 2015 Urban Water Management Plan, p. 4-8, Table 4-3; p. 6-16, Table 6-9

According to the City's 2015 Urban Water Management Plan (UWMP), the City's combined projected water supplies are sufficient to meet projected demands during normal water year conditions as can be seen from Figure 6-11. Under single-dry year conditions, the supply is generally sufficient until sometime after 2035 when total demand is nearly

[346] SWP supplies are 62 percent of Table A, with no Carryover, Article 21, or North of Delta allocation bonus assumed.

equivalent to the volume available in a single-dry year (52 percent of average supply). However, it should be noted that the City has conservatively estimated available SWP supply in that they assume no Carryover, Article 21, North of Delta Allocation bonus, or any of the other supplemental SWP categories.[347]

Water Infrastructure and Facilities

The City receives SWP water through the NBA. Surface water at Lake Hennessey and Milliken Reservoir provide the City a storage capacity of 31,000 and 1,390 acre-feet respectively. Three local treatment plants with a total capacity of 44 mgd treat the surface and SWP water. The City delivers all treated water through an extensive system of 360 miles of transmission and distribution pipelines.

Treatment and Transmission

All SWP raw water delivered to the City is processed at the Edward I. Barwick Jamieson Canyon Water Treatment Plant (WTP). The plant was originally constructed in 1968. In 2011, the City completed $42 million in improvements, which increased plant treatment capacity to 20 mgd. This facility now includes pre- and intermediate-ozonation along with more conventional surface water treatment steps such as rapid mixing, flocculation, sedimentation with tube settlers, gravity filtration, and disinfection. Treated water is stored in a 5.0-million gallon clearwell tank on site. The Jamieson Transmission Line delivers the potable water to the City. It consists of a 42-inch diameter line that runs parallel to Jamieson Canyon Road to State Route 29, which then splits into 36-inch and 24-inch lines near the intersection of State Routes 29 and 221 as it joins the rest of the distribution system.

Raw water from Lake Hennessey flows into a cylindrical concrete intake tower and is pumped up to the Hennessey WTP. Hennessey WTP began operation in 1981 and has a nominal treatment capacity of 20 mgd. The facility provides complete conventional treatment, including flash mixing, coagulation, flocculation, sedimentation, filtration, and disinfection. Treated water from the plant is conveyed into a buried 5.0-million gallon concrete clearwell tank on site. This treated water is delivered to the distribution system through the 36-inch diameter Conn Transmission Main. The Conn Line is approximately 20 miles long and runs parallel to Conn Creek, State Route 128, and State Route 29. It travels along easements and right-of-ways before meeting the Jamieson Line in northwest Napa.

Raw water is currently not taken directly from the Milliken Reservoir, but is instead released into Milliken Creek by a manually operated valve system at the base of the dam. About two miles downstream, a diversion dam directs water into a 16-inch diameter aboveground raw water line. That line then runs approximately one mile down to the Milliken WTP. This treatment facility was constructed in 1976 and has a treatment capacity of 4.0 mgd. It is a direct filtration plant with a contact/reaction tank and four horizontal, dual-media pressure filters operated in parallel. Treated water is stored in a 2.0-million gallon clearwell tank located above the treatment plant site. The treated water is delivered to the distribution system via the Milliken Transmission Line. Approximately three miles long, the line serves customers in the Silverado Resort/Hillcrest areas before its joins the main system at the intersection of Silverado Trail and Monticello Road. The City also holds a

[347] City of Napa, Urban Water Management Plan, 2015, p. 7-3.

permit for direct diversion of 7.74 cubic feet per second (cfs) from Milliken Creek for the period of November through March. However, due to treatment plant limitations the water is unable to be treated in winter to meet water quality regulations and therefore currently cannot be served to meet customer demands.

Storage

The City owns and maintains 15 water storage facilities ranging in size from 10,000 gallons to 5 mg, which total 29.819 mg in potable water storage. The storage facilities are shown in Figure 6-12. There are nine distribution storage tanks in the system, one fire protection tank, two pressure tanks, and three clearwells. The distribution storage tanks and the clearwells are able to provide water to the system for domestic use. The fire protection tank is only used in the event of a fire. The oldest storage facilities date back to 1967; however, the five storage facilities installed in the 60s and 70s (with the exception of the Jamieson Canyon Wash Water facility) have been re-lined or coated in the last two decades.

Figure 6-12: Potable Water Storage

City of Napa Potable Water Storage		
Tank Name	**Capacity (mg)**	**Year Installed**
Jamieson Canyon Finished	5.0	1967
"C" Tank	2.0	1967
Imola	5.0	2006
Lakeview	5.0	1999
Alta Heights #1	0.080	2007
Alta Heights #2 (Fire)	0.060	2007
Falcon Ridge	0.032	1991
Jamieson Canyon Wash Water	0.5	1967
Hennessey Finished	5.0	1980
Milliken Finished	2.0	1975
Milliken Wash Water	0.105	1975
"A" Tank (Alston Park #2)	4.0	2002
"B" Tank	1.0	1961
Hagen Oaks	0.032	1989
Silverado Highlands	0.01	1994
Total	29.819	

Source: City of Napa, Annual Report to the Drinking Water Program for the Year Ending December 31, 2018

It was noted in the City's 2005 MSR that there was a need for additional potable water storage capacity to meet existing and anticipated peak day demands. The City has since installed the 5-mg Imola tank, which addressed the concern expressed in the MSR. The City's maximum day demand in 2018 was 19 mg.[348] The storage facilities are more than sufficient to cover one day of maximum day demand.

[348] City of Napa, Annual Report to the Drinking Water Program for the Year Ending December 31, 2018.

Distribution System

The City's distribution system is comprised of 11 pressure zones served by nine booster pump stations. Of the 360 miles of distribution pipeline, the vast majority is either cast iron (42 percent) or ductile iron (34 percent). The remainder of the system is a combination of asbestos cement (10 percent), steel (nine percent), plastic (four percent), and cement concrete (one percent). The distribution system is aging with approximately 60 percent of the system over 50 years old.

California Waterworks Standards §64602, requires that the City maintain a minimum pressure of 20 psi at all service connections. With the exception of three services and one undeveloped parcel near the tank at Hagen Oaks, the existing system adequately meets the minimum pressure requirement and delivers maximum day and peak hour demands.[349]

Based on the City's 2016 Permit Report, the overall system has sufficient capacity to meet four hours of peak hourly demand with source capacity, storage capacity, and/or emergency connections as required. Additionally, the City has adequate supplies in each pressure zone.[350]

The City has undertaken several significant improvement projects on the distribution system in recent years. In 2012, the City of Napa replaced a 7,400-foot section of water main on the west side of State Route 221 from Napa Valley College south to Kaiser Road, resulting in a major improvement in how water moves through the distribution system. In 2013, the City replaced several aged, leaking, and undersized freeway crossings with new mains to improve circulation within the water system. Three State Route 29 freeway crossings damaged during the 2014 South Napa Earthquake were replaced in 2019.

Water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities, as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. The City's 2018 AWWA Water Audit shows that losses represented five percent of overall demand. The Infrastructure Leakage Index (ILI) was just 1.02, the ratio of real losses to unavoidable real losses. Both measures were historically on the low side for the city system, which has ranged up to nine percent loss and 2.14 ILI.

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. The City experienced an aberrant 272[351] main breaks in 2014 due to the South Napa Earthquake. Recent years have been more typical, with 66 main breaks in 2015, 56 in 2016, 54 in 2017, and 47 in 2018, which averages to 56 main breaks annually and 16 breaks per 100 miles of main. This is lower than the national average of between 21 and 27 breaks per 100 miles of pipe per year.[352] Over the 2015-2018 period, the City experienced a slight decline in main breaks.

[349] City of Napa, Permit Report 2016, p. 64.
[350] City of Napa, Permit Report 2016, p. 63.
[351] 233 related to Earthquake and remainder primarily due to corrosion.
[352] WaterRF, Knowledge Portals, 2017.

Shared Facilities

The City shares interconnections with Calistoga, St. Helena, American Canyon, Yountville, and the California Veterans Home.

In conjunction with the cities of St. Helena and Calistoga, City of Napa is looking for grant funding to make improvements to the Dwyer booster pump station in order to ensure reliable and adequate pressure for fire protection purposes.

In addition, the City is monitoring regulations currently under study to define requirements for direct potable reuse (DPR). The regulations are likely to be finalized within five to 10 years. The proximity of NapaSan's Soscol WRF to the Barwick Jamieson treatment plant shows great potential for DPR, subject to capital improvements including a pump station and added treatment trains.[353]

Infrastructure Needs

The City plans for its infrastructure needs in its annual CIP, which is updated each year as part of the budget process. The Water Division also developed a 20-year Master Plan in 2010 to identify system needs including routine testing, inspections, maintenance, and renewal and replacement requirements.

Long-term capital plans include upgrades to the Hennessey WTP. Modifications to the Lake Hennessey spillway will be constructed to accommodate the maximum probable flood.

The City is considering modifications to the Milliken WTP so that Milliken Reservoir could be used as a source year-round. The City continues to monitor and assess the increasing trend of the price of water supply and the decreasing trend in the cost and technical capabilities of packaged treatment plants for consideration of this added increment of water supply.

The City continues to review possible additional water supply sources. The City of Napa participated in a feasibility study for a water supply reservoir under consideration by the South Sutter Water District. The Garden Bar Water and Power Project would consist of a new dam and reservoir project located on the Bear River. If approved and implemented, the project would provide substantial water supply and hydroelectric power generation benefits. This Garden Bar Reservoir project has been the subject of several feasibility studies since the 1970's. The City of Napa could be in a position to purchase a share of the newly-created non-SWP water supply resulting from the completion of the project. This is one potential source of water that could fill the pipe in years of low SWP allocations; however, as of 2019 the project was on hold.

The City is scheduled to develop a Capital Improvement Master Plan and corresponding Financing Plan in 2021. This document will inform the cost of service study associated with the rate setting process in 2022 as required every five years.

Near-term needs are addressed in the annual CIP through planned improvements or modifications for 2019-2020 and continued projects into subsequent years, which include the following:

- Reconstruct water facilities destroyed during the October 2017 Atlas Fire:

[353] City of Napa, Urban Water Management Plan, 2015, p. 6-14.

- Completed the replacement of storage sheds at Milliken Dam and Milliken Treatment Plant
- Begin replacement of the Hillcrest Pump Station;
- Begin replacement of the Silverado Highlands Pump Station;
- Begin burial of the above ground raw water pipeline to the Milliken Treatment Plant;
- Begin replacement of appurtenant facilities to the Milliken Treatment Plant that include raw water pipeline access walkways and instrumentation.

❖ Complete replacement of an existing pressure tank for Alta Heights II.

❖ Planned distribution improvements as part of City-sponsored CIP and development, consisting of installation of 5,300 feet of main and one remaining freeway crossings to benefit the flow of the City's system and installation of 2,150 of main to serve new development, as well as completing lining of 6,700 feet of pipeline and main.

❖ Continue updating the City's hydraulic model.

❖ Continue SCADA system enhancements.

❖ Install a bypass around the Barwick Jamieson clearwell to facilitate installation of a mixer/aerator in the clearwell.

❖ Continue rehabilitation or replacement of valves along the City's Jamieson transmission main.

❖ Meter Testing and Replacement Program to replace aging meters in the system.

❖ Automated Meter Reading – completed installation of radio read heads on all meters to avoid time consuming manual reads. Install fixed network locations after new utility billing software is installed.

❖ Continue GPS surveying of existing water infrastructure.

❖ Continue population of the geodatabase for water specific assets in conjunction with the work order and asset management program implementation.

❖ Continue implementation of a Workorder Asset Management Program within treatment facilities and distribution system.

❖ Complete spot repairs of the Hennessey spillway.

❖ Replace and increase capacity in the Falcon Ridge storage tank.

Water Quality

The State Water Resources Control Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when

water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

Lake Hennessey watershed activities include rural residential land uses, agriculture, raising of livestock, and fishing. The lake is subject to sewage hazards such as overflows and accidental discharges of treated or untreated wastewater from a treatment plant located in Angwin, adjacent to Conn Creek. Historically, the facility has had few overflow incidents. Septic systems located throughout the watershed are generally not adjacent to tributaries and are not considered to be a significant potential contaminant source. The most significant potential sources of contaminants in the Lake Hennessey watershed are the Pacific Union College Wastewater Treatment Plant, older septic tank systems, vineyards, spills of hazardous materials along Highway 128 near the lake, wildfires, and associated erosion around Lake Hennessey.

Additionally, there are various species of algae in Lake Hennessey that have been problematic to the system's water quality, i.e., taste and odors, total trihalomethanes (TTHMs) and haloacetic acids (HAA5). To reduce organic loading to the treatment facility, the City has a program for applying sodium carbonate peroxyhydrate (PAKTM27) into the lake.[354] The City and County have commissioned a joint study to develop a Watershed Analysis Risk Management Framework (WARMF) model to understand potential effects of land use in the watershed. In 2019, the joint study has started a sampling and analysis program to understand water quality in tributaries throughout the Hennessey and Milliken watersheds. Results of the initial three-year study will be used to populate the WARMF model and better understand water quality throughout the watershed that contributes to the drinking water reservoir.

At Milliken Reservoir, the most significant potential sources of contaminants in the Milliken watershed are cattle grazing, wild animals, wildfires, and erosion from the City's maintenance roads around Milliken Reservoir. However, what little cattle grazing left will eventually be replaced by vineyards.

The State Water Project water is transported from Barker Slough via the North Bay Aqueduct. The source is considered to be vulnerable to cattle and sheep grazing activities in the watershed associated with turbidity, total organic carbon, and coliform bacteria detected in the water supply. Fencing, wells to provide livestock water, watering troughs, and irrigation pipe were installed to exclude cattle from Barker Slough upstream of Campbell Lake. Frequent water quality monitoring is performed on Barker Slough.

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

[354] City of Napa, Permit Report 2016, p. 6.

According to the EPA report the City had one health-based violation in 2013, four in 2015, and one in 2016, all for exceeding the total allowed amount of total trihalomethanes (TTHMs), which is primarily related to disinfection byproducts. The City optimized its water treatment process to reduce natural organic materials, expedited its annual unidirectional hydrant flushing program, and installed new mixing and aeration systems in distribution system storage tanks. Reportedly, these corrective actions resulted in water quality improvements, and the City has had no health violations since 2016.

In 2018, the City was in compliance with primary drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to the City of Napa and its water services, including possible service structure modifications, territorial changes, and reorganizations with other agencies. The feasibility of each of these options is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Reorganization of Congress Valley Water District

Given that the City of Napa provides almost all services to the customers within the Congress Valley Water District's (CVWD's) boundaries, which in essence is a "functional consolidation," there is a potential to streamline the service structure by eliminating a level of administration. While there is no duplication of services offered, there is certainly a potential for greater efficiency of service structure and elimination of duplicative overhead costs, as the two separate agencies are not necessary to offer the current level of services. The potential for changing the service structure in the Congress Valley area was outlined in the First Amendment (2017) to CVWD's Water Supply Contract with the City of Napa. The amendment required that CVWD, the City of Napa, the County of Napa, and LAFCO should convene no later than 2020 for the purpose of determining the appropriate long-term service arrangement for the Congress Valley community, including determining whether it would be appropriate for CVWD to initiate dissolution proceedings and transition formal service responsibility to the City of Napa. According to the agreement, the long-term service arrangement should be formalized no later than July 1, 2022.

At present, the City provides 100 percent of the CVWD's water supply and is responsible for the complete operation, maintenance, and eventual replacement of the distribution system, as well as the direct billing to CVWD customers.

CVWD retains the ownership of the distribution system and collects a share of the property tax, which covers board expenses, and legal and financial services. The District is also able to offset a portion of the City's rates for CVWD residents by paying the difference between the resident rates charged by the City and the non-resident rates charged to the connections outside of the city limits. The District maintains a part-time District Secretary to oversee all agency activities, including providing accounting services and coordinating service requests with the City of Napa. At present, CVWD does not have a plan to expand services offered.

There are several governance structure options available as CVWD moves forward with considering its long-term service arrangement, including the following:

1) Maintaining the status quo,
2) Expansion of the City's SOI and annexation of the CVWD territory,
3) Formation of a subsidiary district of the City of Napa,
4) Transition to a county service area, and
5) Dissolution of CVWD and continued service by City of Napa.

Status Quo

One option is the continued existence of CVWD as it is currently operated and governed. This option assumes that the City of Napa is willing to continue offering water supply and operational services beyond the agreed upon contract expiration date of July 1, 2022. The City has not indicated if it would be willing to continue services in the long term without follow through on the terms of the First Amendment to the original agreement between the two agencies.

However, this option does not address the issues that have compelled consideration of governance structure options for CVWD, including duplication of administration efforts and costs, as well as continued existence of a surplus governance layer with marginal utility. If CVWD desires to continue providing services as it is presently, it is recommended that it demonstrate its value added in a long-term plan for services.

Expansion of the City's SOI and Annexation of CVWD Territory

Among the purposes of LAFCO is encouraging logical boundaries and promoting efficient delivery of services. Logical boundaries generally entail orderly organization of districts and cities with boundaries that encompass their respective service areas and do not create irregularities, such as islands or division of communities. Logical boundaries promote efficient delivery of services by eliminating overlap of boundaries and consequently minimizing the potential for duplication of services. Ideally, orderly development of local agencies streamlines service structure and reduces the need for multiple agencies providing similar services.

In the case of CVWD, the City is immediately adjacent to the community in question. Based on LAFCO's purpose, the ideal service structure would be an amendment to the City's SOI to include the area already served by the City and a subsequent annexation of the territory in question. CVWD would then be dissolved. This option 1) meets the needs of the agency service agreement, 2) aligns with LAFCO's aforementioned responsibilities by promoting logical boundaries and efficiency of services, 3) allows for continued service by a professional and well-managed agency, and 4) appropriately allows for the representation of CVWD residents on the City Council as the decision-making body affecting water services in the area.

However, CVWD's boundaries are located outside of the City's Rural Urban Limit (RUL) making this option infeasible in the short term. While the territory could be included in the City's SOI, it is not annexable unless the RUL is amended by voter approval. Consequently, it is determined that a sphere of influence change is not feasible as there is no potential for a correlating boundary change until the RUL is adjusted. Should the City decide to pursue this option, then it would need to work with the County to construct consensus and LAFCO to initiate the SOI change. Finally, the City would need to prepare a ballot measure to adjust the RUL.

Formation of a Subsidiary District

A subsidiary district is a dependent district of a city, where the city council acts as the governing body of the district, and the finances of the district are accounted for separately to prevent the comingling of funds.

Formation of a subsidiary district mirrors the benefits of the SOI amendment and annexation option discussed previously. It 1) meets the needs of the agency service agreement, 2) aligns with LAFCO's aforementioned responsibilities by promoting logical boundaries and efficiency of services, and 3) allows for continued service by a professional and well-managed agency. This option does not, however, allow for the representation of CVWD residents on the City Council.

Unfortunately, this option would require an involved process to meet State requirements for the formation of a subsidiary district. Government Code §57105 requires that 70 percent or more of the area of land within the subsidiary district be within the City and 70 percent or more of the number of registered voters who reside within the district must be within the City. In the case of CVWD, substantial City territory would first need to be annexed to the District in order to meet the 70 percent requirement, since presently the District is entirely outside of the City.

An alternative may be to include the entirety of the City's water service area within the boundaries of the district and then transition to the subsidiary district. In this case, the entirety of the District could be up to 26.29 square miles consisting of the entirety of the city limits (18.4 square miles) and up to 7.89 square miles outside of the city limits to meet the 70 percent requirement. In this scenario, the entire City water division would then be operated as a subsidiary district. This would allow for an organized structure for the 2,213 out of area service connections presently served by the City of Napa. But, once again, does not allow for the representation of out of area residents on the City Council.

Formation of a County Service Area

Another option may be changing the structure of CVWD to a county service area (CSA), which is a dependent special district of the County. The County Board of Supervisors would act as the governing body for the District and provide all the administration. This option assumes that the County would be willing to take on the responsibility for the District's operations; however, the County has not yet indicated whether it would be agreeable to accepting this duty.

The benefits of this option include 1) continued existence of an entity that can contract with the City of Napa for services, if desired, 2) minimization of duplicative administrative costs as the County can capitalize on the administrative structure it already has in place, 3) residents can benefit from a professional entity with technical knowledge working on its behalf to ensure adequate services, and 4) elimination of a surplus governance layer with marginal utility.

Conversely, the transition to a CSA would not fully maximize efficiency for the customers as they would continue to receive services through a network of two agencies. Additionally, while the administrative costs would be minimized, this option does not fully eliminate the duplication of administrative costs that would be experienced should CVWD be fully dissolved. Moreover, by the County Board of Supervisors acting as the governing body, the decision-making power would be removed from local trustees that represent the interests of the landowners within CVWD.

Should CVWD, the City of Napa, and the County agree that this option best fits the needs of the residents of the community, then an application to LAFCO to transition to a CSA would

be the next step. Additionally, the City and the County would need to determine if the service structure would continue to be appropriate and negotiate a new service agreement.

Dissolution and Continued Service by City of Napa

Given that City of Napa is providing all the core services within CVWD, dissolution of CVWD and continued services by the City of Napa is an option that would address duplicative administrative efforts on the part of both agencies. Because the Congress Valley area is entirely outside of the City's Sphere of Influence and Rural Urban Limit, there is no potential for annexation of the territory in the foreseeable future. The inability of the City to annex the territory has posed a challenge in the past because based on former State law, the City would have lacked a legal basis for continuing provision of water service to district customers outside of the city limits. However, the California legislature has adopted a pilot program (Government Code 56133.5), under which LAFCO could authorize the City to extend its water service to the properties already receiving water service from CVWD through an outside service agreement. This pilot program expires January 1, 2021, unless it is extended through future legislation. As of the drafting of this report, Senator Dodd had introduced Senate Bill 799 to extend the provision for five years.

When a district is dissolved, typically a "successor agency" is identified that annexes the territory and all assets and infrastructure are transferred from the dissolved agency to the successor agency. In this case, the only viable successor agency upon dissolution of CVWD is the City of Napa. This MSR finds that the City's administrative controls, as well as public water supplies and capacities, are adequate to meet current and projected demands under normal and multiple dry year conditions into the foreseeable future.

However, the City is unable to annex the CVWD territory, which creates some not insurmountable barriers to finalizing the reorganization. First, there are 14 parcels within CVWD's boundaries that are not yet connected to the distribution system. These parcels would have the ability to connect to the CVWD's system if they so choose, should the District continue to exist. Upon the dissolution of CVWD, these parcels would no longer be guaranteed service, but would have to apply to the City under the requirements of Government Code 56133.5 allowing the extension of services outside of the city limits. LAFCO may consider preemptively approving City of Napa service to these parcels as a condition of the dissolution to ensure the properties are identified and safeguarded for potential future water services.

Second, typically the former district's property tax share is transferred to the successor agency following negotiations with the County. However, in this case, the City would not be annexing the territory and therefore tax sharing negotiations with the County would not be triggered. (CVWD receives 12.2 percent share of the Proposition 13 one percent property tax, which is budgeted to be $85,065 in FY18-19.) In general, the rates charged by the City are set to sufficiently cover the cost of providing services and additional property tax revenue would not be necessary; however, as mentioned, with its property tax share CVWD offsets a portion of the City's rates for CVWD residents by paying the difference between the resident rates charged by the City and the non-resident rates charged to connections outside of the City limits totaling $13,089 in FY17-18 and allocated $30,000 in FY18-19. Ideally, in some manner, the tax funds would continue to provide this offset for the residents of CVWD and not be reapportioned to other agencies. It is recommended that the City and the County

discuss a means to continue making use of this tax apportionment for the benefit of the current CVWD customers.

Third, the dissolution of CVWD would eliminate a governing body with entirely local trustees that represent the interests of the landowners within CVWD. Additionally, those from outside the City limits are precluded from sitting on the City Council, which would be making decisions affecting water services in the area. All of the City's outside service connections are similarly disenfranchised without the representation on the decision-making body. It is recommended in order to address this issue, that the City form a Water Commission or Advisory Committee to provide input to the City Council on which out of area customers may sit or for whom seats are reserved. One example of a Water Commission is in the City of Ventura; the Commission reviews and makes advisory recommendations regarding water rates, water resources infrastructure projects in the five-year capital improvement program, the integrated water resources management plan, water supply options, the Urban Water Management Plan approval process, a water dedication and in-lieu fee requirement, and other water resource issues.

As part of the process for this scenario, all financial and physical assets of CVWD would likely be transferred to the City of Napa. The transfer of CVWD's assets is accounted for in its agreement with the City as follows. "In consideration of the services provided by the City under the terms of this Agreement, no later than thirty (30) days prior to the termination of this Agreement, the District shall convey to the City title to all physical system assets of the District." Financial assets of CVWD consist of an estimated fund balance of $689,000 at the end of FY19. CVWD has no outstanding debt.

The quantifiable benefits of this reorganization would be a savings of approximately $100,000 each year, which is presently allocated to CVWD administrative costs, including board expenses, legal, insurance and financial services. These services could likely be covered at little or no additional expense to the City of Napa, and are likely already included in the rates that are charged to every connection.

In order to comply with Government Code 56133.5 to approve new or extended services outside of a jurisdictional boundary, the Commission must come to determinations regarding the following:

(1) The extension of service or services deficiency was identified and evaluated in a review of municipal services prepared pursuant to §56430.

The extension of City of Napa services to provide direct water services as opposed to contract water services is identified and evaluated as part of this municipal service review.

(2) The extension of service will not result in either (1) adverse impacts on open space or agricultural lands or (2) growth inducing impacts.

This governance option does not propose changes in land use to open space or agricultural lands. For those parcels within CVWD's boundaries that are not yet connected but may desire to do so at some point in the future, there is potential for growth as a result of offering water services in the area; however, these parcels already have access to the water services as they are within the

boundaries of a water service provider and the change in organization will not create further potential for growth.

(3) A sphere of influence change involving the affected territory and its affected agency is not feasible under this division or desirable based on the adopted policies of the commission.

A sphere of influence change is not being proposed for this governance option. The area is located outside of the City's Rural Urban Limit, which does not preclude the territory from being included in the City's SOI, but does prevent the annexation of the area in question unless the RUL is amended by voter approval. Consequently, it is determined that a sphere of influence change is not feasible as there is no potential for a correlating boundary change.

Beyond cost savings, other potential benefits of this reorganization consist of 1) streamlining and improving clarity of service structure for customers, 2) elimination of duplicative administration and governance services, and 3) provision of all services by a well-managed professional agency with full-time staff and extensive expertise and resources.

There are drawbacks to the potential reorganization of City of Napa and CVWD, including 1) elimination of a governing body with entirely local trustees that represent the interests of the landowners within CVWD and 2) the potential disenfranchisement of local customers. These drawbacks may be addressed by the formation of the recommended City Water Commission, which would be a means for local residents to provide input on water issues.

It appears that this option may offer the most benefits to the Congress Valley community, and provide the most straightforward process, should the challenges specific to this reorganization be appropriately addressed. It is recommended that City of Napa, CVWD, and the County begin discussions regarding the possibility of moving forward with reorganization and the manner of addressing the challenges to this option.

Expansion of Services to other Agencies

There are several small water systems in Napa County which struggle to provide an adequate level of services. Smaller service providers in rural areas often must focus on day-to-day operations and do not have the staff capacity to conduct pre-planning and highly technical services. These agencies have expressed interest in either receiving support services or being fully taken over by a larger service provider.

One such option is for the City of Napa to take on the role of a regional water purveyor by providing contract services to these small systems outside of its boundaries. Smaller wastewater service providers are facing challenges similar to the water service providers; however, City of Napa would likely only take on water services for the multi-service agencies, as it presently does not provide wastewater services. Separating the water and wastewater utility operations that are already offered together may result in a loss of efficiencies; however, provision of water services by the City of Napa may provide several benefits to interested agencies, including the following:

1. The provision of contract support services would allow for the flexibility in the manner and nature of services to be provided to allow for tailoring to the needs of the

contracting agency, which could include the provision of specific or limited services or consist of all administration and operations.

2. Contracting to agencies for services outside of the city limits does not require LAFCO approval.
3. The contracting agency would continue to exist and maintain local control.
4. "Functional consolidation" would allow each agency to retain its identity while at the same time combining resources or specialty assets and improving efficiencies.
5. Contracting could result in a reduction in equipment needs and duplication of efforts.
6. Contracting for services would not face the labor concerns that may result from a "full consolidation."
7. Customers of the contracting agency would receive a high level of services and broader expertise from a larger, professionally operated service provider.

While certainly beneficial to the contract agencies, this structure would likely only involve the City of Napa taking on water services at multi-service agencies that may also desire wastewater delivery support services. In conjunction with this option, the opportunity for Napa Sanitation District (NapaSan) to similarly take on contract wastewater services at these agencies has also been recognized. The City of Napa and NapaSan could work in conjunction to provide the appropriate level of support services for the utility functions of the interested agencies.

An alternative option identified during this review is the potential for a countywide county water district that could provide support or take on both water and wastewater services for interested agencies. This governance structure option is discussed in more detail in the *Overview* chapter (Chapter 3) of this report.

Countywide Water Agency

There are several challenges to water and wastewater services around the County that could be potentially addressed by alternative governance structures:

- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water services in the County,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for occasional technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Given these challenges, there may be a need for a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from the consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district or a

sanitation district. The City of Napa has expressed an interest in a means to improve efficiency of water supply management in the County, as well as continued and enhanced resource sharing. This governance structure option may be a means towards accomplishing these objectives.

As these options may affect all of the water and wastewater service providers reviewed here, these governance structure options are discussed and assessed in further detail in the *Overview* chapter (Chapter 3) of this report.

Merger with Napa Sanitation District

There have been at least three separate reviews over the last 20 years regarding the merits of reorganizing NapaSan. The first formal review was initiated by NapaSan in 1995 in response to a grand jury report. The review considered–among other items–two alternatives: 1) reorganizing the District as an independent special district with a directly elected board, or 2) merging with the City of Napa. This review–prepared by a NapaSan subcommittee in consultation with LAFCO, the City of Napa, and the County–produced a recommendation that was ultimately enacted through special legislation to increase the number of appointed board members of the existing sanitation district from three to five with the two new seats belonging to members of the public—one new seat appointed by the City and the other new seat by the County.

The second review was performed directly by the Commission as part of its inaugural municipal service review of NapaSan. This review determined that the current governance structure appropriately balances the interests of both the City and the County while allowing NapaSan to remain independent in matters affecting local land use decisions.

The third review was performed as part of the 2014 Central County Region MSR. The review considered the transition to an independent sanitary district, functional consolidation with the City of Napa through contract, becoming a subsidiary district of or merger with the City of Napa, and transition into a County-dependent county service area. The study ultimately found that there was a debate about the potential for greater accountability with an independent district, unclear benefits to a functional consolidation with the City, and no cost savings associated with becoming another form of a dependent district. The study did not find significant advantages to reorganization of NapaSan in terms of cost efficiency, accountability, or governance.

The current MSR assessment concurs with the previous analyses and adds that, in addition to a lack of identifiable benefits to an reorganization of NapaSan, there is also a lack of impetus for change. NapaSan is a well-managed agency that provides a high level of services as indicated in the MSR review and determinations for NapaSan. NapaSan is financially stable and continuously makes efforts to innovate and to improve efficiency. Additionally, there is no duplication of services, deficiency in service levels, nor inefficiency in the existing structure that requires repair. It is recommended that the district type, service structure, and governance structure remain unchanged.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to the City of Napa regarding its water service delivery.

1) All of the City's outside service customers are at risk of disenfranchisement due to the lack of representation on the water service decision-making body (City Council). While customers outside the City have the ability to take part in Proposition 218 rate protests and provide comment on water service related items at the City Council meetings, they do not have the ability to vote for decision makers, thus their voice carries less weight. In order to address this issue, it is recommended that the City form a Water Commission or an Advisory Committee that would include out-of-area residents served by the City; this advisory body would provide input to the City Council on water service issues. One example of a Water Commission is in the City of Ventura; the Commission reviews and makes advisory recommendations regarding water rates, water resources infrastructure projects in the five-year capital improvement program, the integrated water resources management plan, water supply options, the Urban Water Management Plan approval process, a water dedication and in-lieu fee requirement, and other water resource issues. While other cities in Napa County have outside service connections, the City of Napa has by far the greatest number. Additionally, this issue is particularly relevant given the anticipated Congress Valley Water District dissolution, eliminating the District's governing body and leaving the former district residents without representation regarding water services.

2) The City makes its water available for trucking through a filling station. At present, there are no limitations on who may make use of the water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses and locations for trucking of water be defined in the City's municipal code.

3) Both the Cities of Napa and St. Helena provide water services to the Rutherford Road area, which is outside both cities. It is recommended that the two cities, in coordination with the County as the land use authority in these areas, create a communication structure to ensure that duplicative services do not occur in other locations.

4) It is recommended that City of Napa, CVWD, and the County begin discussions regarding moving forward with dissolution of CVWD and extended services by the City of Napa. Discussion should focus on the manner of addressing the challenges to this reorganization option.

5) It has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of Napa's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

CITY OF NAPA DETERMINATIONS

Growth and Population Projections

- The City of Napa's population, as of 2019, was approximately 79,490, with the water system serving a total population of 87,134.
- City of Napa's population increased by approximately 4.5 percent over the 10-year period since 2009.
- Future development within the City is limited by the Rural Urban Limit (RUL). Most of the undeveloped area in the RUL has been built out. There are 24 territories that are within the RUL that have not yet been annexed into the City. Of the property available for development in the RUL, only a portion is considered suitable for development due to environmental constraints
- LAFCO anticipates a continued steady increase in population over the period from 2019 to 2030 of 6.3 percent, with a projected population of 84,513 in 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The City's water production has been well within its water supply capacity, even in dry years, indicating that the exiting water supply is adequate to meet City of Napa's current needs.
- Future supply capacity is generally sufficient until sometime after 2035 when total demand is nearly equivalent to the volume available in a single-dry year. However, the City has conservatively estimated available State Water Project (SWP) supply assuming no Carryover, Article 21, North of Delta Allocation bonus, or any of the other supplemental SWP categories. It is likely that the City's water supply will be sufficient beyond 2035 for both normal and dry years, depending on the availability of the supplemental SWP supply.
- The level of water services offered by the City were found to be more than adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the City's water distribution system is excellent as measured by the degree of annual water loss and the rate of main breaks and leaks per 100 miles of main. The City was in full compliance with Primary Drinking Water Regulations in 2018. While the City had six violations reported by the EPA since 2008; the City has adjusted its treatment mechanism and has had no violations since 2016.

- The City appropriately plans for its infrastructure needs in the Capital Improvement Plan and a 20-year Master Plan. No substantial or unplanned for water infrastructure needs were identified.
- The City is scheduled to develop a Capital Improvement Master Plan and corresponding Financing Plan in 2021. This document will inform the cost of service study associated with the rate setting process in 2022.
- Long-term capital plans include upgrades to the Hennessey WTP and modifications to the Lake Hennessey spillway will be constructed to accommodate the maximum probable flood. The City is considering modifications to the Milliken WTP so that Milliken Reservoir could be used as a source year-round. The City reviews possible additional water supply sources on a continual basis.

Financial Ability of Agencies to Provide Services

- The City of Napa has the ability to continue providing water services. Projected water operations shortfalls anticipated for FY17 through FY19 were more than offset by rate increases adopted during FY17.
- The City allocates net revenues to a number of reserves for operations, capital and rate stabilization. Ending fund balances, net position and liquidity measures are all positive and indicate a stable position.
- From FY17 to FY18 the value of net capital assets increased, indicating that investments were keeping pace with, or exceeding, depreciation. The City's cost of service studies are the basis for rate adjustments that include capital facility needs.

Status of, and Opportunities for, Shared Facilities

- The City shares interconnections with Calistoga, St. Helena, American Canyon, Yountville, and the California Veterans Home.
- City of Napa partners with the Napa Sanitation District to run a large recycling program for oils (Recycle More Program). The two agencies also benefit from a joint water conservation program and collaboration on pipeline projects. Also, NapaSan, the City of Napa, and Napa Recycling coordinate scheduled tours of the wastewater treatment plant, water treatment plant, and recycling facility for Napa area students.
- In conjunction with the cities of St. Helena and Calistoga, City of Napa is looking for grant funding to make improvements to the Dwyer booster pump station in order to ensure reliable and adequate pressure for fire protection purposes.
- In addition, the City is monitoring regulations currently under study to define requirements for direct potable reuse (DPR). The regulations are likely to be finalized within five to 10 years. The proximity of NapaSan's Soscol WRF to the Barwick Jamieson treatment plant shows great potential for DPR, subject to capital improvements including a pump station and added treatment trains.
- The City is open to further collaboration and resource sharing with regional municipal water purveyors as demonstrated by its participation in the Napa Valley Drought Contingency Plan.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The City Council holds regular appropriately noticed meetings. Meetings are also broadcast live on the City's website.
- The City makes available most documents on its website, including minutes, agendas, and financial and planning reports. The City is compliant with the agenda-posting requirements outlined in AB 2257.
- It is recommended that City of Napa, CVWD, and the County begin discussions regarding moving forward with dissolution of CVWD and extended services by the City of Napa. Discussion should focus on the manner of addressing the challenges to this reorganization option.
- Both the Cities of Napa and St. Helena provide water services to the Rutherford Road area, which is outside both cities. It is recommended that the two cities, in coordination with the County as the land use authority in the area, create a communication structure to ensure that duplicative services do not occur elsewhere.
- All of the City's outside service customers are prone to disenfranchisement without representation on the water service decision-making body (City Council). It is recommended in order to address this issue, that the City form a Water Commission or Advisory Committee to provide input to the City Council, on which out of area customers may sit or for whom seats are reserved.

Relationship with Regional Growth Goals and Policies

- The City's growth area is limited by the voter-approved Rural Urban Limit (RUL). This constraint on growth aligns with the County's Agricultural Preserve policy.
- The City of Napa and four other municipalities of Napa County participate in the Napa Valley Transportation Authority (NVTA), which functions as the region's Congestion Management Agency and provides input to the Bay Area-wide Metropolitan Transportation Commission's (MTC) 20-year Regional Transportation Plan. Plans applicable to City of Napa include *Napa Countywide Pedestrian Plan, Vision 2040 Moving Napa Forward – A Countywide Transportation Plan, Countywide Bicycle Plan, SR 29 Gateway Corridor Implementation Plan,* and *Plan Bay Area.*
- The City of Napa provides outside water services to 2,213 connections. A majority of these connections were established prior to G.C. §56133 and are specifically exempt. The City has adopted policy limiting extension of services outside of the RUL in its Charter Section 180. There are no similar policies regarding extension of services outside the city limits but inside the RUL.
- The City makes its potable water available for trucking through a filling station. There are no limitations on who may make use of the water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses and locations for trucking of water be defined in the City's municipal code.

7. CITY OF ST. HELENA

AGENCY OVERVIEW

City of St. Helena Profile			
Contact Information			
Contact:	Mark T. Prestwich, City Manager		
Address:	1480 Main Street, St. Helena, CA 94574	*Website:*	https://www.cityofsthelena.org/
Phone:	707-968-2744	*Email:*	MPrestwich@cityofsthelena.org
Formation Information			
Date of Incorporation:	Incorporated: 1876 Reincorporated: 1889	*City type:*	General Law
Governing Body			
Governing Body:	City Council	*Members:*	1 Mayor, 1 Vice-Mayor and 3 Council Members
Manner of Selection:	Election at large	*Length of term:*	4 years
Meetings Location:	Vintage Hall Board Room at St. Helena High School Campus, 465 Main Street	*Meeting date:*	Second and fourth Tuesday at 6 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	6,133
Purpose			
Enabling Legislation:	California Constitution XI	*Empowered Services:*	All municipal services
Municipal Services Provided (directly or by contract)	Law enforcement, fire protection and EMS, water, sewer, streets, parks, planning, library, community recreation, housing authority services (City of Napa), solid waste (Upper Valley Disposal & Recycling)		
Area Served			
Size:	4.7 square miles (3,046 acres)	*Location:*	Central Napa County
Current SOI:	4.6 square miles (2,951 acres)	*Most recent SOI update:*	2008
Municipal Service Reviews			
Past MSRs:	2017 Municipal Service Review and Sphere of Influence Update for the City of St. Helena Draft Report 2008 City of St. Helena Municipal Service Review 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study 1988 City of St. Helena Municipal Service Review		

Boundaries

The City of St. Helena is located in the upper Napa Valley and surrounded by agricultural areas. The boundaries include 4.7 square miles, as shown in Figure 7-1. There have been no city boundary reorganizations since 2010.

Sphere of Influence

The City's sphere of influence (SOI) was last updated in 2008 and included the addition of 245 acres east of Silverado Trail and Howell Mountain Road, which had already been previously a part of the City's boundary area but excluded from the SOI at the time of its establishment in 1974.[355]

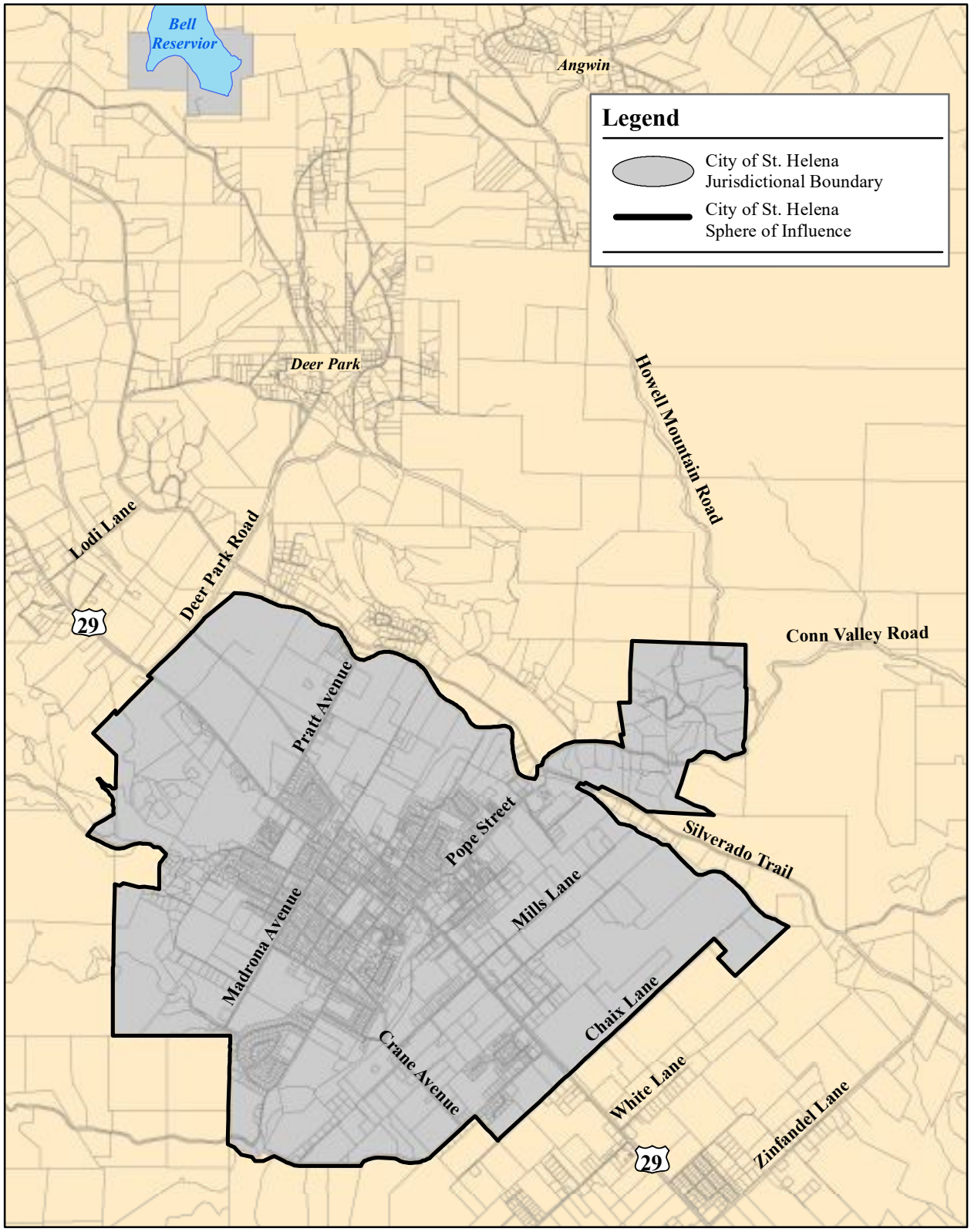
The City's current SOI is slightly smaller than its boundaries, as can be seen in the agency profile above. The SOI excludes the two parcels contained in the City's boundaries and owned and used by the City near the Bell Canyon Reservoir. These two parcels are non-contiguous to the rest of the St. Helena's boundary area, as shown in Figure 7-1. Typically, this would indicate LAFCO's anticipation that these areas be detached from the City; however, it has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to non-contiguous territories. LAFCO may wish to consider including the non-contiguous city-owned properties in the City of St. Helena's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

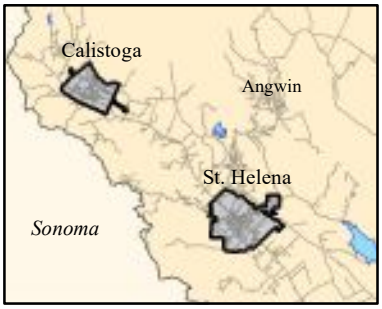
The next comprehensive MSR/SOI Update for the City is planned to be initiated in 2020.

[355] Napa LAFCO Resolution 08-08.

Figure 7-1

City of St. Helena





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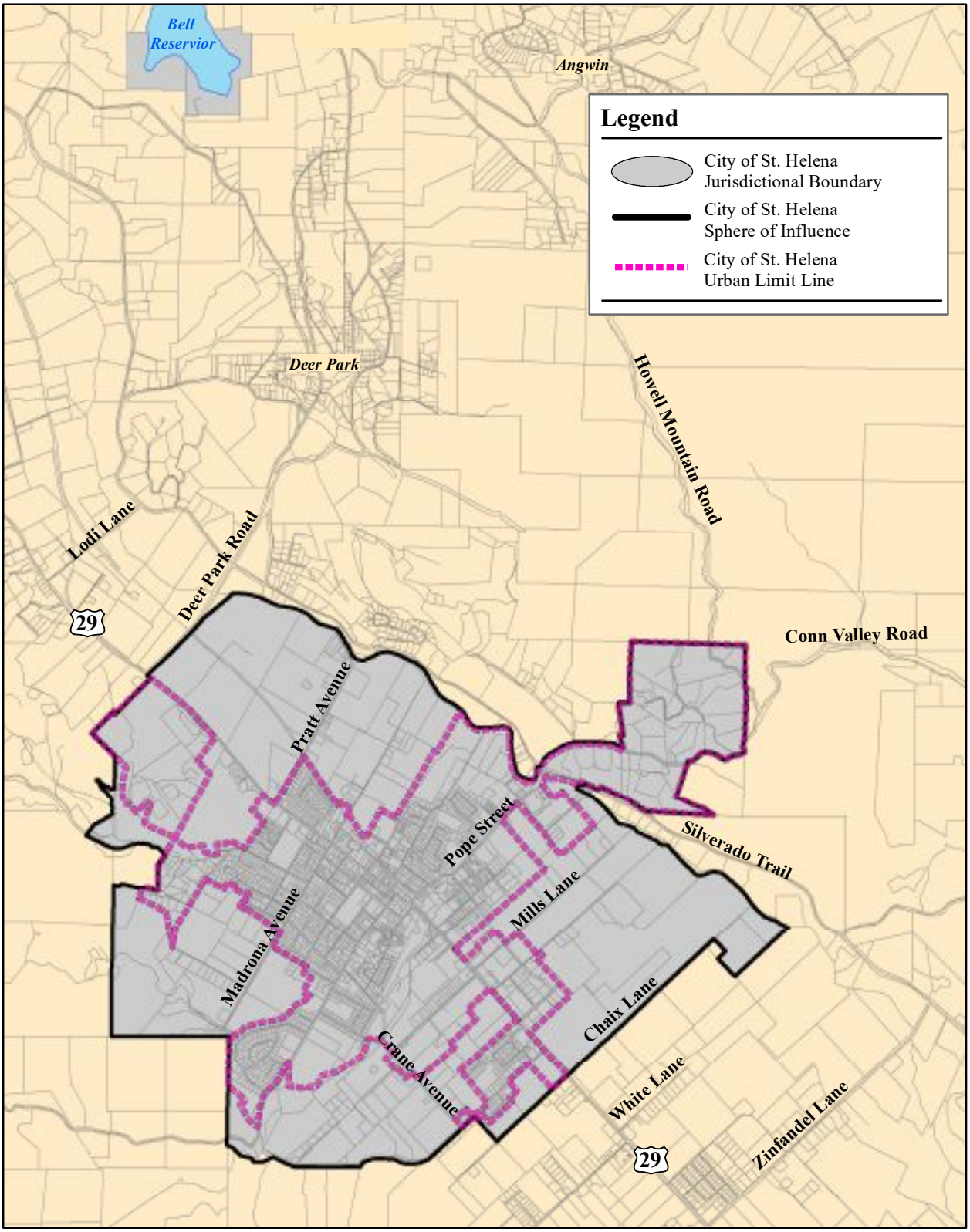
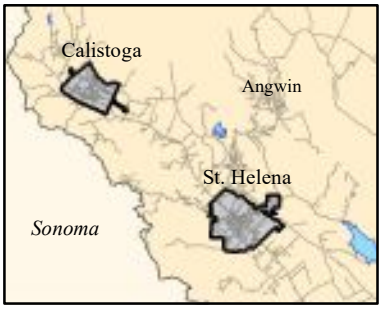
December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

Figure 7-1a

City of St. Helena





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December 17, 2019
Prepared by LAFCO Staff

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ACCOUNTABILITY AND GOVERNANCE

The City of St. Helena is governed by a four-member Council and one Mayor, all elected at large to staggered four-year terms.[356] The Council meets on the second and fourth Tuesday of every month at 6:00 p.m. in the Vintage Hall Board Room at the St. Helena High School.[357] Agendas and minutes are posted on the website dedicated to Council meetings.[358] Council meetings are broadcast live on the website.[359]

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda.

Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[360]

The City of St. Helena complies with the new agenda posting requirement under the latter option. The City maintains a dedicated webpage with the required agenda information with the direct link to this webpage posted on the City Council page.[361]

Complaints received by the City regarding water services over the phone are monitored by the Department of Public Works Water Treatment Division. Phone numbers and email addresses of department officials are posted on the city website, but there is no online complaint form. A majority of the complaints received are related to taste and odor (T&O). St. Helena maintains an ongoing log of complaints.[362]

The City demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The City responded to the questionnaires and cooperated with the document requests.

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[356] https://www.cityofsthelena.org/bc-citycouncil
[357] https://www.cityofsthelena.org/bc-citycouncil
[358] https://sthelena.civicweb.net/Portal/MeetingTypeList.aspx
[359] https://sthelena.civicweb.net/Portal/MeetingTypeList.aspx
[360] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/
[361] https://www.cityofsthelena.org/bc-citycouncil
[362] Napa County Grand Jury Report, Napa County Water Quality: It's a Matter of Taste, June 14, 2019.

GROWTH AND POPULATION PROJECTIONS

According to the California Department of Finance (DOF), the City's population as of 2019 was about 6,133. St. Helena's population increased by approximately six percent in the last 10 years.

The City is largely built out.[363] St. Helena aims to control and limit development in order to contain development and preserve open space and agricultural lands in and adjacent to the City.[364] To accomplish this goal, the City has adopted an Urban Limit Line, designated Urban Reserve Areas, and developed the Residential Growth Management System.[365]

Land outside the Urban Limit Line, but inside the incorporated area, is designated for agricultural uses. Given the long-term nature of the General Plan and the potential for unforeseen circumstances, the Plan anticipates the potential need to expand the urban area by identifying Urban Reserve Areas. Urban Reserve Areas can be considered for urban development after urban sections within the Urban Limit Line are developed and if additional land is needed for urban uses. The Urban Reserve Areas, which are contiguous with the existing urban area, have been located to encourage measured growth and to ensure that further urban development will maintain the compact development pattern desired by the community. The Residential Growth Management System (GMS) limits the number of building permits available for residential growth each year. That limit, as of the time of the General Plan update in 2018 was nine residential units a year, with exceptions given for affordable housing, accessory dwelling units, and other similar circumstances.[366]

The current list of development applications at various stages of approval consists of six projects as shown in Figure 7-2. The St. Helena Estates project is proposed to consist of 56 townhomes, 12 single-family residences with secondary units, seven affordable housing units, and a winery with one residence and 12 worker housing units. The Farmstead at Long Meadow Ranch Lodging project is a proposed 65 room hotel. The St. Helena Lawn Tennis Club has been approved to develop a vacant portion of a parcel for a not-for-profit tennis club. The Downtown Restroom project will provide new public restrooms located at the parking lot of 1304 Oak Avenue. Jayden Properties, LLC has proposed the development of an additional residence at 2525 Madrona Avenue. The Hunter Residential Subdivision is the largest development under consideration by the City and is proposed to consist of 51 residential lots for single family residential development and one 3.13-acre parcel for a multi-family housing development.

Figure 7-2: City of St. Helena Development Projects[367]

Project Name	Description	Status
567 Pope Street	St. Helena Estates Pre-Application Review	Complete
1000 Mills Lane	Farmstead at Long Meadow Ranch Lodging Project	Under Review
156 Main Street	St. Helena Lawn Tennis Club	Approved

[363] City of St. Helena, *General Plan Update 2040*, June 2019, p. 1-10.
[364] City of St. Helena, *General Plan Update 2040*, June 2019, p. 2-3.
[365] City of St. Helena, *General Plan Update 2040*, June 2019, p. 2-17.
[366] City of St. Helena, *General Plan Update 2040*, June 2019, pp. 2-17, 2-19.
[367] https://www.cityofsthelena.org/projects

Project Name	Description	Status
1301 Money Way	Downtown Restroom City Project	Approved
2525 Madrona Avenue	Parcel Map	Approved
Project 10-40	Hunter Residential Subdivision	Under Review
Source: https://www.cityofsthelena.org/projects		

The Association of Bay Area Governments (ABAG) projects that the population of St. Helena will grow by 400 residents between 2015 and 2040. ABAG also projects that the total growth within the City between 2020 and 2030 will be 1.7 percent or about 0.2 percent a year on average. Based on these projections, the City's population would increase from 6,133 in 2019 to approximately 6,250 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change in population between 2012 and 2017 based on the DOF population estimates for these years.[368] Population growth was then projected in five-year increments through 2030. According to LAFCO's projections, the population of St. Helena in 2025 will be about 6,458 and approximately 6,728 in 2030. In the case of the City of St. Helena, the projections developed by LAFCO are significantly higher than the ones from ABAG. LAFCO projects that St. Helena will grow by 0.88 percent a year through 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[369]

[368] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[369] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

FINANCIAL ABILITY TO PROVIDE SERVICES

The City of St. Helena provides water and wastewater services as City enterprise ("business-type" activities). City departments provide administrative and overhead services to the water and wastewater enterprises, which in turn reimburse the City departments for those expenses. The enterprises are supported by rate revenues and charges; no property tax revenue accrues directly to the enterprises.

The City requires that properties requiring City wastewater services annex to the St. Helena Municipal Sewer District No. 1.[370] However, there are no separate property tax allocations to the District, no special assessments or other property tax "overrides" above the basic one percent property tax, and the City's CAFR and budgets do not reference the District. The City does receive an insignificant amount of additional property tax from a slightly higher tax rate within the Tax Rate Area receiving properties annexed to the District, but the annual amount is probably less than the applicant fees and City staff processing time required for a single annexation. Municipal Sewer District No. 1 appears to be a relic of previous circumstances and no longer provides a benefit to the City's operations but instead creates an extra layer of unnecessary process. It is recommended that the District be eliminated, and its functions continued as part of the City's Finance and Public Works Departments, similar to other cities.

Figure 7-3: Summary of Selected Financial Information, City of St. Helena Water Operations

City of St. Helena Water Operations	
FY18-19 Water Budget Net	**$1,244,000**
Operating Revenues	$6,093,000
Operating Expenditures (exc. debt & CIP transfers)	$4,849,000
Ending Fund Balance as % of Operating Revenues	**59%**
Ending Fund Balance	$3,597,000
Debt Service as a % of Operating Revenues	**16.6%**
Total Debt Outstanding	$10,594,000
Debt Service	$1,009,000
Monthly Wastewater Rates as a % of Household Income	**1.4%**
Typical Monthly Rate	$103
Median Household Income (2017)	$85,663
Pension+OPEB Total Payments % of Revenues	**1.5%**
Pension+OPEB Total Payments	$90,000
Unfunded Pension Liability	$1,693,000

[370] Municipal Sewer District No. 1 is codified in Chapter 13.20 Section 040 of the City's Municipal Code, where annexation fees are established.

Figure 7-4: Summary of Selected Financial Information, City of St. Helena Wastewater Operations

City of St. Helena Wastewater Operations	
FY18-19 Wastewater Budget Net	**$854,000**
Operating Revenues	$3,155,000
Operating Expenditures (exc. debt & CIP transfers)	$2,301,000
Ending Fund Balance as % of Operating Revenues	**23%**
Ending Fund Balance	$728,000
Debt Service as a % of Operating Revenues	**8.1%**
Total Debt Outstanding	$2,651,000
Monthly Water Rates as a % of Household Income	**1.3%**
Typical Monthly Rate	$91
Median Household Income (2017)	$85,663
Pension+OPEB Total Payments % of Revenues	**2.5%**
Pension+OPEB Total Payments	$78,000
Unfunded Pension Liability	$1,188,000
Unfunded OPEB Liability	$0

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Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The City's FY19 budget indicates that its water and wastewater "are beginning to stabilize after being financially stressed over the past few years."[371] The City anticipates that recently adopted rate increases will enable the utilities to meet debt covenants, fund capital and help achieve cash balance targets.

Water Services

Water enterprise operating revenues exceed operating expenditures by $1.24 million after deducting the cost of services provided by other City departments (excluding debt service and transfers out for CIP).

Wastewater Services

Wastewater enterprise operating revenues exceed operating expenditures by $854,000 after deducting the cost of services provided by other City departments (excluding debt service and transfers out for CIP).

[371] City of St. Helena Operations & Capital Budget FY 2018/19, pg. 6.

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for short-term cash flow and liquidity, and sufficient to fund longer-term capital needs.

The City's financial policies direct the Water and Wastewater Operating Fund balances and CIP funds to maintain at least 10-14 months (83%-106%) and 6-8 months (50-67%) of annual operating expenditures in cash, respectively.[372]

Water Services

The City projects a $3.6 million, or 59 percent cash balance in the Water Fund for FY19.[373] Adding a $316,000 impact fee balance and $963,000 Water CIP fund balance produces a combined balance equal to about 83 percent of operating expenditures (including administration and excluding transfers to Water CIP), which meets the minimum 83 percent target.

Wastewater Services

The City projects a $728,000, or 25 percent cash balance in the Wastewater Fund for FY19.[374] Adding a $652,000 impact fee balance and $153,000 Wastewater fund balance produces a combined balance equal to about 60 percent of operating expenditures (including administration and excluding transfers to Wastewater CIP), which is above the minimum 50 percent target.

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term and ability to fund capital improvements.

The City's utility funds both show positive total and unrestricted net positions.

Water Services

The Water Fund's unrestricted net position represents $7.2 million of the Fund's total $10.4 million at the end of FY18.[375]

Wastewater Services

The Wastewater Fund's unrestricted net position represents $2.9 million of the Fund's total $7.1 million at the end of FY18.[376]

[372] City of St. Helena Administrative Policy Finance, 2018-11-27, Item J. Fund Balance Levels, 6. Water and Wastewater.
[373] City of St. Helena Operations & Capital Budget FY 2018/19, Water Fund (561) pg. 156 does not include balances in the CIP fund, impact fee fund, and bond proceeds.
[374] City of St. Helena Operations & Capital Budget FY 2018/19, Wastewater Fund (571) pg. 176.
[375] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
[376] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility.[377]

St. Helena's rates for water equal 1.4 percent of median household incomes, and typical City wastewater rates equal 1.3 percent of median household incomes, which are less than the rate thresholds noted above.[378]

The City collects water and wastewater connection impact fees to pay for system improvements required to serve new development.[379]

The City offers a low-income water and wastewater rate program providing 50 percent reductions in base rates. The maximum General Fund subsidy was $90,000 in FY18.[380]

Water Services

Without water rate increases, the water utility fund faced the prospect of negative balances within two years.[381] Following implementation of the 2016 rate study, the City Council revisited the rates and rate structures. The result of this subsequent study was adoption of new rates in November 2017 with implementation in December 2017.[382]

Wastewater Services

The City adopted rates based on a rate study prepared in 2016.[383] The study responded to a need to fund wastewater plan improvements needed to meet more stringent NPDES requirements, which the rate structure at the time did not collect revenues to pay for needed improvements and reduce costly fines. As noted above for water services, the City revisited the 2016 rates and implemented the rates in December 2017.

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10 percent and 30 percent of their total operating revenues on debt service.[384] The City's debt service payments generally fall within or below this range.

[377] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[378] Based on median household income of $85,663 according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[379] See the City of St. Helena Fee/Rate Schedule (note: filename indicates it was updated 7.1.2018).
[380] City of St. Helena Council Policy Low Income Water and Wastewater Subsidy, Reso. 2017-18, P-FI-0009.
[381] City of St. Helena (2016) Water and Wastewater Study, Final, October 31, 2016, Hansford Economic Consulting, pg. 3.
[382] City of St. Helena response to 9/11/19 financial data request.
[383] City of St. Helena (2016) Water and Wastewater Study, Final, October 31, 2016, Hansford Economic Consulting.
[384] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/

Water Services

The City's water services debt outstanding totals $10 million at the end of FY18.[385] The Water Fund currently spends about 16.6 percent of revenues for debt service.[386]

Wastewater Services

The City's wastewater services debt outstanding totals $2.5 million at the end of FY18.[387] The Wastewater Fund services spends about 8.1 percent of its total operating revenues for debt service.[388]

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts.

However, current costs and potential increases in St. Helena pension costs do not appear to be a significant adverse factor relative to its total budget. CalPERS projects the City's largest plan's required contributions towards its unfunded liability to increase by less than three percent through 2025, or about an additional $220,000. [389] The City planned to accelerate the reduction of its pension liability via a 15-year amortization schedule beginning in FY19-20.[390] The commitment by the City Council to make additional contributions to emulate a 15-year amortization schedule, which was included in the FY20 Operating Budget, was memorialized via Resolution 2019-154 on December 10, 2019.

The City's financial report indicates that the City has no OPEB liabilities[391] and is working towards pre-funding its retiree medical obligations.[392]

Water Services

Unfunded pension liabilities allocated to the water system total $1.7 million;[393] payments toward these liabilities total about 1.5 percent of total revenues.[394]

Wastewater Services

Unfunded pension liabilities allocated to the wastewater system total $1.2 million;[395] payments toward these liabilities total about 2 percent of total revenues.[396]

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385 City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
386 Appendix A, City of St. Helena Water Operations Fiscal Profile.
387 City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
388 Appendix A, City of St. Helena Water Operations Fiscal Profile.
389 CalPERS Actuarial Valuation as of June 30, 2017 for the City of St. Helena, Misc. Plan, Projected Employer Contributions, pg. 5.
390 City of St. Helena FY18 CAFR, Letter of Transmittal, pg. iv.
391 City of St. Helena FY18 CAFR, Letter of Transmittal, pg. iii
392 City of St. Helena FY18 CAFR, Letter of Transmittal, pg. iii
393 City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
394 City of St. Helena FY19 Budget, Water Enterprise Fund, pg. 158, 168. See also Appendix A, Town of St. Helena Water Operations Fiscal Profile.
395 City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
396 City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Wastewater Enterprise Fund, pg. 178, 182. See also Appendix A, Town of St. Helena Wastewater Operations Fiscal Profile.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The City's 5-Year CIP Summary shows major water and wastewater capital improvements through FY23. The City's budget also displays expenditures towards current projects underway through FY18.[397] Prior year expenditures towards completed projects are not shown in the budget.

Water Services

The value of depreciable capital assets, after deducting depreciation, declined from FY17 to FY18.[398] CIP water system expenditures for FY19 through FY23 appear to approximately equal annual depreciation of $770,000[399] in addition to expenditures for planning and assessment projects.

Wastewater Services

The value of depreciable capital assets, after deducting depreciation, declined from FY17 to FY18.[400] CIP wastewater system expenditures for FY19 through FY23 appear to substantially exceed annual depreciation of $530,000[401] in addition to expenditures for planning and assessment projects. This is primarily due to the Wastewater Treatment Plant upgrades.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The City's website includes descriptions of and access to current and past water and wastewater financial documents.

Financial Policies – The City maintains financial policies accessible on its website.[402]

Comprehensive Annual Financial Report (CAFR) – The City prepares a CAFR in a timely manner with detailed information for each of its utilities.

Capital Improvement Program – The City's budget includes a 5-year CIP showing detailed cost estimates, funding sources, and timing of past and projected expenditures for planned projects.[403] The CIP does not show recent expenditures for completed projects.

[397] City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, pg. 196 (water system capital improvements) and pg. 205 (wastewater system capital improvements).
[398] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
[399] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 22.
[400] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
[401] City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 22.
[402] http://www.ci.st-helena.ca.us/bc-citycouncil/page/council-adopted-policies
[403] City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, pg. 196 (water system capital improvements) and pg. 205 (wastewater system capital improvements).

Cost of Service/Rate Study – The City adopted water and wastewater rates based on a rate study prepared in 2016, which was revisited and revised in 2017.[404]

Financial Forecasts – The City prepares and updates a long-range financial forecast,[405] however, it only forecasts General Fund revenues and expenditures and does not include utility finances. The City's rate studies include long-range utility forecasts.

Other Financial Planning – The City has completed a review of its General Fund using the League of California Cities diagnostic tools; however, these diagnostic indicators did not include the City's utilities.[406]

[404] City of St. Helena (2016) Water and Wastewater Study, Final, October 31, 2016, Hansford Economic Consulting.
[405] General Fund Long Range Financial Forecast, City of St. Helena, 2018-2028, Updated March 27, 2018.
[406] California Municipal Financial Health Diagnostic Informational Report on the City of St. Helena, Report to the City Council Meeting of Dec. 12, 2017.

WATER SERVICES

The City of St. Helena conducts planning for its water services in its General Plan that was last updated in 2018. The City's General Plan contains several policies related to water. These policies include:

Land Use Element

LU1.1 Require new development to occur within well-defined boundaries and be consistent with the ability to provide urban services. New development should mitigate infrastructure impacts by using sustainable, best management practices in green building and stormwater management and paying its share of development impact fees, while minimizing impacts on sewer, water, energy, and natural resources.

LU1.5 Require new development to provide adequate infrastructure and urban services, including compliance with the policies and implementing actions affecting new development as set forth in the Public Facilities and Services Element.

LU1.G Work with property owners and the Napa County Local Agency Formation Commission to study the benefits of annexing lands adjacent to the City of St. Helena, where the City owns and operates critical municipal infrastructure, including utility infrastructure, and/or provides municipal services, or where the provision of municipal services to replace wells and aging sceptic systems would improve public health.

LU1.H In the event that unincorporated areas are annexed to the City, advocate for favorable tax-sharing agreements that ensure that the City receives the revenues necessary to support the municipal services and infrastructure required in those areas.

LU5.6 Permit wineries and other agricultural-related industries to locate in the city if their location does not adversely impact surroundings, uses, or city services (water, traffic, etc.) or the quality and character of the community.

LU6.1 Provide a wide range of high-quality public facilities, including parks, multi-use trails, schools, fire and police services, water and wastewater systems, and community centers.

Public Facilities and Services Element

PF1.1 Require that the approval of new development be contingent upon the ability of the City to provide water without exceeding the safe annual yield of its water supply system.

PF1.2 Adopt and implement equitable water conservation measures for both residential and non-residential users so that the City can supply water within the safe yield of its water system.

PF1.3 Prohibit water service to new customers outside the city limits unless a potential threat to health and safety can be demonstrated.

PF1.4 Proactively reduce the City's commitment to provide water to uses outside the city limits.

PF1.5 Continue to implement and update as necessary the City's Water Management Plan Ordinance and the City's Ordinance containing the Water Use Efficiency Guidelines, along with other existing water conservation ordinances and measures.

PF1.6 Aggressively promote adoption of "best practices" for reducing water usage in the existing housing stock through the City existing Ordinances and Water Conservation Plans.

PF2.C Urban services such as sewer, water, and storm drainage will only be extended to development within the Urban Limit Line. Exceptions will be permitted when undue hardship can be demonstrated and when proposed improvements are not found to induce growth

Additionally, the City plans for its water services in the Water Supply Plan (developed in 2010), Master Water Plan (2006) and the annually updated Capital Improvement Program (CIP). The City also participates in the Bay Area Integrated Regional Water Management Plan (IRWMP). The City is encouraged to update its water service planning documents.

Type and Extent of Services

Services Provided

The City of St. Helena provides potable water services to residential, commercial, institutional, industrial, and landscape irrigation customers within its service area. The City also provide non-potable water services to a few customers.

Service Area

The existing service area covers a large area inside and outside of the city limits. The network extends from Lodi Lane, two miles north of the City, to Niebaum Lane, in the unincorporated community of Rutherford, three miles south of the City.[407] St. Helena currently provides water services to 361[408] connections outside of its boundaries, all of which were connected before 2001 and therefore did not require prior LAFCO approval. Of these connections, 307 are residential and 54 are industrial, commercial and other. The City's Municipal Code 13.04.050 (H) now precludes connections outside of the city limits except in the case of private fire service provision and to provide reclaimed water in accordance with city policies and procedures. Water customers who have contracts with the City for the service provision are typically commercial properties. These water agreements were put in place to limit the amount of water used by these commercial entities. If water use exceeds the contract amount, it results in higher rate charges for excess water. The amount of water used is monitored by city staff.[409] Out-of-area service connections are shown in Figure 7-5.

Additionally, the recent General Plan Update has precluded connections to the municipal water, sewer and storm drainage system outside of the City's ULL. While there are areas that are within the city limits but outside the ULL, these properties will not be eligible to connect to the City's water system except when undue hardships can be demonstrated and when proposed improvements are not found to induce growth.

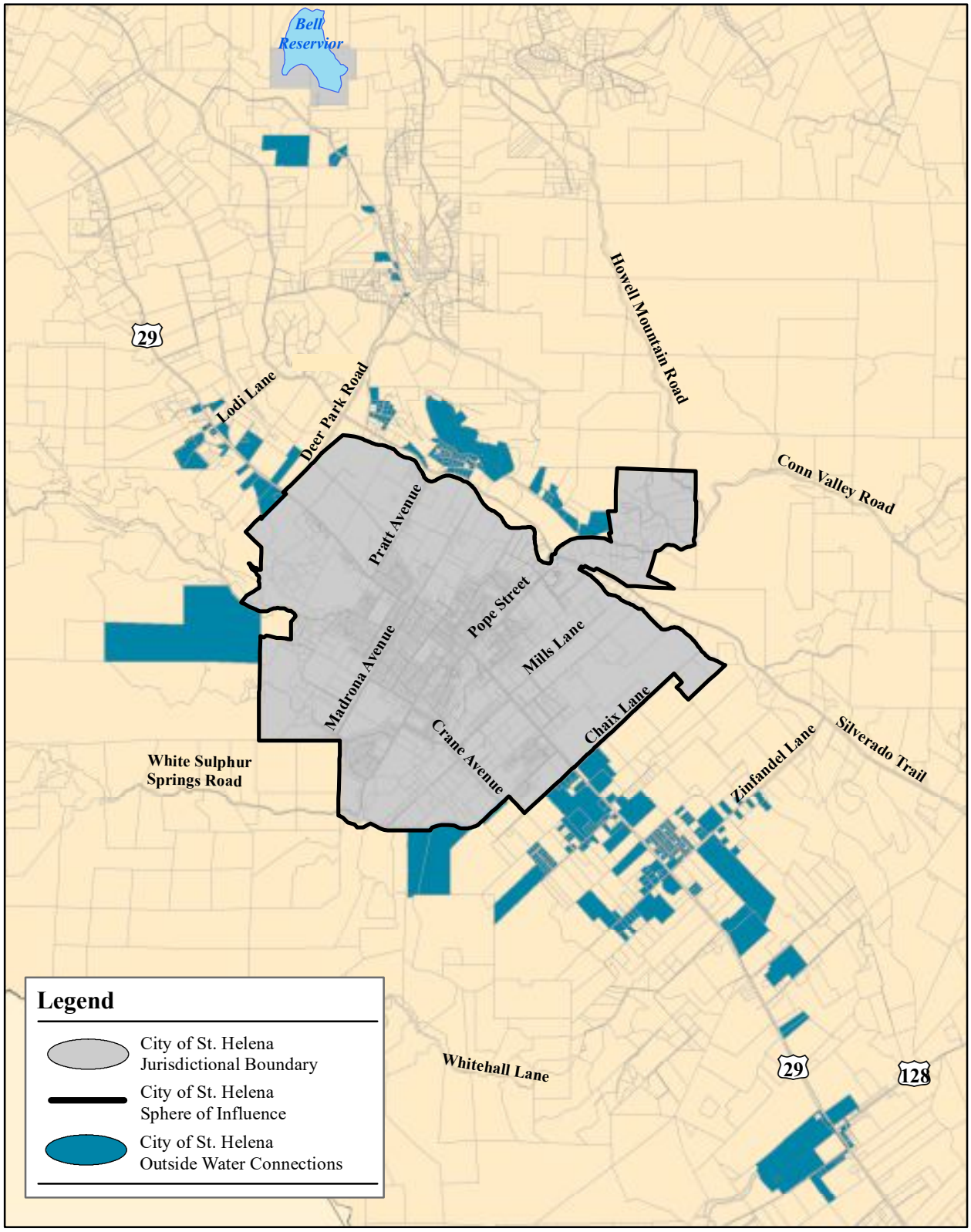
Services to Other Agencies

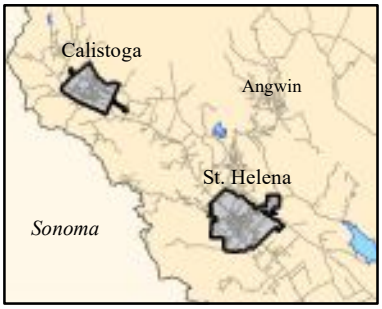
The City does not provide any water-related services to other agencies.

[407] City of St. Helena, *General Plan Update 2040*, June 2019, p. 4-7.
[408] City of St. Helena, Response Letter for the 2018-2019 Napa County Grand Jury Report "St. Helena: A Small Town with Big City Problems," August 2019.
[409] City of St. Helena, Response Letter for the 2018-2019 Napa County Grand Jury Report "St. Helena: A Small Town with Big City Problems," August 2019.

Figure 7-5

City of St. Helena





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December 31, 2019
Prepared by LAFCO Staff

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Contracts for Services

The City purchases significant water quantities from the City of Napa, having entered into a long-term water supply agreement for this purpose in September 2006. The delivery terms were materially revised in April 2009 (Amendment No. 1) and in November 2011 (Amendment No. 2). The initial term of the contract expires on December 31, 2035.[410]

Overlapping Service Providers

There are no overlapping water service providers within the City of St. Helena; however, both the City of Napa and St. Helena provide water services to the Rutherford property (Beaulieu Vineyard), which is outside both cities. There is an opportunity for greater collaboration between the two cities to ensure that duplicative services to not occur in other locations.

Collaboration

The City participates in the Bay Area Integrated Regional Water Management Plan (IRWMP). The City also has a collaborative relationship with the City of Napa, from which St. Helena buys a portion of its water supply.

The City additionally is participating in a Memorandum of Understanding (MOU) among Napa County municipal water purveyors to develop a drought contingency plan. As part of this collaboration, participating agencies are evaluating opportunities for supplemental water supply and constraints of their current utility systems.

Staffing

The Water Treatment Division of the Public Works Department provides potable water to its customers. It is staffed by three licensed water treatment operators. This division is responsible for monthly, quarterly and annual monitoring of all water quality aspects of the system.[411]

The Water Distribution Division of the Public Works Department is responsible for the distribution portion of the City's water system, providing water to users at all times at pressures and quantities required. This division has one supervisor, one lead worker, and two maintenance workers that maintain all water distribution piping, and facilities within the system. The Water Distribution Division also performs all meter readings, provides customer service, responds to complaints and requests, and performs fire hydrant maintenance and water leak repairs.[412]

Water Supply

The City of St. Helena provides potable water from three sources—Bell Canyon Reservoir, Stonebridge Wells, and water purchased from the City of Napa.[413] Based on the City's monthly

[410] City of St. Helena, *General Plan Update 2040*, June 2019, p. 4-5.
[411] https://www.cityofsthelena.org/publicworks/page/water
[412] https://www.cityofsthelena.org/publicworks/page/water
[413] https://www.cityofsthelena.org/publicworks/page/water

water reports, roughly, about 50 percent of St. Helena water supply comes from Bell Canyon Reservoir, 20 percent from the Stonebridge Wells, and 30 percent from the City of Napa.

The City's water sources with the allotted amounts are shown in Figure 7-6.

Figure 7-6: City of St. Helena Water Sources (acre-feet per year)

Potable Water Supply by Source		
Source	**Normal Year Supply**	**Dry Year Supply**
Bell Canyon Reservoir	1,000[414]	600[415]
Stonebridge Wells	450[416]	514[417]
City of Napa	600[418]	600
TOTAL	**2,050**	**1,714**

Source: City of St. Helena, General Plan Update 2040, 2019. City of St. Helena, Urban Water Management Plan, 2003. City of St. Helena, Water Supply Plan, 2010.

In addition to the potable water service, the City provides non-potable water to RLS Middle School and Spring Mountain Vineyards and small areas near Pope Street, including Jacob Meily Park. The sources of non-potable water are Lower Reservoir on York Creek and a groundwater well.

Bell Canyon Reservoir

The Bell Canyon Reservoir watershed is a subwatershed of the Napa River watershed. Bell Canyon Reservoir was formed in 1959 by the construction of Bell Canyon Dam on Bell Creek about two miles upstream of its confluence with the Napa River.[419]

The City has the right to divert and store 3,800 acre-feet (AF) at Bell Canyon, although the available physical storage is significantly less than that amount. Bell Canyon is an on-stream reservoir with a physical storage capacity of approximately 1,800 AF. This amount of water is physically available only when all hydrologic and hydraulic conditions are optimal for surface water diversions. In some years, lower amounts will be available due to low rainfall or rainfall occurring more episodically than continuously. Further, the amount that operationally can be withdrawn from storage in any year is less than the amount in true storage due to the need to carry significant storage over from one year to the next to augment total supply in dry years. At the same time, planned infrastructure improvements at Bell Canyon, including electronic equipment and related improvements that permit accurate monitoring of inflows and outflows in real time, could enhance the annual yield from the reservoir.[420]

[414] Sustainable Yield of Bell Canyon Reservoir during Normal Year as estimated in the Water Supply Plan, 2010, p. 24.
[415] Sustainable Yield of Bell Canyon Reservoir during Dry Year as estimated in the Water Supply Plan, 2010, p. 24.
[416] Maximum capacity of the wells is 1,050; however, this is if operated continuously, which is not a best practice. Given that the City has noted declining groundwater levels, groundwater generally comprises just 20 percent of total water supplied in normal years. The Sustainable and Safe Yields of the wells is unknown.
[417] City of St. Helena, Water Supply Plan, 2010, p. 26.
[418] An additional 200 af may be purchased from City of Napa when available.
[419] City of St. Helena, Bell Canyon Reservoir Watershed Sanitary Survey, February 2014, p. 2-1.
[420] City of St. Helena, *General Plan Update 2040*, 2018, pp. 4-3, 4-4.

Stonebridge Wells

Another source of the City's potable water supply is groundwater from the two Stonebridge Wells. The two wells have the ability to produce 1,050 AFY of potable water if both are operated continuously 24 hours per day for 365 days. The water from the wells is treated through a green sand pressure filter system at the small water treatment plant owned and operated by the City. The City typically operates both wells at the same time.

A third well, also near the Napa River but just north of Pope Street, provides untreated water that is used for irrigation in nearby areas, including Jacob Meily Park.

The City routinely monitors the elevation of the aquifer in the area of the city wells. The spring and fall elevation levels have declined since Stonebridge Well No. 1 went into production in 1992. While the decline is disconcerting, the City is not able to assess the long-term significance without further study.[421]

The City has not tracked groundwater levels in recent years, but makes efforts to conserve its use of the resource and to protect its use in the area. In 2013, the City passed an ordinance preventing the drilling of wells to serve residential, commercial, and industrial uses within the city limits.[422] When an application for an agricultural well is submitted, the applicant must also submit a study by a hydrogeologist to determine the project's actual effects on the groundwater system and provide for mitigation of any resulting negative impacts.

City of Napa

St. Helena maintains a connection to the City of Napa with a maximum capacity of 700 gallons per minute (gpm). This metered connection point is located in Rutherford and is known as the Rutherford connection. Under the most recent agreement update, Napa is required to deliver 600 AF of water per year to the City of St. Helena and the City is required to take and pay for 600 AF each year. The City has the option to purchase an additional 200 af of water from Napa (above the 600 AF) if Napa has the water available to sell.[423]

Water purchased from the City of Napa is more costly than water produced by the City from Bell Canyon or the city wells. In 2012, the annual cost of 600 AF was approximately $1.2 million. The price escalates at the rate of three percent per year (subject to some potential adjustment). At the same time, the reliability of Napa water (as Napa must deliver 600 AF in all years) provides much needed assurance that the City will receive significant water in drought years when relying mainly on water from Bell Canyon could be problematic and groundwater production would not otherwise be sufficient to avoid a serious or even extreme water shortage.[424]

The amount of water purchased from the City of Napa has been gradually increasing. The last such increase was brought about by the necessity to allocate more water for fish habitats. In 2016, an activist group engaged in protecting fish habitats, Water Audit, filed a lawsuit against the City of St. Helena claiming that the City had historically diverted too much water from Bell Creek into Bell Canyon Reservoir thus endangering fish habitats. As part of the

[421] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-5.
[422] St. Helena Municipal Code, Chapter 13.16 Section 080 (B).
[423] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-5.
[424] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-5.

lawsuit settlement, the City agreed to divert more water from the reservoir to the creek. Thus, water lost due to the diversion is now purchased from the City of Napa.

Lower Creek Reservoir

The City currently uses Lower Reservoir to supply non-potable water to Robert Louis Stevenson Middle School for irrigation of a portion of the playing fields, and to Spring Mountain Winery to serve a portion of their non-potable water demands. Additionally, the City makes the reservoir water available for trucking of non-potable water for irrigation and construction. In 2019, 11 customers pumped water from the reservoir. Lower Creek Reservoir has the capacity of 161 af, of which 40 af must be retained in the reservoir. Annual metered water use for these customers is approximately 50 afy.[425]

Figure 7-7 shows the amount of water produced by the City from 2014 through 2018.

Figure 7-7: Water Production (2014-2018), acre-feet

Water Produced					
	2014	**2015**	**2016**	**2017**	**2018**
Groundwater	316.59	244	287.22	338.38	245.85
Surface Water	743.01	710.79	689.00	825.93	694.97
Purchased Water	540.00	582.60	559.73	616.57	653.04
Total Amount of Potable Water	1,569.60	1,537.51	1,535.92	1,780.88	1,593.87
Non-Potable Water	NP	NP	NP	NP	NP

Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.
Note: NP = Not provided

Emergency Preparedness

In case of emergency, the City of St. Helena has the ability to purchase additional water from the City of Napa, albeit depending on the availability. There are also new water sources that the City is considering adding in the near future to increase the reliability of supply especially in emergencies and dry years. These potential sources include recycled water and groundwater from the capped well on the Adams Street property. The Adams Street well may become a potential source of non-potable or potable (if treated) water.[426] It is unknown what volume of water might be expected from the well as it is capped.

Recycled water is a potential new water supply source that is currently being considered by the City. However, the demand for recycled water is likely to be highest during the driest months when flows into the City's Wastewater Treatment Plant are at their lowest. This means that under current conditions, recycled water could not be a meaningful factor in augmenting supply for non-potable use without the addition of substantial storage capacity. It would be necessary to provide recycled storage pumping and distribution facilities that include at a minimum 400 AF of storage. The City notes that it does not own land at a suitable location for such storage capacity and at this time the cost of purchasing land and constructing such storage may not be fiscally justifiable to water rate payers.[427]

[425] City of St. Helena, *Water Supply Plan*, October 2010.
[426] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-3.
[427] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-10.

Water Demand

As of 2018, the City of St. Helena provided potable water services to 2,580 connections within the City and the surrounding area, including 2,135 single-family residential, 137 multi-family residential, 268 commercial, 19 industrial, 21 landscape irrigation, and 96 other types of connections (i.e., for fire suppression, street cleaning, construction, and line flushing).[428]

In 2018, the City of St. Helena delivered 519.801 mg or 1,595 af of water to its customers, which equates to 1.42 mgd average daily consumption.[429]

Total existing metered potable water demand averaged about 1,900 afy between 2000 and 2015 and has declined in recent years due to improved water use efficiency and short-term demand reductions. Meaningful savings have been observed in residential water consumption, which is also the largest category of user.[430] General commercial and industrial (winery) usage, when added together, have also significantly declined in recent years, including in low rainfall years.

Water demand for the years 2015 through 2018 is shown in Figure 7-8.

Figure 7-8: Demand for Potable Water by Customer Type (acre-feet)

Demand for Potable and Water

User Type	2014	2015	2016	2017	2018
Single-Family Residential	597.76	588.06	551.08	643.80	641.74
Multi-Family Residential	158.36	147.08	143.42	179.78	182.42
Commercial/Institutional	330.66	302.65	292.60	307.34	287.71
Industrial	242.86	233.41	237.72	246.18	229.42
Landscape Irrigation	17.95	9.90	16.40	20.16	103.67
Other	69.89	84.18	0.57	0.55	3.33
TOTAL DEMAND	**1,417.48**	**1,365.28**	**1,241.79**	**1,397.81**	**1,448.29**

Source: Annual Reports to the Drinking Water Program for 2014, 2015, 2016, 2017, and 2018.

The City is largely developed and is not likely to grow outwards due to land use restrictions. The City has not developed up to date water demand projections, but is in the process of updating the master utility plan, which will include demand projections. Consequently, for the purposes of this study, it is assumed that water demand will grow in conjunction with the projected population growth as identified by LAFCO through 2030. The City's projected demand for potable water is depicted in Figure 7-9.

[428] City of St. Helena, Annual Report to the Division of Drinking Water, 2018, p. 7.
[429] City of St. Helena, *Monthly Water Reports*, 2018.
[430] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-7.

Figure 7-9: Projected Demand for Potable Water (acre-feet)

Projected Demand for Potable Water					
Use Type	**2020**	**2025**	**2030**	**2035**	**2040**
Single-Family Residential	653.08	682.33	712.89	Unknown	Unknown
Multi-Family Residential	185.64	193.96	202.64	Unknown	Unknown
Commercial/Institutional	292.80	305.91	319.61	Unknown	Unknown
Industrial	233.48	243.93	254.85	Unknown	Unknown
Landscape Irrigation	105.50	110.23	115.16	Unknown	Unknown
Other	3.39	3.54	3.70	Unknown	Unknown
TOTAL POTABLE	**1,473.89**	**1,539.89**	**1,608.85**	Unknown	Unknown
Source: Based on LAFCO's population growth projections of 0.88 percent annually through 2030 and 2018 water use.					

Demand/Supply Analysis

As was already mentioned prior, annual yield from Bell Canyon in recent years has been significantly less than in prior years, primarily because more water is now diverted to support fish habitat. Most recently, City of Napa water supply has become an increasing percentage of St. Helena's total supply. St. Helena is also seeking to reduce its withdrawal of groundwater in non-drought years, in order to give the aquifers in the area of the Stonebridge Well Complex an opportunity to recharge.[431]

Residential, commercial, and industrial customers have made great progress in recent years in reducing their water usage.[432] However, experience has shown that the City has inadequate water to supply customer demand without imposition of water emergency restrictions in recent years, which has led to the establishment of a "Safe Annual Yield" of the Water System. Often "safe yield" is thought of as the supply that can be reliably delivered under worst-case (drought) conditions. However, it was also apparent that under such an approach, the demand on the City's water system, even at the reduced levels of recent years, exceeded the "safe annual yield."[433]

The City established its own definition of " safe annual yield," as follows: "The safe annual yield of the St. Helena water supply system is that quantity of water which can be reliably delivered on an annual basis through most rainfall years, including a Dry Year, without undue hardship[434] on water customers through water shortage restrictions."[435] It is recognized that the annual safe yield, as so defined, could place significant hardship on water customers in a Critically Dry Year (rainfall at 21.9" or less) or in periods of two or more consecutive Dry Years.[436]

[431] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-6.
[432] City of St. Helena, *General Plan Update 2040*, 2018, p. 4-19.
[433] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-8.
[434] The City defined "undue hardship" as "three or more consecutive months of Phase II water restrictions or Phase III water restrictions." The water restriction phases are those as stated in a water emergency ordinance adopted by the City in the fall of 2011.
[435] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-9.
[436] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-9.

In estimating the safe yield, it is assumed that groundwater withdrawals will not exceed 450 af in normal years (ideally withdrawals should be significantly less than 450 af). It assumes that the City will purchase 600 AF each year from the City of Napa, in accordance with its contractual commitment, as described above. The safe yield also takes into account the storage and bypass requirements that the City must follow at Bell Canyon. On the demand side, the estimated demand equals total water actually supplied (including water losses) averaged over the past five years.[437]

The annual safe yield would increase if the City were to acquire a significant new source of water supply. The annual safe yield could decrease if the City finds that it cannot sustainably withdraw water from the City production wells at current levels.[438]

The City needs to obtain new water supplies and/or achieve more water savings, even under current conditions in order to reliably meet the current and future water demand. At the same time, the City recognizes that any new water supply, even if forthcoming, is likely to be expensive, potentially increasing the unit cost of potable water. Thus, the main emphasis going forward will be on conservation, seeking to reduce demand by all classes of users.[439]

The City plans to assess the feasibility of production of reclaimed water as a potential water source. The City's wastewater treatment upgrades will bring the treatment level up to tertiary water fit for reclaimed uses for irrigation and landscaping. After the plant is in place, the city will be conducting a feasibility study to determine those properties that would benefit from a recycled water system. Additionally, the City plans to identify the volume of reclaimed water that would be available on a regular basis during the dry season.

Water Infrastructure and Facilities

The City's water infrastructure consists of the reservoirs, wells, the water treatment plant, distribution system, and storage facilities.

Supply Infrastructure

Bell Canyon Reservoir

Bell Canyon Reservoir was built in 1959. The reservoir is owned and operated by the City and has a storage capacity of 1,800 af.[440]

Water is conveyed by gravity from Bell Canyon Reservoir by a 24-inch diameter steel pipeline that travels 0.17 mile to where it ties into an 18-inch concrete lined steel pipeline. The 18-inch pipeline runs 0.32 miles and connects to the influent structure at the Louis Stralla Water Treatment Plant (WTP).[441]

The dam (National ID No. CA00149) is under the jurisdiction of the State of California. The dam is certified and considered to be in satisfactory condition by the State. The dam is considered a high-risk dam, as the downstream hazard is categorized as high, and is

[437] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-9.
[438] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-9.
[439] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-10.
[440] City of St. Helena, *General Plan Update 2040*, 2018, pp. 4-3, 4-4.
[441] City of St. Helena, *Bell Canyon Reservoir Watershed Sanitary Survey*, February 2014, p. 2-4.

continuously being watched for leakage. The base of the dam is presently under review, and the City is in the design phase of replacing the intake tower.

Lower York Reservoir

The City owns and operates the Lower Reservoir on York Creek for non-potable irrigation and construction water requirement. Currently, water is diverted from York Creek and stored in the Lower Reservoir. Limited irrigation water is supplied by a single distribution pipeline in Spring Mountain Road. A connection for construction water is also available from this pipeline.

Lower Reservoir is an off-stream reservoir with a physical capacity of between 200 and 225 af. The City has a pre-1913 claim to store up to 160 af in this reservoir. However, the City has no facility to treat water from it. Currently, about 50 afy from the reservoir is used for irrigation.[442]

Stonebridge Wells

The City owns a well field known as the Stonebridge Wells located near the end of Pope Street next to Wappo Park. The existing system includes three wells (two of which are active) and a filtration facility, including filtration tanks, chlorination facilities and a backwash return system.[443]

Well #1 was installed in 1992 with a rated capacity of 425 gpm. Well #2 was installed in 1996 with a rated capacity of 225 gpm. The City operates a filter system for iron and manganese removal for both active wells and provides chlorination prior to introduction of groundwater into the distribution system.[444] Both wells are considered to be in good condition with minimal needs.

A third well, also near the Napa River but just north of Pope Street, provides untreated water for irrigation. The City did not report the capacity of this well.

Treatment

Water from Bell Canyon Reservoir is treated at the Louis Stralla WTP. The WTP began operation in 1980 and was upgraded in 1995. The plant provides complete conventional treatment including chemical addition, flash-mixing, dual train flocculation and sedimentation, multi-media rapid sand filtration, and disinfection.[445] The WTP is owned and operated by the City and was reported to be predominantly in good condition as it is well maintained but has certain infrastructure needs, in particular the roof is in need of replacement.

The plant has a treatment capacity of 4.3 million gallons per day (mgd), but typically operates at 3.5 mgd.[446] The WTP has sufficient capacity to treat the available water supply from Bell Canyon Reservoir.

The City also owns and operates a small water treatment plant with green sand pressure filter system to treat groundwater for iron and manganese removal from the Stonebridge

[442] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-4.
[443] City of St. Helena, *Water Master Plan*, 2006, p. 3-1.
[444] City of St. Helena, *Water Master Plan*, 2006, p. 3-1
[445] City of St. Helena, *Bell Canyon Reservoir Watershed Sanitary Survey*, February 2014, p. 2-3.
[446] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-4.

Wells prior to introduction into the City's distribution system. The filter has two filter trains, a backwash collection and return system and a chlorination system.[447] The well treatment is reportedly in good condition.

Distribution

The existing water distribution system consists of pump stations, pipelines and source connections. There are four distribution zones within the City, including the Main Zone, Spring Mountain Zone (Zone 2), Holmes Zone (Zone 3), and Madrone Zone (Zone 4). Zones two through four serve only residential customers. The City has five pump stations within its water distribution system, with a total of eight pumps. Distribution pipelines range from 1.25 to 24 inches in diameter.[448] There are 50 miles of water mains.[449]

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. The City-reported total real losses in 2018 were 146 acre-feet or 9.1 percent of the water produced in that year.

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. In 2018, St. Helena distribution system experienced 30 service connection breaks or leaks and two main breaks or leaks. The City averaged about 1.75 water main breaks per year between 2015 and 2018, which averages to about 3.5 breaks per 100 miles of main per year. This is significantly lower than the national average of between 21 and 27 breaks per 100 miles of pipe per year.[450]

As the City has completed replacement of customer meters and undertaken significant meter improvements at the Louis Stralla Water Treatment Plant, St. Helena believes that the majority of the water loss is occurring under the streets in its aging distribution system. The City considers it a "difficult, expensive and long-term issue to resolve."[451]

Storage Facilities

The City's storage facilities are shown in Figure 7-10. The City has six storage facilities that constitute 4.36 mg of storage. Tank 1A was built in 2014 and is consequently considered to be in excellent condition. Tank 2 is presently in fair condition but is in the design phase of a rehabilitation. Following the refurbishment, the tank is anticipated to be in good condition. The three Meadowood tanks are constructed of redwood, have leakage, and are considered to be in poor condition. The City has not yet addressed this issue as a funding source is yet to be identified.

The Water Master Plan (2006) identified water storage expansion needs. Since that time Tank 1A has been constructed. The City plans to reassess its storage capacity and prioritize needs in a storage evaluation; however, the evaluation is not yet part of the five-year CIP.

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[447] City of St. Helena, *Water Master Plan*, 2006, p. 5-1.
[448] City of St. Helena, *Water Master Plan*, 2006.
[449] City of St. Helena, *Comprehensive Annual Financial Report*, June 30, 2018, p. 143.
[450] WaterRF, Knowledge Portals, 2017.
[451] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-7.

Figure 7-10: City of St. Helena Storage Facilities

Storage	Capacity	Condition
Treatment Plant Reservoir (1A)	1.4 mg	Excellent
Tank 2	2.7 mg	Fair
Meadowood Tanks (1,2,3)	0.2 mg	Poor
Holmes Tank	0.06 mg	Not provided

Source: City of St. Helena, Water Master Plan, 2006.

Shared Facilities

St. Helena shares an interconnection with the City of Napa through which the City of St. Helena buys potable treated water from Napa on a regular basis and in case of emergencies.

In conjunction with the cities of Napa and Calistoga, St. Helena is looking for grant funding to make improvements to the Dwyer booster pump station in order to ensure reliable and adequate pressure for fire protection purposes.

Given the separation of municipal systems, further opportunities for facility sharing are limited.

Infrastructure Needs

Water infrastructure needs are discussed in the City of St. Helena Capital Improvement Program (CIP). The CIP has a planning horizon of five years and is updated annually.

The FY 2023 CIP lists the following long-term planned projects pertaining to water infrastructure: 1) an installation of a new raw water metering station, 2) replacement of a 12-inch water transmission main, 3) replacement of one percent of all water mains throughout the water distribution system, 4) possible upgrade of storage depending on evaluation, 5) construction of recycled water infrastructure, 6) installation of smart meters, and 7) software upgrade for meters. Projects to be implemented in the next five years include dam removal, tank upgrades, Bell Canyon Reservoir improvements, pump station improvements, valve replacements, Lower Reservoir rehab, intake tower repairs, pump upgrades, WTP condition assessment, SCADA improvements, spill containment at the wells, updates to water system maps, water master plan update, main replacements, and Bell Canyon phreatic surface assessment and stability assessment.[452]

Additionally, the City is involved in the removal of the Upper York Creek Dam project. This earthen dam was built by the City in the early 1900s and is composed of approximately 12,670 cubic feet of material that came from soil excavated to create the three-acre Upper Reservoir. The 50-foot-high, 140-foot-long structure once impounded water to form the reservoir, which had a 10 mg storage capacity and was used for municipal water supply. The use of the reservoir has since been abandoned due to sedimentation.[453] The City has been working since 2015 on the project of removing the dam to allow for the passage of fish to

[452] City of St. Helena, Capital Improvement Program, Fiscal Years 2018/19 – 2022/23, Adopted on May 8, 2018.
[453] U.S. Army Corps of Engineers San Francisco District, Upper York Creek Ecosystem Restoration Project Feasibility Report Engineering Appendix, August 2006.

their historical breeding grounds upstream of the dam. The dam removal is planned to be completed by the end of 2020.

Water Quality

The State Water Resources Control Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

The Bell Canyon watershed is geographically small and contains few contaminant sources. The most significant potential sources of contaminants in the watershed are wildfires and vineyards.[454] Overall, Bell Canyon Reservoir provides good quality water. The raw water is treated to meet all primary drinking water standards using conventional filtration processes. The only constituent present in the raw water that consistently requires additional treatment is manganese. [455]

Stonebridge Wells are considered vulnerable to activities located near the drinking water source. The source in both wells is considered most vulnerable to contaminants from the sewer collections system.[456]

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

According to the EPA report the City had one health-based violation in 2017 and two health-based violations in 2016, all for exceeding the total allowed amount of haloacetic acids (HAA5). The City of St. Helena contracts with independent Alpha Analytics Laboratories to test water samples from eight specified locations. The City also uses Eurofins Scientific for disinfection byproduct testing, and Caltest Analytical Laboratories for lead testing. The drinking water provided to the Madrone Knoll and Meadowood areas had a running annual average measurement of HAA5 that did not meet SWRCB standards. The levels found were just over the safe water limit, restricted to one test period, and localized.

[454] California Department of Health Services, Drinking Water Source Assessment: Bell Canyon Reservoir Intake, November 2002.
[455] City of St. Helena, Bell Canyon Reservoir Watershed Sanitary Survey, February 2014, p. 3-1.
[456] California Department of Health Services, Drinking Water Source Assessment: Stonebridge Well 01 and Stonebridge Well 02, April 2002.

Since water sourced from the City of Napa did not exceed HAA5 levels at that time, the source of the contamination was likely water processed at the Louis Stralla WTP.[457]

As required by California State Law, St. Helena notified its residents of these results in letters sent by the DPW. To mitigate future issues, St. Helena Public Works undertook a series of additional steps: 1) added Powder Activated Carbon at the WTP, 2) increased mixing and aeration at the City's three water holding tanks, and 3) set aside funds to replace the obsolete redwood tanks that serve the Madrone Knoll area and Meadowood resort.[458]

In 2018, the City was in compliance with primary drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year. In 2018, water tested above secondary drinking water standards for odor; however, secondary standards are based on aesthetics only.

[457] Napa County Grand Jury, *Napa County Water Quality: It's a Matter of Taste*, June 14, 2019, pp. 14-15.
[458] Napa County Grand Jury, *Napa County Water Quality: It's a Matter of Taste*, June 14, 2019, pp. 14-15.

WASTEWATER SERVICES

The City of St. Helena conducts planning for its wastewater services in its General Plan that was last updated in 2018. The City's General Plan contains several policies related to water in various elements. These policies include:

Land Use Element

LU1.1 Require new development to occur within well-defined boundaries and be consistent with the ability to provide urban services. New development should mitigate infrastructure impacts by using sustainable, best management practices in green building and stormwater management and paying its share of development impact fees, while minimizing impacts on sewer, water, energy, and natural resources.

LU1.5 Require new development to provide adequate infrastructure and urban services, including compliance with the policies and implementing actions affecting new development as set forth in the Public Facilities and Services Element.

LU1.G Work with property owners and the Napa County Local Agency Formation Commission to study the benefits of annexing lands adjacent to the City of St. Helena, where the City owns and operates critical municipal infrastructure, including utility infrastructure, and/or provides municipal services, or where the provision of municipal services to replace wells and aging sceptic systems would improve public health.

LU1.H In the event that unincorporated areas are annexed to the City, advocate for favorable tax-sharing agreements that ensure that the City receives the revenues necessary to support the municipal services and infrastructure required in those areas.

LU5.6 Permit wineries and other agricultural-related industries to locate in the city if their location does not adversely impact surroundings, uses, or city services (water, traffic, etc.) or the quality and character of the community.

LU6.1 Provide a wide range of high-quality public facilities, including parks, multi-use trails, schools, fire and police services, water and wastewater systems, and community centers.

Public Facilities and Services Element

PF2.1 Ensure adequate sewage treatment capacity at the City treatment plant to meet the needs of population growth, taking into account the City's Growth Management System, the Regional Housing Needs Allocation, and the needs of non-residential users.

PF2.2 Require the extension of the City sewer to areas that are dependent upon septic systems prior to approval of future growth in these areas.

PF2.3 Reduce pumping costs and increase plant capacity by mitigating sewer system infiltration problems and explore alternate energy sources.

PF2.4 Increase sewer collection system efficiency by ensuring proper maintenance of sewer pipes.

Additionally, the City plans for its wastewater services in the Sewer Flow Isolation Study (2007), Wastewater Facilities Evaluation Update (2015), Sewer System Management Plan (2014), and the annually updated Capital Improvement Program (CIP).

Type and Extent of Services

Services Provided

The City of St. Helena provides wastewater collection and treatment services within its boundary area.

Service Area

All sewer connections are located within the city boundaries, with no out-of-agency sewer services provided.[459] However, Meadowood, which is to the north of St. Helena, has expressed interest in connecting to the City's system and the State is supportive of the City taking on these services.

Services to Other Agencies

No wastewater services are provided to other agencies by the City of St. Helena.

Contracts for Services

The City does not receive contract wastewater services from other agencies.

Overlapping Service Providers

No other agencies provide services that overlap with the City of St. Helena. However, several properties rely on private septic systems. Within the City, about 300 dwelling units and three wineries are on individual disposal systems, most of which are too remote to reach the City's sewer system.[460] These properties lie along Big Rock Road, Spring Rock Road. Sulfur Springs Avenue. A majority of these properties are in rural areas; however, there are approximately 15 properties along Main Street in downtown St. Helena that continue to rely on septic systems.

Collaboration

At present, there is not a collaborative relationship amongst the Napa agencies regarding wastewater services, as the service areas are distant and distinct from one another.

Staffing

The Public Works Director usually establishes policy, plans strategy and leads staff. Sewer System Supervisor supervises, evaluates and participates in the work of crews responsible for construction, repair, maintenance and operational work in the Sewers Operational Unit of the Public Works Department.[461] Collection System Operation Team performs field operations and maintenance activities, provides relevant information to agency management, prepares and implements contingency plans, leads emergency response, investigates and reports SSOs, and performs preventive maintenance.[462]

[459] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.
[460] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.
[461] City of St. Helena, Sewer System Management Plan, 2014, pp. 2-1 – 2-4.
[462] City of St. Helena, Sewer System Management Plan, 2014, pp. 2-1 – 2-4.

The three licensed water treatment operators who are employed in the Water Treatment Division of the Public Works Department are also licensed in wastewater treatment and provide standby operation of the City's Wastewater Treatment Plant.[463]

Wastewater Flow

The City provides sewer service to approximately 1,726 connections, of which 75 percent are residential.[464] The City did not provide its average dry weather flow (ADWF) for the last five years.

Figure 7-11: Average Dry Weather Flows 2014-2018 and Buildout Conditions (mgd)

City of St. Helena Sewer Flows					
2014	**2015**	**2016**	**2017**	**2018**	**Buildout**
0.364	0.337	0.379	0.410	0.359	Unknown

Source: City of St. Helena MSR Request for Information.
NP = Not provided

In 2017 and 2018, the City experienced peak wet weather flows of 3.77 mgd and 1.48 mgd, respectively. The peaking factor, which is the ratio of peak wet weather flow to average dry weather flow, was 9.2 in 2017 and 4.1 in 2018. A peaking factor of 9.2 is indicative of a high rate of infiltration and inflow. The wet weather season of 2017 was significant and impacted most wastewater providers.

Utilizing ABAG projected population growth, the average dry weather flow (ADWF) could stay relatively flat at 0.424 mgd. Otherwise, considering a conservative assumption, the estimated ADWF might rise to 0.496 mgd by 2030.[465] As recommended by the San Francisco Bay Regional Water Quality Control Board (RWQCB), a 25 percent buffer should be added to the estimated projection, which increases the projected 2030 ADWF to slightly less than 0.65 mgd.[466]

Wastewater Infrastructure and Facilities

The City's wastewater infrastructure consists of the wastewater collection system and the wastewater treatment plant.

Treatment Plant

The City's wastewater treatment plant (WWTP), including its integrated pond system, is located in the southeast corner of the City, near the Napa River. There are a series of ponds that treat the effluent to a secondary level, and the treated effluent is then sprayed onto a field owned by the City just south of the ponds. While the City's permit allowed for the discharge into the Napa River under limited conditions, the City seeks to minimize discharges directly into the river.[467]

[463] https://www.cityofsthelena.org/publicworks/page/water
[464] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.
[465] City of St. Helena, Department of Public Works, Wastewater Treatment and Reclamation Plant/Collection System: Facilities Status and Planning, 2014.
[466] City of St. Helena, Department of Public Works, Wastewater Treatment and Reclamation Plant/Collection System: Facilities Status and Planning, 2014.
[467] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.

Secondary treated effluent is discharged to the Napa River during the wet weather period of December 1 through April 30, while maintaining a river to wastewater dilution flow ratio of at least 50 to 1. The final effluent is chlorinated and dechlorinated prior to discharge to the river. When these conditions cannot be met, wastewater is stored in the on-site storage ponds and/or used for irrigation at the City's disposal fields directly to the southeast of the WWTP.[468] Irrigation disposal is operated under the provisions of the permit by WWTP operations staff.[469]

The WWTP consists of Type 1 and Type 2 Advanced Integrated Pond Systems (AIPS), which include in-pond up-flow anaerobic digesters for waste contact and treatment followed by natural aerobic and facultative pond treatment processes.[470] The WWTP has a design average dry weather flow of 0.5 mgd and a peak wet weather flow of nearly 3 mgd.[471]

When operated under design conditions, the existing WWTP pond system has sufficient capacity to meet (and exceed) the 0.65 MGD (conservative flow projection for 2030) design flows under all anticipated load conditions. This means all ponds are in service and operating under near ideal conditions and solids/sludge build-up is not excessive.[472] In order to achieve reliable operation of the WWTP at design capacity, the facilities evaluation study conducted in 2015 recommends three sets of improvements, including 1) constructing adequate solids management systems outside the treatment train in order to maintain treatment units' solids accumulation within design recommendations; 2) installing analyzers and automation at the WWTP disinfection and de-chlorination facility for improved operation and monitoring during river discharge; and 3) constructing rock filter system for improved algal total suspended solids (TSS) reduction between Pond 3 and disinfection facility.[473]

In the past, wastewater discharges to the Napa River have exceeded the established limits for biochemical oxygen demand (BOD) and TSS. Constructed in the 1960s, the WWTP is required to meet new wastewater treatment standards set forth by the Regional Water Quality Control Board (RWQCB) in 2016, which mandate additional treatment of wastewater in order to meet stricter environmental requirements. Under a Cease and Desist Order from the RWQCB, the City is required to phase in the improvements to the wastewater treatment plant by December 1, 2021.[474] The Cease and Desist Order contains interim BOD and TSS effluent limits, required report submittals and a schedule for the City to make modifications to the WWTP in order to meet the new effluent limits. As a first step, the Order required the submittal of a Draft Feasibility Study by September 1, 2016, with which the City complied.[475]

Based on the completed feasibility study by the consultant GHD, city staff recommends installing a trickling filter system ($8.14 million) with an infiltration pond ($543,900), tertiary filtration ($1.5 million), electrical upgrades ($1.1 million), and a disinfection system ($849,100). In addition to those Phase 1 improvements, staff is also recommending reclamation field improvements, facilities automation, a new well, and Phase 2 upgrades that would add another $2 million, for a total of $14.1 million. The City has submitted plans for

[468] City of St. Helena, *Wastewater Treatment and Reclamation Plants Improvements*, Draft Feasibility Study, 2016, p. 1.
[469] Bennet Engineering Services, City of St. Helena, *Wastewater Facilities Evaluation Update*, March 2015, p. 2.
[470] Bennet Engineering Services, City of St. Helena, *Wastewater Facilities Evaluation Update*, March 2015, p. 4.
[471] City of St. Helena, *Wastewater Treatment and Reclamation Plants Improvements*, Draft Feasibility Study, 2016, p. 1.
[472] Bennet Engineering Services, City of St. Helena, *Wastewater Facilities Evaluation Update*, March 2015, p. 13.
[473] Bennet Engineering Services, City of St. Helena, *Wastewater Facilities Evaluation Update*, March 2015, p. 22.
[474] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.
[475] City of St. Helena, *Wastewater Treatment and Reclamation Plants Improvements*, Draft Feasibility Study, 2016, p. 1.

the plant upgrades to the RWQCB as required. The next step is determining a funding plan consisting of some combination of a general fund loan, bonds, and a USDA rural fund loan, and then issuing a Request for Proposals in February 2020 for construction of the plant improvements, in order to stay on track to meet the required deadlines.

Collection System

With the exception of the original town site, which has four-inch sewer lines, most of the City is served by pipes sized for dry weather flows. During the winter rainy season, surface and ground water infiltration increases flows by eight times. In several areas of the City, the sewer system suffers from defects, which prevent free flow of sewage, resulting in backwater in the system. There is one lift station at the Crinella development in the northeast quadrant east of Main Street. The remaining system operates by gravity.[476] As of 2018, the City had 18.61 miles of wastewater mains.[477]

The City has a goal to adequately maintain the collection system and prevent sanitary sewer overflows (SSOs). Currently, the City performs about 80 percent of inspections in response to a problem and 20 percent as routine maintenance in areas which have previously had a problem. All manholes are visited systematically.[478]

To provide more details regarding the integrity of the City's sewer system and adequacy of its services this report includes the analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report SSOs to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

Over the last six years (2014-2019) there were 27 SSO events, consisting of one in 2014, two in 2016, nine in 2017, seven in 2018, and eight (through October) in 2019. In 2018 (the last full calendar year), the City's SSO rate was 38 spills per 100 miles of sewer mains. Averaged over the five-year period between 2014 and 2018 (there was no data for the entirety of 2019 as of the drafting of this report), the City's SSO rate was about 20 spills per 100 miles of mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[479]

In 2019, all of the spills in St. Helena recorded through the month of October were Category 1 spills; a total of 369,318 gallons of spilled sewage reached surface water. The SSOs in 2019 were all due to gravity main failure.

The City has a settlement agreement with River Watch to reduce infiltration and inflow (I/I) that leads to the SSOs. The City is in the process of conducting CCTV inspections of the system to prioritize those areas that are most in need of rehabilitation. The City is allocating $150,000 a year to do pipeline rehabilitations to address those areas most in need.

[476] City of St. Helena, *General Plan Update 2040*, 2019, p. 4-12.
[477] City of St. Helena, *Comprehensive Annual Financial Report*, June 30, 2018, p. 143.
[478] City of St. Helena, Sewer System Management Plan, 2014, p. 4-3.
[479] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

The RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The City has both a permit for treatment and discharge at the WWTP and a general permit for its collection system.

For its collection system the City encountered one regulatory measure in 2006 and one violation in 2017. There were no priority violations. St. Helena received a total of three enforcement actions in 2010, 2012 and 2017.

With regard to the WWTP, there were 10 regulatory measures, all of which occurred in or before 2016. The two regulatory measures, from 2013 and 2016 are still active and are related to the NPDES permit. There were a total of 46 violations at the WWTP, none of which were priority violations. Most of the violations in 2019 were related to BOD and TTS limits in the effluent. Other issues included exceeding maximum levels of coliform, copper, cyanide, and chlorine. The City's WWTP encountered 12 enforcement actions, one of which (the Cease and Desist Order discussed in the previous section) is still active.

Infrastructure Needs

The City plans for wastewater infrastructure needs in its Capital Improvement Program (CIP). The CIP has a planning horizon of five years and is updated annually. [480]

The FY 2023 CIP lists the following long-term planned projects pertaining to wastewater infrastructure: 1) upgrade to chemical storage facilities at the WWTP, 2) assessment (will be conducted in FY 2022) and necessary improvements associated with the recycled water treatment at the WWTP (unfunded project), and 3) storm drain replacement (unfunded project). Projects planned for the next five years include WWTP upgrades, reclamation field improvements, plant facilities automation, new well at WWTP, sewer main replacement (one percent annually), pump station upgrades, SCADA upgrades, wet weather flow monitoring, sewer map update, sewer master plan, recycled water feasibility study, and replacement of the operations building and shop. [481]

The potential improvements to the WWTP, which would put the City in legal compliance, were discussed previously in the *Treatment Plant* section.

Shared Facilities

The City does not share wastewater infrastructure with other agencies. Due to the distance between the municipal systems, no opportunities for further facility sharing were identified.

[480] City of St. Helena, Capital Improvement Program, Fiscal Years 2018/19 – 2022/23, Adopted on May 8, 2018.
[481] City of St. Helena, Capital Improvement Program, Fiscal Years 2018/19 – 2022/23, Adopted on May 8, 2018.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to the City of St. Helena and its water and wastewater services, including possible service structure modifications and reorganizations with other agencies. The feasibility of each of these options is generally assessed in this report; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Countywide Water Agency

There are several challenges to water and wastewater services around the County that could be potentially addressed by alternative governance structures:

- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water and wastewater services in the County,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for occasional technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Given these challenges, there may be a need for a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from the consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district or a sanitation district. As these options may affect all of the water and wastewater service providers reviewed here, these governance structure options are discussed and assessed in further detail in the *Overview* chapter (Chapter 3) of this report.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to the City of St. Helena regarding its water and wastewater service delivery.

1) The City of St. Helena plans for its water services in the Water Supply Plan (2010), and Master Water Plan (2006). These documents do not provide the most up-to-date representation of the City's water operation and do not represent the projected demand for water services in the relevant future. The City is encouraged to update its water service planning documents.
2) The City is in need of further water supply studies assessing future use of existing sources and identifying potential new sources. The City's 2017 MSR recommended that the City of St. Helena prepare a brief study of potential for future water supply alternatives. Ideally, this study should be submitted to LAFCO within the next five years, prior to preparation of the next MSR. While the City is collaborating with the

other municipalities on the Napa Valley Drought Contingency Plan, there is a continued need for the City to identify other sustainable water sources.

3) The City requires that properties in need of City wastewater services annex to the St. Helena Municipal Sewer District No. 1.[482] Municipal Sewer District No. 1 appears to be a relic of previous circumstances and no longer provides a benefit to the City's operations but instead creates an extra layer of unnecessary process. It is recommended that the District be eliminated in 2020, and its functions continued as part of the City's Finance and Public Works Departments, similar to other cities.

4) Both the Cities of Napa and St. Helena provide water services to the Rutherford Road area, which is outside both cities. It is recommended that the two cities create a communication structure to ensure that duplicative services do not occur in other locations.

5) The City makes reservoir water available for trucking of non-potable water for irrigation and construction. At present, there are no limitations on who may make use of the water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses and locations for trucking of water be defined in the City's municipal code.

6) It has been Napa LAFCO's practice to not include city-owned property within a city's SOI pursuant to Government Code §56742, which is specific to noncontiguous territories. LAFCO may wish to consider including the noncontiguous city-owned properties in the City of St. Helena's SOI during its next update, or if LAFCO wishes to continue the practice of excluding these properties from the City's SOI, then it may consider clarifying its intent in its policies.

[482] Municipal Sewer District No. 1 is codified in Chapter 13.20 Section 040 of the City's Municipal Code, where annexation fees are established.

CITY OF ST. HELENA DETERMINATIONS

Growth and Population Projections

- The City of St. Helena's population, as of 2019, was approximately 6,133.
- Growth within the City is limited by an Urban Limit Line, designated Urban Reserve Areas, and the Residential Growth Management System The Residential Growth Management System limits the number of building permits available for residential growth each year. That limit, as of 2018, was nine residential units a year, with exceptions.
- LAFCO anticipates a continued increase in population over the period from 2019 to 2030 at an annual rate of 0.88 percent, with an anticipated population of 6,728 in 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- Experience has shown that the City has inadequate water to supply customer demand without imposition of water emergency restrictions in recent years The City needs to obtain new water supplies and/or achieve more water savings, even under current conditions in order to reliably meet current and future water demand.
- There are new water sources that the City is considering adding in the near future to increase the reliability of supply, especially in emergencies and dry years, including recycled water and groundwater from the capped well on the Adams Street property.
- The level of water services offered by the City were found to be adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the City's water distribution system is moderate; although the City experiences a relatively high rate of water loss, there are few main breaks and leaks. The City was in full compliance with Primary Drinking Water Regulations in 2018 and has addressed the three violations reported by the EPA since 2008.
- The City appropriately plans for its infrastructure needs in the Capital Improvement Plan. Long-term significant water infrastructure needs consist of identification of a supplemental water source, construction of recycled water infrastructure, and replacement of aged portions of the distribution system susceptible to high rates of loss.

- St. Helena has more than adequate capacity to accommodate existing and projected demand at its wastewater treatment plant beyond 2030 under all anticipated load conditions.
- The level of wastewater services offered by the City were found to be marginally adequate based on integrity of the wastewater collection system and regulatory compliance. The City has struggled with a higher than statewide average rate of sanitary sewer overflows, as a result of infiltration and inflow during wet weather periods. Additionally, the City has had numerous violations and enforcement actions at its WWTP. The City is in the midst of addressing the regulatory issues at the WWTP.
- The most significant infrastructure need for the wastewater system is improvement to the WWTP to meet the requirements set forth in the Cease and Desist Order. The City is in the process of developing a funding plan for the improvements.

Financial Ability of Agencies to Provide Services

- The City of St. Helena has the ability to continue providing water and wastewater services. The FY19 budget's positive annual utility balances indicated that its utilities were beginning to stabilize due to recently adopted rate increases, after several years of financial stress.
- The City appears to have adequate reserves, although in FY19 they were not meeting their adopted reserve targets. Unrestricted net position of both utilities were significantly positive.
- Combined utility rates are well below maximum standards. The City adopted new rate schedules in December 2017 to address anticipated water operations shortfalls and to fund needed wastewater improvements and regulatory requirements.
- Recent and planned capital improvement expenditures equal or exceed average annual depreciation, indicating that the City is keeping pace with infrastructure depreciation.
- The City based its updated utility rate schedule adopted in December 2017 on a revised 2016 cost of service study that included long-range forecasts of operating and capital needs.

Status of, and Opportunities for, Shared Facilities

- St. Helena shares an interconnection with the City of Napa through which the City of St. Helena buys potable treated water from Napa on a regular basis and in case of emergencies.
- In conjunction with the cities of Napa and Calistoga, St. Helena is looking for grant funding to make improvements to the Dwyer booster pump station in order to ensure reliable and adequate pressure for fire protection purposes.
- Given the separation of municipal systems, further opportunities for facility sharing are limited. However, the City is open to collaboration and resource sharing with regional municipal water purveyors as demonstrated by its participation in the Napa Drought Contingency Plan.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The City Council holds regular appropriately noticed meetings.
- St. Helena makes available most documents on its website, including minutes, agendas, and financial and planning reports. The City is compliant with the agenda-posting requirements outlined in AB 2257.

Relationship with Regional Growth Goals and Policies

- St. Helena aims to control and limit development in order to contain development and preserve open space and agricultural lands in and adjacent to the City. To accomplish this goal, the City has adopted an Urban Limit Line, designated Urban Reserve Areas, and developed the Residential Growth Management System. These growth-limiting practices align with the County's Agricultural Preserve policy.
- The City of St. Helena and four other municipalities of Napa County participate in the Napa Valley Transportation Authority (NVTA), which functions as the region's Congestion Management Agency and provides input to the Bay Area-wide Metropolitan Transportation Commission's (MTC) 20-year Regional Transportation Plan. Plans applicable to Yountville include *Napa Countywide Pedestrian Plan, Vision 2040 Moving Napa Forward – A Countywide Transportation Plan, Countywide Bicycle Plan, SR 29 Gateway Corridor Implementation Plan,* and *Plan Bay Area.*
- The City of St. Helena provides outside water services to 361 residential, commercial and industrial connections. Water service to these unincorporated properties was established prior to G.C. §56133 and is specifically exempt given that the service was extended prior to January 1, 2001. New water connections to parcels located outside the City's jurisdictional boundary are not prohibited by municipal code, which aligns with State legislation and LAFCO policy.
- The City makes reservoir water available for trucking of non-potable water for irrigation and construction. At present, there are no limitations on who may make use of the water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses and locations for trucking of water be defined in the City's municipal code.

8. TOWN OF YOUNTVILLE

AGENCY OVERVIEW

Town of Yountville Profile			
Contact Information			
Contact:	Steve Rogers, Town Manager		
Address:	6550 Yount Street, Yountville, CA 94599	*Website:*	http://www.townofyountville.com/
Phone:	707-944-8851	*Email:*	srogers@yville.com
Formation Information			
Date of Incorporation:	1965	*City type:*	General Law
Governing Body			
Governing Body:	Town Council	*Members:*	4 Council Member and 1 Mayor
Manner of Selection:	Election at large	*Length of term:*	4 years
Meetings Location:	Council Chambers at 6550 Yount Street	*Meeting date:*	First and third Tuesday of each month at 6:00 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	2,916
Purpose			
Enabling Legislation:	California Constitution XI	*Empowered Services:*	All municipal services
Municipal Services Provided (directly or by contract)	Water, wastewater, parks and recreation, law enforcement (sheriff's office), fire and EMS (County Fire Department), solid waste (Upper Valley Disposal & Recycling), street cleaning (Commercial Power Sweep), library (County)		
Area Served			
Size:	1.5 square miles (966 acres)	*Location:*	Central Napa County
Current SOI:	1.5 square miles (975 acres)	*Most recent SOI update:*	2017
Municipal Service Reviews			
Past MSRs:	2017 Revised Final Municipal Service Review and Sphere of Influence Update Town of Yountville 2007 Town of Yountville Municipal Service Review 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study		

Boundaries

The Town of Yountville encompasses about 1.5 square miles or 966 acres in the central part of Napa County along SR 29, as shown in Figure 8-1. There have been no boundary reorganizations since 2010.

The Town's business district and residential neighborhoods lie to the east of SR 29, while the Veterans Home, which is property owned and operated by the State of California, is to the west.

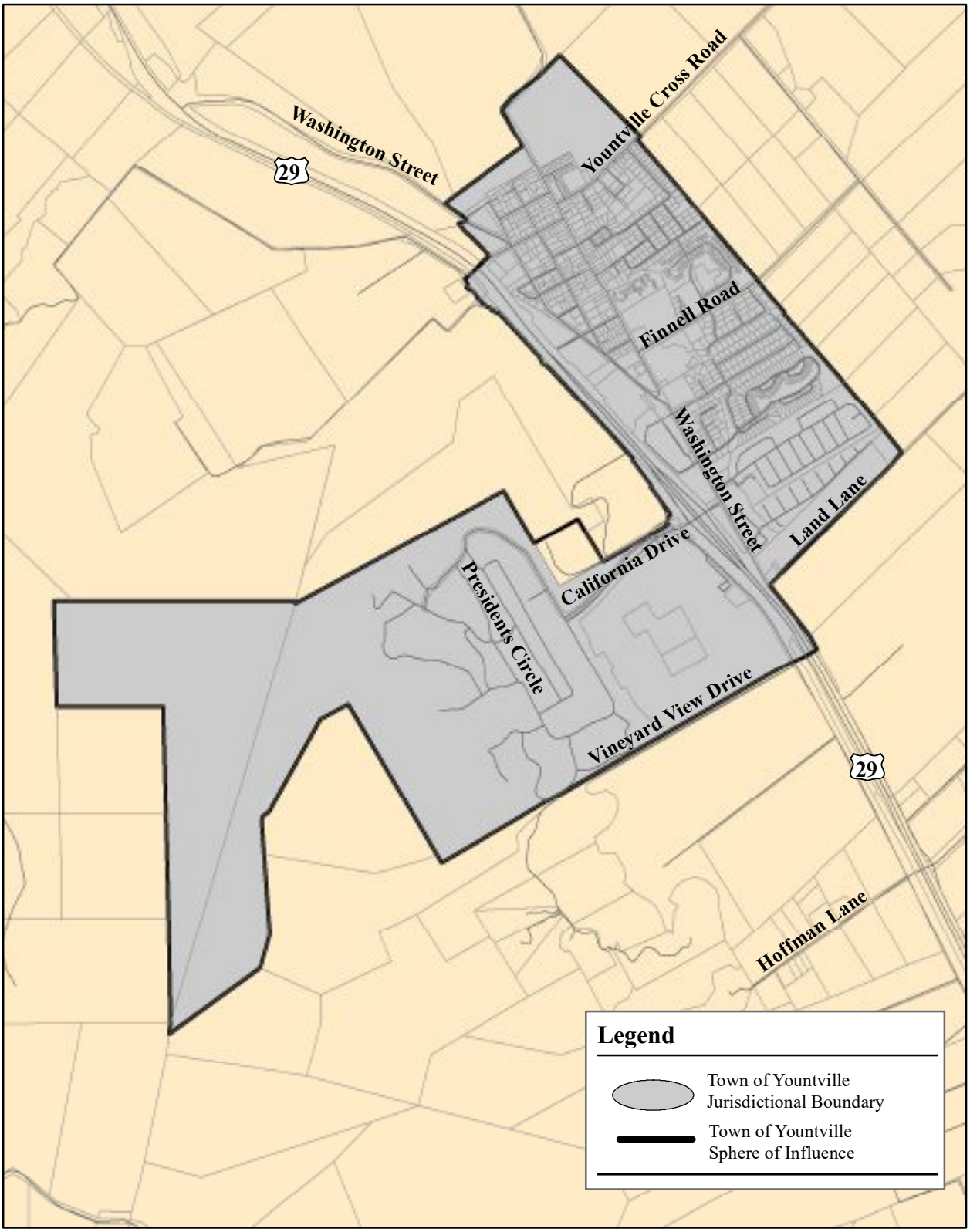
Sphere of Influence

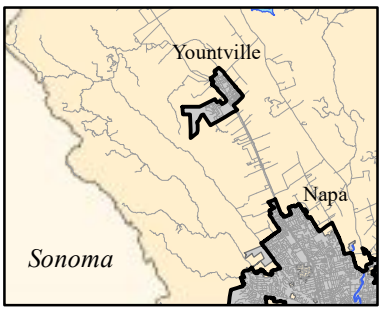
The Town of Yountville sphere of influence (SOI) was last updated in 2017 concurrently with the completion of an MSR. The SOI was expanded to include an 8.8-acre area[483] that contains the commercial portion of the Domaine Chandon site, where the Town has been providing wastewater services since 1991. The Town's current sphere of influence, shown in Figure 8-1, is 975 acres in size.

[483] Napa LAFCO, Resolution 2017-1.

Figure 8-1

Town of Yountville





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0 0.125 0.25 Miles

December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The Town of Yountville is governed by a four-member Council and one Mayor, all elected at large to staggered four-year terms.[484] The Council meets every first and third Tuesday of the month at 6:00 p.m. in the Council Chambers. Agendas and minutes are posted on the website along with other information pertaining to Town services and operations. Council meetings are streamed live on the website.[485]

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda.

Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[486]

The Town of Yountville complies with the new agenda posting requirement under the latter option. The Town maintains a dedicated webpage with the required agenda information with the direct link to this webpage posted on the Town Council page.

To report complaints, especially related to water quality, a customer generally calls Town staff on the main Town Hall line or the emergency after hours number listed on the Town's website. A customer also has an option of using a "MYville App" to report issues and complaints. All "MYville App" requests and phone calls are followed up by Town staff. The Town created a new draft policy to address water quality complaint reporting and tracking with the option of receiving a copy of the completed report upon request by the customer.

The Town demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The Town responded to the questionnaires and cooperated with the document requests.

GROWTH AND POPULATION PROJECTIONS

According to the California Department of Finance (DOF), the Town's population as of 2019 was approximately 2,916, with about 30 percent living at the Veteran's Home.[487]

[484] http://www.townofyountville.com/town-council
[485] https://townofyountville.legistar.com/Calendar.aspx
[486] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/
[487] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 33.

Yountville's population decreased by approximately one percent over the 10-year period since 2009, partially due to decline in the Veteran's Home population.

The Town of Yountville is nearly built out. There are three remaining large parcels of undeveloped land within its boundaries. A 30-acre agricultural parcel at the north end of town on Yountville Crossroad is currently planted with vineyards and is expected to remain in agricultural use. The other two parcels are also in agricultural use but will likely be developed over the next 20 years. The three-acre French Laundry garden site is designated for commercial development, and the 17-acre St. Joan of Arc Catholic Church site is designated for mixed residential development. This last site will require construction of a flood wall to fully realize its development potential. Additionally there are four areas in the Town that will require revised land use designations to be developed, including: 1) West side of Washington street, 2) Humboldt street, 3) North Washington street, and 4) Vista Condominiums.[488] The current list of development projects at various stages of approval and construction consists of 37 projects. These projects mostly include remodels, construction of new single-family residences and exterior modifications. Figure 8-2 shows a list of the largest development projects.

Figure 8-2: Town of Yountville Development Projects

Project Name	Description	Status
Stewart Cellars	Master Development Plan for new tasting room café and bookstore.	Completed
RH Gallery	Master Development Plan for construction of 3 new structures	Completed
Handwritten	Master Development Plan for construction of a new complex with a wine tasting room, a retail space and an apartment	Completed
Bardessono Hotel Three Suite Lodging Unit	Use Permit and Master Development Plan Amendment for Bardessono Hotel Three-Suite Lodging Unit	Completed
Source: http://www.townofyountville.com/departments-services/planning-building		

Projections conducted by the Town of Yountville show that at buildout the Town (excluding the Veteran's Home) will contain 1,252 single-family residential units (an increase of 155 units since 2017), 273 multi-family residential units (an increase of 76 units since 2017) and 658,658 square feet of commercial space (an increase of 169,555 square feet since 2017). However, actual development will depend on future market conditions, property owner preferences, site-specific constraints, and other factors.[489]

The Association of Bay Area Governments (ABAG) projects that the population of Yountville will grow by about 10 percent from 2020 to 2030. Thus, the average annual population growth in the Town is anticipated to be approximately one percent. Based on these projections, the Town's population would increase from 2,916 in 2019 to approximately 3,240 in 2030. About half of the growth is expected to be allocated to the

[488] Town of Yountville, Draft General Plan, Envision Yountville, 2018, Land Use Element.
[489] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 75.

Veteran's Home.[490] As a State-owned property, local land use regulations generally do not apply to the Veterans Home.[491]

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017 based on DOF population estimates for these years.[492] The population growth was projected in five-year increments through 2030. According to LAFCO's projections, the population of Yountville in 2025 will be about 2,860 and approximately 2,813 in 2030. LAFCO projects that between 2019 and 2030 the population of Yountville will be decreasing at an annual rate of about 0.32 percent.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[493]

[490] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 34.
[491] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 40.
[492] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[493] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

FINANCIAL ABILITY TO PROVIDE SERVICES

The Town of Yountville provides water and wastewater services as Town enterprise ("business-type" activities). Town departments provide administrative and overhead services to the water and wastewater enterprises which allocate staff positions to Town departments.[494] The enterprises are supported by rate revenues and charges; no property tax revenue accrues directly to the enterprises, and no General Fund revenues support those enterprises.

The Town's CAFR reports Town financials. The CAFR provides financial information separately for the water and wastewater "business-type" activities. The Town's annual budget reports revenues and expenses separately for water and wastewater enterprises; several funds segregate operating and special revenues.

Figure 8-3: Summary of Selected Financial Information, Town of Yountville Water Operations

Town of Yountville Water Operations	
FY18-19 Water Budget Net	**$60,000**
Operating Revenues	$1,330,000
Operating Expenditures (exc. debt)	$1,270,000
Ending Fund Balance as % of Operating Revenues	**27%**
Ending Fund Balance	$365,000
Debt Service as a % of Operating Revenues	**0.0%**
Total Debt Outstanding	$0
Monthly Water Rates as a % of Household Income	**1.7%**
Typical Monthly Rate	$102
Median Household Income (2017)	$70,938
Pension+OPEB Total Payments % of Revenues	**6.4%**
Pension+OPEB Total Payments	$80,000
Unfunded Pension Liability	$280,000
Unfunded OPEB Liability	$140,000

2019-08-30

[494] Staff allocations are reported in the FY19 budget, pg. 250 (Water Fund) and pg. 270, 274.

Figure 8-4: Summary of Selected Financial Information, Town of Yountville Wastewater Operations

Town of Yountville Wastewater Operations	
FY18-19 Wastewater Budget Net	**$350,000**
Operating Revenues	$1,900,000
Operating Expenditures (exc. debt)	$1,550,000
Ending Fund Balance as % of Operating Revenues	**16%**
Ending Fund Balance	$300,000
Debt Service as a % of Operating Revenues	**0.7%**
Total Debt Outstanding	$2,423,000
Monthly Water Rates as a % of Household Income	**1.0%**
Typical Monthly Rate	$56
Median Household Income (2017)	$70,938
Pension+OPEB Total Payments % of Revenues	**9.7%**
Pension+OPEB Total Payments	$180,000
Unfunded Pension Liability	$690,000
Unfunded OPEB Liability	$340,000

2019-08-30

Balanced Budget

A Balanced Budget requires that an agency have sufficient funds to pay for its expenditures. Recurring operating deficits are a warning sign of fiscal distress. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

While the Town's utility operations have experienced deficits in recent years (after funding debt service and capital improvements), a recent schedule of five-year rate increases should provide adequate revenues to cover expenditures over the five-year period.

Water Services

The Town's water operating revenues exceeded operating expenditures for FY16 through FY19 (before capital improvements and capital recovery).[495] The net revenues helped fund capital projects in each of those years but fell short of covering total capital improvements in FY17 through FY19. Rate increases of seven percent annually, which began in FY18, are anticipated to be sufficient to cover all capital projects and maintain adequate reserves over the five-year period of rate increases.[496] The rate increases are intended also to cover increasing costs for water acquisition, a primary factor in the Town's water operating costs (total water acquisition cost represented about 50 percent of the budget in FY19). Over the ten-year period from FY08 to FY18 water acquisition costs per acre-foot

[495] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Water Funds Summary (pg. 243).
[496] Water and Wastewater Rate Study Presentation to the Yountville Town Council, Dec. 15, 2017 (slide 10).

increased an average of 8.7 percent annually. More recently, from FY16 to FY18 the cost per acre-foot increased nearly 70 percent.

Wastewater Services

The Town's wastewater operating revenues exceeded operating expenditures for FY16 through FY19 (before capital improvements and treatment capital recovery).[497] The net revenues helped fund capital projects in each of those years but fell short of covering total capital improvements and treatment capital recovery in FY18 and FY19. Rate increases of 12 percent annually, which began in FY18, are anticipated to be sufficient to cover all capital projects, meet debt service coverage requirements and maintain adequate reserves over the five-year period of rate increases.[498]

Fund Balances, Reserves and Liquidity

Reserves, including Fund Balances, provide cushions for contingencies and capital needs.

The Town Council has established targets for its Emergency Reserve Fund (20 percent of General Fund expenditures) and Revenue Stabilization Fund (29 percent of projected TOT revenue), which the adopted FY19 budget meets.[499] The Town has not created reserves specific to its utility operations, other than its utility fund balances. Town policy requires that fund balance reserves will only be used for non-recurring one-time projects, and their use must be approved by the Town Council.[500]

Water Services

The Water Utility Operations' projected FY19 ending fund balance of $365,000[501] equals 27 percent of annual revenues, providing a cushion for cash flow needs and short-term contingencies.[502] The Water Utility Operations' liquidity ratio, which is significantly positive (current assets exceed current liabilities by $3.6 million), indicates the short-term (less than one year) availability of these funds if needed.

Wastewater Services

The Wastewater Utility Operations' projected FY19 ending fund balance of $299,000[503] equals 16 percent of annual revenues, providing a minimum 2-month cushion for cash flow needs and short-term contingencies.[504] The Wastewater Utility Operations' liquidity ratio, which is significantly positive (current assets exceed current liabilities by $4.1 million), indicates the short-term (less than one year) availability of these funds if needed.

[497] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Wastewater Funds Summary, pg. 263.
[498] Water and Wastewater Rate Study Presentation to the Yountville Town Council, Dec. 15, 2017 (slide 25).
[499] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 26, pg. 39.
[500] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 76.
[501] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Water Utility Operating Fund Summary pg. 245.
[502] See Yountville Water Operations Financial Profile.
[503] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Wastewater Utility Operating Fund Summary pg. 265.
[504] See Yountville Water Operations Financial Profile.

Net Position

The Town's utility enterprises have a positive Net Position and positive Unrestricted Net Positions, indicating that net assets, other than capital assets, exceed total liabilities.

Water Services

The Water Utility Operations Fund has a net position of $5.1 million, which represents the value of assets in excess of liabilities. The net position is primarily invested in capital assets; unrestricted funds total about $3.3 million.[505]

Wastewater Services

The Wastewater Utility Operations Fund has a net position of $10 million, which represents the value of assets in excess of liabilities. The net position is primarily invested in capital assets; unrestricted funds total about $3.4 million.[506]

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility;[507] Yountville's rates for water equal 1.7 percent of median household incomes, and wastewater typical rates equal 1.0 percent of median household incomes.[508]

The Town collects sewer and water connection impact fees to pay for system improvements required to serve new development. The rates are based on a 2005 fee study.[509]

The Town offers a reduced rate program for low-income households funded by the Town's General Fund ($10,000 appropriated in FY20).[510] The program provides $25 reduction in monthly combined water and wastewater fixed fee charges.[511]

Water Services

The Town prepared a water rate study update in 2017 that established rates to fund operations, debt service and capital improvements through FY22.[512] The Town Council adopted rate increases of seven percent annually, which began in FY18.

[505] Town of Yountville FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34.
[506] Town of Yountville FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34.
[507] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[508] Based on median household income of $70,938 according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[509] Town of Yountville Development Impact Fee Study, Bartle Wells Associates, May 2005.
[510] PCA interview with Town of Yountville, 9/18/19.
[511] Town of Yountville media release June 27, 2018, Utility Rate Assistance Available to Qualified Customers Beginning July 1, 2018.
[512] Town of Yountville Water Rate Study Update 2017/18, Bartle Wells Associates, 11/22/2017.

Wastewater Services

The Town prepared a wastewater rate study update in 2017 that established rates to fund operations, debt service and capital improvements through FY22.[513] The Town Council adopted rate increases of 12 percent annually, which began in FY18.

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10 percent and 30 percent of their total operating revenues on debt service.[514] Yountville wastewater services spend less than one percent of revenues for debt service. Water services have no loans or debt.

The Town's debt, budget and reserves contribute to Yountville's stable Fitch Rating, 'AA-' for the Town and 'A+' for the Lease Revenue Bond Series.[515]

Water Services

Water services have no loans or debt.

Wastewater Services

The Town's wastewater services has a loan from the State's revolving fund with a balance outstanding of $2.3 million.

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts. However, current costs and potential increases in Yountville pension and OPEB costs do not appear to be a significant adverse factor relative to its total budget. The Town's total unfunded liability for all services is $3.7 million; its combined plans are about 77 percent funded (not contract services including law enforcement and fire protection).[516] CalPERS projects the Town's payments towards unfunded liabilities to grow a total of about 12 percent from FY19 to FY25.[517] In FY18, the Town established and funded a Pension Rate Stabilization Plan (PRSP) Section 115 Trust Fund with PARS.[518]

Water Services

Unfunded pension and OPEB liabilities allocated to the water system total $420,000; payments toward these liabilities total about 6.4 percent of total revenues.[519]

[513] Town of Yountville Water Rate Study Update 2017/18, Bartle Wells Associates, 11/22/2017.
[514] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[515] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 12
[516] CalPERS Actuarial Valuation as of June 30, 2017 for the Town of Yountville, Plans' Funded Status, pg. 5 (three tiers).
[517] CalPERS Actuarial Valuation as of June 30, 2017 for the Town of Yountville, Projected Employer Contributions, pg. 5.
[518] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 150.
[519] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Water, pg. 244,* and pg. 249. *Includes adjustment for GASB 68. See also Town of Yountville Fiscal Profile, Appendix A, Table A-8.

Wastewater Services

Unfunded pension and OPEB liabilities allocated to the wastewater system total $1,030,000; payments toward these liabilities total about 9.7 percent of total revenues.[520]

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the Town's depreciable utility assets declined from FY17 to FY18, as described below.

Water Services

The value of depreciable capital assets declined about 2.1 percent from FY17 to FY18. FY18 financial reports show no additions to depreciable "business-type activity" asset value to offset annual water system depreciation of $64,000.[521]

The Town's Five-Year CIP Summary shows an average of about $386,000 annually budgeted towards ongoing expenditures for replacement of water distribution facilities and for other programs.[522] These costs are in addition to other periodic charges programmed for various main and lateral repair and other special projects.

Wastewater Services

The value of depreciable capital assets declined about 3.0 percent from FY17 to FY18. FY18 financial reports show no additions to depreciable "business-type activity" asset value to offset annual wastewater system depreciation of $313,000.[523]

The Town's Five-Year CIP Summary shows an average of about $593,000 annually budgeted towards ongoing expenditures for infiltration reduction, and system repair and replacement for wastewater and reclamation facilities.[524] These costs are in addition to other periodic charges programmed for various pump, main and replacement of other components.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website — The Town's website includes descriptions of and access to current and past water and wastewater financial documents.

[520] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, Wastewater, pg. 264*, pg. 273. *Includes adjustment for GASB 68. See also Town of Yountville Fiscal Profile, Appendix A, Table A-8.
[521] Town of Yountville FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 35.
[522] Town of Yountville 5-Year CIP Summary FY18-FY23, pdf pg. 8 of 9.
[523] Town of Yountville FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 35.
[524] Town of Yountville 5-Year CIP Summary FY18-FY23, pdf pg. 6-7 of 9.

Comprehensive Annual Financial Report (CAFR) — The Town includes its water and wastewater operations in its CAFR, which is published in a timely manner within six months of the end of the fiscal year.

Capital Improvement Program — The Town creates a Five-Year CIP and updates the CIP for each budget year as a part of its annual budget process.

Asset Management Plan (AMP) — Although the Town does not prepare an AMP, the Town considers elements of an AMP when updating its CIP. An AMP includes the desired service level, the estimated economically useful life, operating, energy, insurance, maintenance and disposal costs. Expected rehabilitation costs are estimated and scheduled in the life cycle budget.

Water Services

Cost of Service/Rate Study – The Town updated its rates and created a five-year schedule of rate increases, which took effect beginning FY18.[525] Impact fees studies were last prepared in 2005 and revised to current rates.

Financial Forecasts – The Town's 2017 rate study included a five-year financial forecast. The Town indicated that in FY18 it began preparation of a five-year General Government Long-Range Financial Forecast, however, that forecast apparently will not include updates to utility financial forecasts.[526]

Wastewater Services

Cost of Service/Rate Study – The Town updated its rates and created a five-year schedule of rate increases, which took effect beginning FY18.[527]

Financial Forecasts – The Town's 2017 rate study included a five-year financial forecast. The Town indicated that in FY18 it began preparation of a five-year General Government Long-Range Financial Forecast, however, that forecast apparently will not include updates to utility financial forecasts.[528]

[525] Town of Yountville Water Rate Study Update 2017/18, Bartle Wells Associates, 11/22/2017.
[526] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 37, pg. 150.
[527] Town of Yountville Water Rate Study Update 2017/18, Bartle Wells Associates, 11/22/2017.
[528] Town of Yountville Adopted Operating Budget Fiscal Year 2018-19, pg. 37, pg. 150.

WATER SERVICES

The Town of Yountville plans for its water and recycled water services through goals and policies in its General Plan last updated in 2018. The Town's General Plan includes a range of policies and programs to ensure that water supplies meet the demands of existing and future development, are adequately funded, that new development funds its fair share of services, and that the provision of water supplies to new projects does not adversely affect the supply and reliability for existing customers.[529]

These goals and policies related to adequacy and capacity include:

- HO-2.1 Public Services. Ensure that public services, particularly for sewage disposal and water supply, are adequate to accommodate potential housing increases.
- HO-2.1a Adequate Water Capacity. The Town shall continue to ensure adequate water capacity for new residential projects.
- HO-10.1 Energy and Water Conservation. Encourage energy and water conservation in the design or modification of housing units.

The General Plan also includes infrastructure and public services policies and programs aimed to ensure that service levels are adequate. For example, Policy LU-3.6 aims to provide and maintain adequate public infrastructure and services to meet the needs of existing and future development. Policy LU-3.6a requires analysis of project impacts on infrastructure capacity and services as part of CEQA review, and Policy LU-3.7 requires payment of the fair share fee of infrastructure improvements and public service costs to the Town. Additionally, Policy OS-6.1 aims to ensure that there is adequate water supply and infrastructure to meet the needs of existing and future development. Subsequent development projects proposed within the General Plan area would be subject to these policies.[530]

Policy OS-6.2 aspires to preserve and protect open space and, where appropriate, other natural areas that assist in the recharge of groundwater basins, and Policy OS-6.3 aims to properly manage and conserve the Town's water supply.[531]

Additionally, the Town of Yountville adopted a Climate Action Plan where it outlined recommended community actions related to water and wastewater services. These broad water use goals include reducing indoor and outdoor water use and reducing potable water use for landscape irrigation.[532]

Type and Extent of Services

Services Provided

The Town of Yountville provides potable water services to residential, commercial, industrial, and agricultural customers and recycled water services to agricultural, public golf

[529] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-28
[530] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-27
[531] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-27
[532] Town of Yountville, Climate Action Plan, 2016, pp. 50-53.

course and construction customers within its service area. Water supply and treatment are primarily provided by the California Department of Veterans Affairs (CDVA).[533]

Service Area

The water system for the Town is limited to the distribution of domestic water to its customers in the eastern part of Town. The CDVA provides water service directly to residents at the Veterans Home.[534]

The Town of Yountville also provides water services to 35[535] customers outside of its boundary area. When the Town incorporated, it took responsibility for the existing water customers served by a water transmission line along Silverado Trail and Yountville Crossroad. Because the properties may access groundwater via private on-site wells to utilize for landscape and vineyard/agriculture, the Town prohibits use of municipal water for these outdoor purposes. The Town indicates that on a per-unit basis, the out-of-boundary customers utilize a greater quantity of water as compared to in-town customers. Additionally, during the drought, water was conserved at a lower rate by the out-of-boundary customers. New water connections to parcels located outside the Town's jurisdictional boundary have been prohibited since 1977, although three new connections were allowed in 1993 due to hardship situations. The Town has adopted several resolutions to provide strict policies governing out-of-boundary water customers.[536]

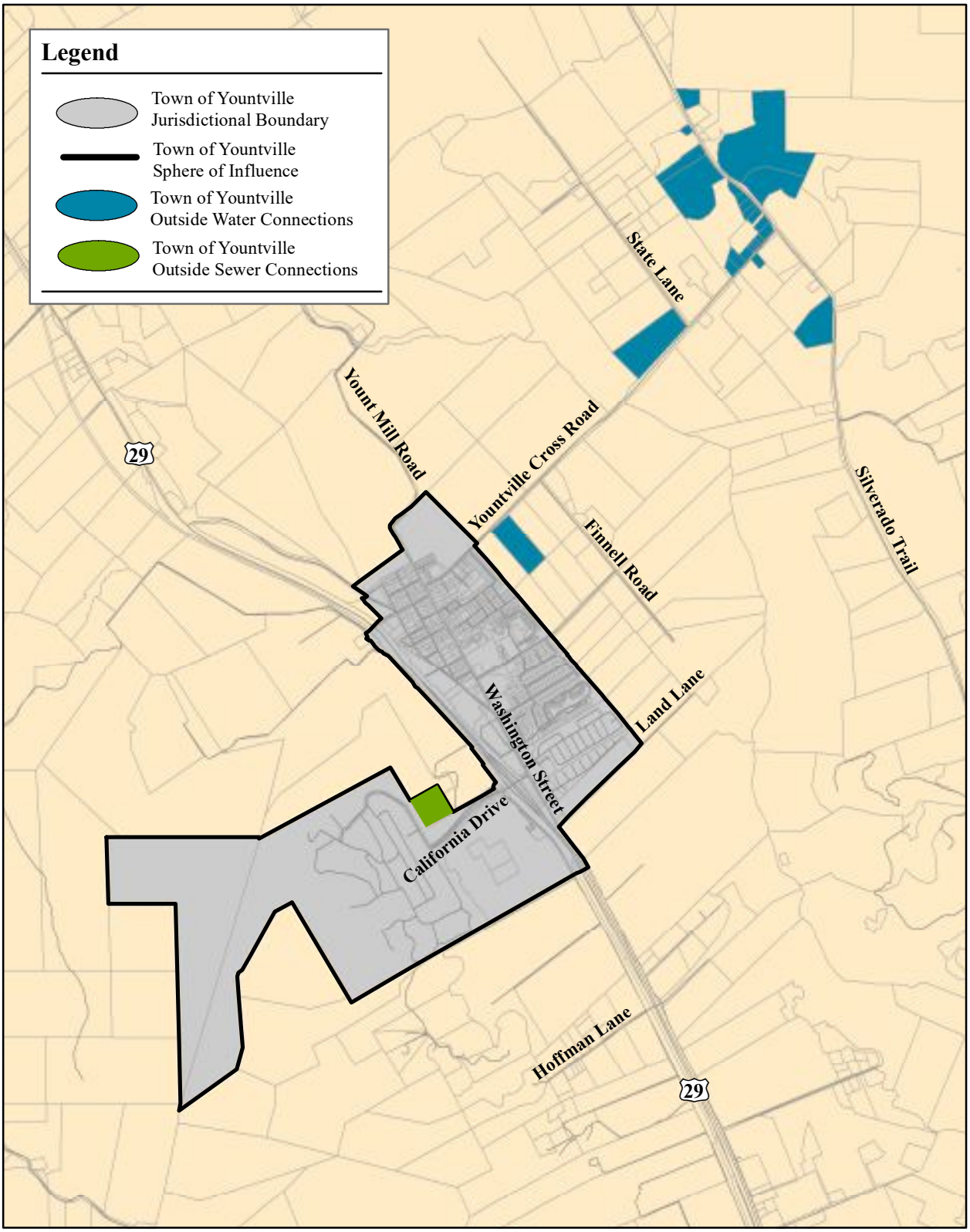
The recycled water service area encompasses the Town's municipal boundaries, including the Yountville Veterans Home, and approximately 4,000 acres of vineyards in unincorporated Napa County within a five-mile radius of its existing recycled water pipelines.[537] In total, there are five connections to the recycled water system outside of the Town of Yountville's boundaries. Recycled water services are exempt from requiring LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133.

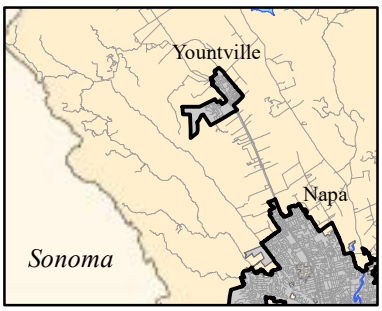
The Town makes its recycled water available for trucking through a filling station at the Wastewater Reclamation Facility. There are no limitations on who may make use of the recycled water for trucking. Users must sign up and pay the associated fee as well as receive training on the proper use of recycled water and filling procedures. There are approximately 10-15 trucked water users. The trucked water used for soil compaction/dust control is less than one percent of total annual recycled water use for the Town.

[533] Town of Yountville, Draft General Plan, 2018.
[534] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-19.
[535] Joe Tagliaboschi, Town of Yountville, Public World Director, email from July 31, 2019.
[536] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-19.
[537] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-6.

Figure 8-5

Town of Yountville





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December 31, 2019
Prepared by LAFCO Staff

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Services to Other Agencies

The Town does not provide any water-related services to other agencies.

Contracts for Services

Yountville has an agreement with CDVA to provide the Town with 500 acre-feet (af) of potable water per year from Rector Reservoir and more when it is available.[538] The Town has had an agreement with CDVA for water supply for over 55 years. The current contract is for the period July 1, 2004 to June 30, 2024. According to the contract, the Veterans Home and other State users have first and prior right to all water in Rector Reservoir. The Towns rate of purchase includes a set percentage of treatment costs at the Rector Reservoir treatment facility regardless of the amount purchased. On April 1 of each year, CDVA must notify the Town of the amount of water available for delivery. Based on the agreement, the Town must purchase a minimum of 250 af each year.

In an emergency, the Town has agreements to purchase treated water from the City of Napa, Napa County Flood Control and Water Conservation District (State Water Project water) and from two Domaine Chandon wells.[539]

There is also an agreement with the City of Napa to provide 20 hours of water conservation education in Yountville, which includes a booth at Yountville Days.[540]

Overlapping Service Providers

Although the Town's water service area does not overlap with another water service provider, CDVA provides water delivery services within the Town's boundary area at the Veteran's Home. The roles of the two agencies are clearly defined and there is no duplication of services.

Collaboration

Yountville collaborates with CDVA, from which the Town obtains a majority of its water.[541] The Town also has collaborative relationships with the City of Napa and Napa County Flood Control and Water Conservation District.

Staffing

The Public Works Department operates the Town's water distribution system. The Water Fund Operations Division of the Public Works Department is used to account for the operation and maintenance of water distribution for residential, commercial, public and other properties in the Town and 35 accounts outside of the Town boundaries.[542]

The Utility Operations Manager works with Public Works staff and contractors as necessary to operate and maintain the physical water distribution system. The Water Fund Operations Division utilizes the Badger/Beacon electronic meter reading system to remotely read water meters on a monthly billing cycle. The use of meter reading technology allows for

[538] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 154.
[539] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 154.
[540] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-20.
[541] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-19.
[542] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-19.

the cellular network to completely read all of the water meters in the Town's system with little to no staff time for reading of meters. This is compared to the hand read meters which took up to three days. The Utility Operations Manager and three wastewater treatment plant operators maintain the Wastewater Reclamation Facility. The Utility Operations Staff (including the Water Service Worker) also operate the emergency municipal water well including the water treatment, so that the emergency well will be ready in case of an emergency. Town staff takes weekly, monthly, annual and semi-annual water samples from the distribution system and the well for testing and reporting to the California Department of Public Health and customers.[543]

Water Supply

The Town obtains its water supply from the CDVA, which has rights to water from Rector Reservoir. Rector Reservoir is located on Rector Creek, a tributary to the Napa River. The Reservoir was formed following the construction of Rector Dam in 1946 and was subsequently raised in 1985, resulting in a total storage capacity of approximately 4,600 af. The Reservoir's safe yield is estimated to be 1,670 acre-feet per year (afy). An additional amount of raw water is bypassed (to in-stream releases) to meet the California Department of Fish and Wildlife (CDFW) requirements.[544] CDVA administers operations at Rector Reservoir and the Rector Reservoir Water Treatment Plant (RRWTP). The RRWTP has a daily treatment capacity of 4.5 million gallons (mg). A one-million-gallon treated water storage tank is located near the Treatment Plant.

In addition to the Town of Yountville, RRWTP provides potable water to the following: Veterans Home of California Yountville, State Department of Fish and Wildlife Silverado Fisheries, Napa County Corp Yard located on Silverado Trail, Vintner's Golf Course (Potable Water Only for Clubhouse), Napa Valley Museum (on Veterans Home Grounds), Parradux Vineyards (Potable Water Only), and Vybrony Vineyards (Potable Water Only). In addition, Rector Reservoir provides raw water (untreated) to the State Department of Fish and Wildlife fish hatchery operations.

The CDVA provides the Town with an allocation of 500 afy through the contract, which is set to expire in 2024. The Town's agreement with CDVA allows the Town to purchase more than their annual allocation amount when surplus water is available. The availability of surplus water supply from Rector Reservoir has continued to be reliable for the Town during the last four years of drought conditions. From FY 10-11 to FY 17-18, the Town purchased an average of 548.5 afy from the CDVA, as shown in Figure 8-6. In recent years, the cost of purchasing this water has increased by 50 percent.[545]

[543] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-20.
[544] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-16.
[545] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-16.

Figure 8-6: Purchased Water FY 10-11 through FY 17-18

Amount of CDVA Water Purchased	
Fiscal Year	**Water (AFY)**
FY 10-11	514
FY 11-12	559
FY 12-13	581
FY 13-14	612
FY 14-15	604
FY 15-16	614
FY 16-17	429
FY. 17-18	475
Average	548.5
Town of Yountville, Draft Environmental Impact Report for Envision Yountville General Plan Update, 2018, p. 3.15-17.	

The Town of Yountville also has the ability to purchase water from the City of Napa, which serves as an exporter to the cities of American Canyon, St. Helena, and Calistoga, and the Town of Yountville and the Veteran's Home as residential customers. While St. Helena is contractually obligated to purchase a minimum amount of water from the City of Napa each year, Yountville and the Veteran's Home purchases are rare and minimal due to their own sufficient local supply sources.[546] Although shutdowns at CDVA's water treatment plant in the recent year has required higher than usual use of City of Napa supply.

The City of Napa has rights to three major sources including Lake Hennessey and Milliken Reservoir, which are local surface water reservoirs along tributaries of the Napa River, and the State Water Project water delivered through the North Aqueduct. The Town established a Water Drought Reserve Fund from the proceeds of the sale of the Town's water rights to the City of Napa. This reserve fund provides approximately $2,000,000 for the purchase of additional water supply of up to 200 af on the "spot market"[547] from Napa County Flood Control and Water Conservation District in the event of an extended drought or other emergency situations.[548] The Town, however, is not guaranteed that it would receive the entire 200 af.[549]

Another source of Yountville's water supply is its own groundwater well, which was built in 2005 for use in emergency or drought situations. The well has a capacity of 700 gallons per minute (gpm) or up to 300 afy and is treated for iron and manganese. Domaine Chandon groundwater wells are also a potential future emergency water supply source, although the infrastructure to connect them to the Town has not yet been developed.[550] Although the Town considers its groundwater well its emergency water source, the Napa 2050 Study indicates that basin demands could exceed supply during dry years by 6,000 af in 2020 and by 10,000

[546] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-17.
[547] The City of Napa serves as the Town's broker for the purchase of water on the "spot market" during drought.
[548] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-17.
[549] Town of Yountville, City of Santa Rosa, Economics of Sustainable Water Reuse in the Napa Valley.
[550] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-17.

af in 2050. For preliminary planning purposes, the Town estimated that its study area[551] could experience shortages of 600 to 1,000 af.[552] There is the potential for a small shortfall in the urban water supply during critically dry years. However, more importantly, as indicated in the Napa 2050 Study, dry years can challenge the groundwater basin which supports both municipal and agricultural supplies. The Town's ability to provide additional recycled water supply could provide an important element of reliability in critically dry years and reduce projected groundwater shortfalls during these periods.[553]

The Town's water sources with allotted amounts are shown in Figure 8-7.

Figure 8-7: Town of Yountville Water Sources (afy)

Water Supply by Source		
Source	**Normal Year Supply**	**Dry Year Supply**
Rector Reservoir (CDVA)	500	125
Rector Reservoir (CDVA) Surplus	Varies by year, depending on surplus availability	-
City of Napa	25	-
Yountville Municipal Emergency Well	300	300
SWP Spot market purchases	200	200
TOTAL	**1,025**	**625**

Source: Town of Yountville, Draft Environmental Impact Report for Envision Yountville General Plan Update, 2018, p. 3.15-16.

In 2018, the State Water Resources Control Board raised the alarm about potentially low water supply in Rector Reservoir in the summer months despite the end of the statewide drought. The Town is unaware how this issue is being addressed or how it will affect future flows as CDVA has reportedly not been communicative about the issue. The Town reported that in the past Rector Reservoir has generally been a reliable supply source. Additionally, there have been issues with unplanned repairs at the CDVA water treatment plant that have forced outages. The Town of Yountville is typically able to purchase the needed amount of water from the City of Napa during outages at the water treatment plant or periods of limited flow. The Town reported little advance warning is given during these outages, which have lasted up to three months. Greater collaboration on the part of CDVA is recommended to keep customers informed about issues at the reservoir and treatment plant, potential for water delivery impacts, and the manner in which the issues are being addressed.

CDVA's most recent planning and assessment report of the Reservoir was conducted in May of 2013; the Rector Reservoir Water Yield Study was completed as an update to the 2000 study. This document is used to shape the management of operations of the reservoir and water treatment plant. Currently, an on-going comprehensive study is being conducted looking at the instream flow of Rector Creek, the overall condition of the stream, and model

[551] The Town has defined a study area that includes its municipal boundaries, the California Department of Veterans Affairs Yountville Veteran's Home and approximately 4,000 acres of vineyards within a five-mile radius of its existing recycled water pipelines.
[552] Town of Yountville, City of Santa Rosa, Economics of Sustainable Water Reuse in the Napa Valley.
[553] Town of Yountville, City of Santa Rosa, Economics of Sustainable Water Reuse in the Napa Valley.

water delivery capacities based on wet and dry years scenarios. This report is estimated to be completed by March 2022.

While drought is always a concern for area water providers, CDVA reported that the characteristics of the Rector watershed allow it to fill rapidly with one or two good storms. CDVA reported that long-term solutions are being explored for better water management, that include alternate sources of water, and responsible management and stewardship of the Rector watershed. In addition to the aforementioned study that is in progress that will contain a drought contingency component, CDVA has recently joined the Napa County Water Resources Technical Advisory Committee to partner and hear from other agencies in the valley to look at drought scenarios and possible responses.

Rector Reservoir is also one of three Napa County reservoirs that was targeted by Water Audit California—an activist group engaged in protecting fish habitats. In 2016, Water Audit filed a lawsuit against CDVA and the California Department of Fish and Wildlife to force these agencies to coordinate a proper release of water from Rector Dam into streams to protect the downstream fish habitat. The settlement, which included the requirement to bring the operation of Rector Dam and Reservoir into compliance with California Fish and Game Code §5937, was reached in the spring of 2019. While CDVA has not indicated to the Town if this settlement agreement will have any impact on water availability for the Town, it reported during the process of this report that it was not anticipated that the settlement with Water Audit would have any significant effect on water supply.[554] A study is being conducted to evaluate the stream flow and fish habitat of Rector Creek and Rector Reservoir. This study will provide information on the true capacity of the reservoir, and the amount of water to be released in the stream to provide good conditions for native fish species. This study will ultimately help determine the amount of bypass releases, the best time for these releases, and the capacity of this water supply for potable water uses.[555]

Recycled water

The Town of Yountville currently delivers tertiary treated recycled water to a golf course and 770 acres of vineyards. The Town established a General Plan area for the Recycled Water Expansion Project which encompasses the Town's municipal boundaries, including the Yountville Veterans Home, and approximately 4,000 acres of vineyards within a five-mile radius of its existing recycled water pipelines.[556] According to the 2018 Annual Report to the Drinking Water Program, that year the Town delivered 382 acre-feet of recycled water for irrigation and agricultural activities, which equates to beneficial reuse of 93 percent of the total wastewater treated.

Initiated in 1979, the original intent of the Town's reclamation program was to reduce storage requirements for treated wastewater when discharge to the Napa River is prohibited by the San Francisco Bay RWQCB. In 2010, the Town completed a $1.2 million upgrade to the WRF, which improved the quality of the recycled water from advanced secondary treated recycled water to Tertiary Title 22 unrestricted recycled water. Subsequently, the Town received state grant funding and loan financing to construct a recycled water distribution system to provide up to 268 af to two new and three current recycled customers. In 2013,

[554] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[555] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[556] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-6.

new recycled water agreements were executed. Construction of the Recycled Water Expansion Project was completed in August 2015.[557]

The Town currently provides recycled water for irrigation and landscaping uses to seven non-residential customers. During the summer and fall, recycled water is delivered to customer holding ponds, and used on the Vintner's Golf Course and transported to six vineyards. The six vineyards currently served in the unincorporated Napa County area include Chimney Rock, Regusci, Stag's Leap Wine Cellars, Clos du Val, Mondavi/Wappo Hill, and Beringer. The Town maintains approximately 5.5 miles of irrigation lines to provide service to these facilities. Under the contract with the Veterans Home, an amount of recycled water equivalent to the volume of wastewater that is generated by the Veterans Home must be delivered and used on the Vintners Golf Course.[558]

Emergency Preparedness

During an emergency, up to 25 af of potable water can be drawn through two interconnections with the City of Napa's Conn Dam Transmission Line, which runs parallel to SR 29.[559] The Town may also purchase up to 200 af per year from spot purchases of State Water Project water through the Town's agreement with the Napa County Flood Control and Water Conservation District, and excess water from two Domaine Chandon wells.[560] The Town is also able to use its own municipal well.[561] As of the drafting of this report, there has not yet been an emergency that required the well to be used.[562]

Water Demand

In 2018, the Town's potable water system served 644 single family residential connections, 83 multi-family residential connections, 82 commercial/institutional connections, one industrial connection, and 23 landscape irrigation connections. All of the aforementioned 833 connections were metered. There were additionally 36 unmetered connections that included fire suppression, street cleaning, line flushing, construction meters, and temporary meters.[563]

From FY 06-07 through FY 17-18, the Town's annual water demand ranged from 472 to 612 af, with an average of approximately 475 acre-feet per year over the last three years. Although annual water demand has exceeded the Town's contractual allocation from the CDVA at times, the Town has been able to purchase additional water from the CDVA, as was previously mentioned. Given the willingness of CDVA to sell surplus water to the Town and the Town's designated emergency water supplies, the water supply is adequate to meet Yountville's current needs. The Town's water conservation programs help the Town to reduce overall demand on potable water supplies.[564]

[557] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-6.
[558] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-6.
[559] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 70.
[560] The connection to the Domaine Chandon wells has not yet been constructed.
[561] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 69.
[562] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 152.
[563] Town of Yountville, Small Water System Annual Report to the Drinking Water Program, 2017.
[564] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 154.

The 2015, 2016, 2017, and 2018 demand for potable and recycled water in the Town's water service area is shown in Figure 8-8.

Figure 8-8: Demand for Potable and Recycled Water by Customer Type, 2015-2018 (af)

Demand for Potable and Recycled Water				
User Type	**2015**	**2016**	**2017**	**2018**
Single-Family Residential	179.54	174.53	201.55	199.32
Multi-Family Residential	86.32	76.42	75.92	80.45
Commercial/Industrial/Institutional	199.55	203.68	196.99	193.12
Landscape (Recycled)	5.99	4.95	4.17	3.18
Agricultural Irrigation (Recycled)	31.93	28.86	26.42	35.52
Other Miscellaneous	0	0	0	0
TOTAL	**465.41**	**454.63**	**474.46**	**472.89**

Source: Reported by the Town of Yountville.

The Town assessed the possibility of offsetting some of its urban water uses with recycled water; however, due to the Town's recycled water agricultural customers there isn't enough additional capacity from the treated effluent to provide recycled water in the summer season to any additional customers, as was reported by Yountville.

The Town used its water billing database to identify urban water uses that could be offset with recycled water.

The Town is largely developed and is not likely to grow outwards due to land use restrictions. The estimated water demand at buildout is 679 af per year, which is slightly over eight percent greater than the Town's dry year supplies[565] and 11 percent over the highest water demand amount (612 af) between FYs 06-07 and 17-18. Since the projected demand at buildout is only slightly higher than the current demand, and supply sources have been reliable and adequate to accommodate demand, it is anticipated that the Town's current water supply will be able to accommodate future needs. However, this assertion relies heavily on the sustainability of services offered by the CDVA at the reservoir and the treatment plant. The Town's projected demand for potable and recycled water is depicted in Figure 8-9.

[565] Town of Yountville, City of Santa Rosa, Economics of Sustainable Water Reuse in the Napa Valley.

Figure 8-9: Projected Demand for Potable and Recycled Water, 2020-2040 (acre-feet)

Projected Demand for Potable and Recycled Water					
Use Type	**2020**	**2025**	**2030**	**2035**	**2040**
Single-Family Residential	251	256	261	267	272
Multi-Family Residential	32	32	33	33	34
Other- Commercial/Industrial/Institutional	171	175	178	182	185
Landscape*	-	-	-	-	-
Agricultural Irrigation	0	0	0	0	0
Other- Miscellaneous	25	26	26	27	27
TOTAL POTABLE	**479**	**489**	**489**	**508**	**519**
Recycled Water	NP	NP	NP	NP	NP

Source: Reported by the Town of Yountville.
*Billing system tracks landscape by class, so data is included in Single Family, Multifamily, or Commercial user type.
NP- Not Provided

In order to better weather a drought or other outage, the Town is participating in the Napa Drought Contingency Plan and is considering other water sources, such as its own well source.

Water Infrastructure and Facilities

The Town's water infrastructure consists of the distribution systems for potable and recycled water. The Town does not own or operate a water treatment plant or any storage facilities.

Distribution System

The water system for the Town is limited to the distribution of domestic water to its customers in the eastern part of Town. The CDVA provides water service directly to residents at the Veterans Home. The Town's distribution system is gravity fed and is under a single pressure zone. Since Yountville operates without treated water storage facilities, the distribution system is continually drawing potable water from its two interconnections with the Veterans Home. During an emergency, potable water can be drawn through two interconnections with the City of Napa's 36-inch Conn Dam Transmission Line.[566] If pressure drops to 55 psi or lower in the Yountville distribution system, the Napa intertie that provides additional water automatically opens.[567] The Town reported that approximately 90 percent of the system mains are in good condition and require minimal maintenance, while approximately 1,200 feet is in poor condition and in need of replacement. All meters have been recently replaced and are in excellent condition. Similarly, one pressure regulator was replaced this year and is in excellent condition, and the other was replaced five years ago

[566] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-20.
[567] State Water Resources Control Board, Inspection Report for Town of Yountville Public Water System ID# 2810007, 2018.

and is considered to be in good to excellent condition. Figure 8-10 provides a summary of the Town's distribution infrastructure and its condition.

Figure 8- 10: Water Distribution Infrastructure

Infrastructure Type	Description	Condition
Distribution Mains	6.9 miles	90% good, 10% poor
Municipal Emergency Well	1 well	Excellent/Good
Meters	846 service connections and meters	Excellent
Pressure Regulator Stations	2 between the State's transmission line and Yountville's distribution system	Excellent

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities) as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. To ensure water delivery to customers the Town calculates non-revenue water, which is the difference between the amount of water produced and the amount of water billed. Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity.

The Town's goal is to have total water loss of less than 10 percent of what is purchased/produced.[568] The Town-reported total losses in 2018 were 1.2 percent of water purchased in that year.

Figure 8-11: Water Loss Summary (2014-2018)

Water Loss Summary	
Year	**Water loss as % of purchased water**
2014	5.4%
2015	5.47%
2016	3.6%
2017	0.61%
2018	1.2%

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. The Town experienced one main breaks in 2014, one in 2015, zero in 2016, zero in 2017, and two in 2018, which averages to 0.8 main breaks annually and eight breaks per 100 miles of main. This is significantly lower than the national average of between 21 and 27 breaks per 100 miles of pipe per year.[569] Over the five-year period, the Town experienced little fluctuation in the number of breaks experiences.

[568] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-20.
[569] WaterRF, Knowledge Portals, 2017.

Treatment

While not operated by the Town, the condition of the Rector Reservoir Water Treatment Plant affects the operations of the Town's water system. The plant was upgraded in 2000-2001 to better accommodate water treatment based on the water quality in the reservoir. CDVA identified the treatment plant as being for the most part in good condition, operating within design parameters with day to day routine maintenance. On occasion, major overhauls of filtration systems, pumps systems, tank systems, is required which may take the plant off-line for an extended period of 30 days or more.[570] CDVA reported there are no major infrastructure needs at RRWTP at this time.

Capital planning for the RRWTP is accomplished through the Capital Assets Division in the headquarter offices located in Sacramento. Projects are identified through a review and scheduled process. Services from a design and engineering firm are retained to evaluate projects, assign priority, estimate cost, and explore funding options. Major projects are funded through the State budgeting process subject to legislative review and approval, and ratification from the Governor. Specific projects are funded through a Budget Change Proposal for a designated fiscal year budget. CDVA reported that the five-year CIP plan is a confidential document and is not subject to public review until each project has been reviewed and approved through the legislative process.[571]

The Town has reported that often the plant is taken offline for routine maintenance with minimal notice to the Town. As mentioned, there is a need for enhanced communication efforts on the part of CDVA to keep the Town apprised of upcoming outages, in order to appropriately plan for backup water supply.

Recycled Water

The Town's recycled water system is a component of Wastewater Reclamation Facility. Recycled water from the Town's Wastewater Reclamation Facility is delivered to six vineyards and the golf course through 5.5 miles of recycled water pipeline.[572] Of the pipeline system, approximately three miles is considered to be in good condition, while the other two miles were recently constructed and are considered to be in excellent condition.[573]

Recycled water is produced at the Yountville Wastewater Reclamation Facility owned and operated by the Town. Wastewater operations are subject to two permits issued by the San Francisco Regional Water Quality Control Board, one of which permits the Town to discharge highly treated effluent to the Napa River and another regulates water recycling activities.[574]

As flow volume increases, there may be a need to develop additional storage facilities and/or additional irrigation capacity for the wastewater effluent that is generated during the dry season when there is no discharge to the Napa River.[575]

[570] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[571] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[572] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 70.
[573] Interview with Joe Tagliaboschi, Public Works Director, 10/1/19.
[574] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 70.
[575] Town of Yountville, Draft General Plan, Envision Yountville, 2018, p. 70.

Shared Facilities

Yountville shares two interconnections with the Veterans Home and two interconnections with the City of Napa. Additionally, the Town makes use of and pays for a portion of operations at the CDVA owned and operated Rector Reservoir and water treatment plant.

Due to the distance of other water providers, there are limited options for further facility sharing. However, the Town is open to collaboration and resource sharing with regional municipal water purveyors as demonstrated by its participation in the Napa Drought Contingency Plan.

Infrastructure Needs

The Towns plans for its infrastructure needs in the Capital Improvement Plan The planned projects for the next five fiscal years through FY 22-23 include regulator pit relocation project, main and lateral repairs, water distribution assessment, water meter replacements, and hydrant and main flushing.[576] Construction and expansion of water supply and treatment facilities to accommodate additional demand at buildout have been planned for in the Town's Water Use Efficiency Plan. [577]

Water Quality

The State Water Resources Control Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

The Town's main source of water is supplied from Rector Reservoir, which is owned and operated by the California Department of Veterans Affairs. They take all the required water sampling of the water source supply. Chlorine is added to the water to help ensure that the water is safe to use by customers. The source water assessment reveals that the most significant potential sources of contaminants are from fires and vineyards.[578]

CDVA reported that expanding development upstream is always a concern to the watershed and the reservoir. Increases in vineyard development have resulted in increased silt, increases in the presence of bacteria in the raw water, and larger algae blooms due to increased nutrients in the water. While mitigation measures have been taken by developers,

[576] Town of Yountville, Capital Improvement Plan.
[577] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-27.
[578] Town of Yountville, Water Quality Report, 2017.

not all impacts have been addressed in these efforts. In turn, additional water treatment technologies are being utilized to address the degradation of water quality in the reservoir.[579]

The quality of water drawn from wells from the Napa-Sonoma Valley Groundwater Basin, Napa Valley Sub basin is generally good; however, select areas along the Napa Valley floor have elevated levels of nitrates and boron.[580]

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018. According to the EPA report the Town had no violations during the 10-year period. In 2018, the Town was in compliance with drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

The CDVA's Rector WTP utilizes the independent Alpha Analytical Laboratories service to take water samples at five locations. The Town of Yountville contracts with the independent Caltest Analytical Laboratory to analyze water samples collected by Town employees that are Certified Water Distribution Operators at four locations for water delivered from the Rector WTP. In the past three full years, from 2016-2018, both the Rector WTP and the Town of Yountville have achieved all SWRCB water standards.[581]

However, the Rector WTP and the Town of Yountville experienced significant taste and odor (T&O) issues in April and May 2019. During an initial event in April, water Threshold Odor Number (TON) readings registered a score of 40, 10 times the normal measure of 4 as a result of filtration issues at the plant. Yountville discontinued water service from Rector and switched to City of Napa water. The Rector WTP filtration issue reoccurred in early May and the Rector WTP was again put off-line in order to resolve the issue by replacing the sand media and rehabilitating the "roughing filters." These filters are large tanks filled with various sizes of sand into which water flows and sediment is removed. Their service lifetime can be 20+ years if properly maintained. Replacing them is a significant and expensive task and usually takes four to eight weeks to complete. Yountville uses City of Napa water when Rector water is unavailable.[582]

Recycled Water

The Town currently provides Tertiary Title 22 unrestricted recycled water for irrigation and landscaping uses.[583] In 2018, the Town beneficially reused 93 percent of its wastewater flows.[584]

[579] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[580] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-18.
[581] Napa County Grand Jury Report, Napa County Water Quality: It's a Matter of Taste, June 14, 2019, p. 13.
[582] Napa County Grand Jury Report, Napa County Water Quality: It's a Matter of Taste, June 14, 2019, p. 13.
[583] Town of Yountville, Draft Environmental Impact Report for the Yountville General Plan Update, 2018, p. 3.15-6.
[584] Provided by the Town of Yountville as part of the MSR request for information.

WASTEWATER SERVICES

Similar to water services, the Town of Yountville plans for its wastewater services by adopting goals and policies in its General Plan. The goals and policies include:

- LU-9.3 Annexation of Domaine Chandon. Consider the annexation of the commercial component of the Domaine Chandon property served by the Town's wastewater system.
- HO-2.1 Public Services. Ensure that public services, particularly for sewage disposal and water supply, are adequate to accommodate potential housing increases.
- Policy LU-3.6 Public Infrastructure and Services. Provide and maintain adequate public infrastructure and services to meet the needs of existing and future development.
- Policy LU-3.7 Development to Pay Fair Share. Require new development, additions, and conversion of use to pay its fair share of infrastructure improvements and public service costs to the Town, to the extent allowed by law and except as provided by other policies and programs in the Plan.
- Policy OS-8.3 Wastewater Treatment. Provide adequate wastewater treatment and transmission to meet the needs of existing and future development.

In the Climate Action Plan the Town's broad wastewater service goals include reducing greenhouse gas emissions associated with the treatment of wastewater and increasing water-efficient landscaping.[585]

The Town also periodically reviews and updates the Sewer System Management Plan, and as growth continues to occur within the General Plan area, the Town identifies necessary system upgrades and capacity enhancements to meet growth, prior to the approval of new development.[586]

Type and Extent of Services

Services Provided

The Town of Yountville provides wastewater collection and treatment for residential, commercial, public, and other properties. A majority of the collected wastewater is reused through the recycled wastewater program. In 2018, the Town beneficially reused 93 percent of its wastewater flows.[587]

Service Area

The collection system includes all residential and commercial customers in the Town's boundaries. The internal collection system for the State of California (operated and maintained by the Veterans Home of California), the guard station on California Drive, the

[585] Town of Yountville, Climate Action Plan, 2016, pp. 50-53.
[586] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-12.
[587] Provided by the Town of Yountville as part of the MSR request for information.

Napa Valley Museum, the CAL FIRE Station 12, Vintner's Golf Course, and the Domaine Chandon tasting room, are maintained by others.[588]

On-site septic systems within the Town are allowed in areas where certain conditions are met. If a building in Yountville abuts a right-of-way in which there is a public sewer, the public sewer is within 200 feet of the nearest point of the building, and the topography is not such as to make it impossible to connect to the public sewer, the owner shall connect the building with the public sewer at his or her expense after notice from the Town to do so. If these conditions do not exist, then the owner of the building may install a septic tank in compliance with the County of Napa's rules, regulations and ordinances governing septic tank installation and connection.[589]

The only property served by the Town outside of its boundaries is the Domaine Chandon parcel. Yountville entered into an agreement with Domaine Chandon in 1991 to start serving the parcel with the understanding that it would then be annexed into the Town's boundaries. The annexation, however, was never concluded.[590]

Services to Other Agencies

The Town of Yountville owns and operates the Wastewater Reclamation Facility through an agreement with the Veterans Home. The agreement was first entered into in 1977 when the State sold its wastewater treatment plant to the Town. The Veterans Home is allocated a maximum daily flow of 1 mgd. The State covers the portion of the operating costs based on its ratio of effluent flow contributed to the total flow at the plant and the ratio of biochemical oxygen demand and suspended solids contributed by the State. Based on the agreement, each of the two signatories is responsible for their respective share of treated effluent during those periods when discharge to the Napa River is prohibited.[591]

Contracts for Services

The Town of Yountville hauls dried sludge from its Wastewater Reclamation Facility to Clover Flat Landfill for use as daily cover of refuse.

Overlapping Service Providers

As was already mentioned in the *Service Area* section, several properties within the Town's boundaries, including the Veterans Home, the guard station, the Napa Valley museum, the Domaine Chandon tasting room, Vintner's Golf Course, and the CAL FIRE station are privately served. All these customers are located on the Veterans Home campus property and have private sewer lines connected to the Town's Wastewater Treatment Plant.

Collaboration

As mentioned, the Town collaborates with the Veterans Home per the agreement for the operations of the Yountville Wastewater Reclamation Facility.

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588 Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-2.
589 Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-7.
590 Joe Tagliaboschi, Town of Yountville, Public World Director, email from July 31, 2019.
591 Agreement between Town of Yountville and California Department of Veteran Affairs, For Construction and Operation of a Joint Wastewater Treatment Facility, February 22, 1977.

Staffing

Yountville's Public Works Department is responsible for operating the Town's wastewater collection and treatment systems.[592] The Utility Operations Division of the Town's Public Works Department operates and maintains the sewer collection system under the streets of the Town, the force main to the Wastewater Reclamation Facility WRF(WRF) and the recycled water pipeline across the floor of the Napa Valley.[593] The Utility Operations Division also operates and maintains the Floodwall Pump Station and retention basin.[594] The WWRF is staffed seven days per week by four California certified wastewater treatment operators.[595]

The Utility Operations Division staff also coordinates the design and construction of capital improvement projects, such as the Inflow and Infiltration Reduction Program, Sewer Main Replacement Program and the Pump Station Equipment Replacement Program. These projects ensure the wastewater collection system operates in a manner consistent with State and Federal NPDES regulations. The collection system is cleaned annually by use of a Vactor Hydro Truck purchased in 2004.[596]

The Utility Operations Manager is responsible for implementing, managing and updating the Sewer System Management Plan (SSMP) under the direction of the Public Works Director. The Public Works Director is responsible for leading staff, leading emergency responses, managing procedures, delegating responsibilities, preparing planning documents, managing the capital improvement program, enforcing standards, approving design projects, approving development project conditions of approval, and managing construction, consultants, and staffing.[597]

Wastewater Flow

The Town's sewer collection system serves residential and commercial customers.[598] Flows for the last five complete years and the buildout conditions are shown in Figure 8-12.

Figure 8-12: Wastewater Flows and Buildout Conditions, 2014-2018 (mg)

Town of Yountville Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
Flow (mg)	144.168	131.58	150.993	167.057	118.774	156.95[599]
% Recycled	83	89	69	56	93	75

Source: Town of Yountville Request for Information, February 7, 2019.

592 Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-1.
593 Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-1.
594 http://www.townofyountville.com/departments-services/public-works/wastewater
595 http://www.townofyountville.com/departments-services/public-works/wastewater
596 http://www.townofyountville.com/departments-services/public-works/wastewater
597 Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-2.
598 GHD, City of American Canyon, Sewer Master Plan, 2016, p. 9.
599 Based on General Plan average daily buildout flow of 0.4305 mgd.

Effluent flows to the wastewater treatment plant generally increased through 2017, then had a significant decrease in 2018. In 2018, the plant experienced a peak day flow of 1.638 mgd and an average dry weather flow (ADWF) of 0.36 mgd. The plant has an ADWF design capacity of 0.55 mgd for normal flows and a hydraulic capacity of 2.8 mgd during wet weather. Flows in excess of the WWRF's secondary treatment capacity are stored in a holding pond for later treatment. After a storm, water from the pond is routed back through the plant for treatment and eventual discharge or recycled use.[600] Flows to the plant in 2018 were well within the permitted capacity of the plant; however, flow on one occasion from the Veterans Home (0.87 mgd) was close to meeting its allocated maximum flow of 1 mgd.

Between 2014 and 2017, the average daily treatment was 0.3655 mgd, while the highest maximum daily effluent flow rates are estimated at 1.76 mgd, both of which are within the design parameters.[601] The Town has not had any sanitary sewer overflows at the WWRF. Yountville contributes about 60 percent of the flow with about 40 percent coming from the Veterans Home.[602]

In 2015, the Town through a consultant prepared a report that analyzed projected wastewater treatment demand and considered the potential addition of Domaine Chandon to the Town's Planning Area. Based on the analysis, Domaine Chandon adds minimal flow of about 0.01 mgd. The consultant estimated that the plant has adequate capacity to treat flows from the service area to the Town's projected buildout, based on an estimated increase in flows of 0.043 mgd.[603] By comparison, the Town's General Plan concluded that the buildout of the General Plan would result in a wastewater flow increase of approximately 0.065 mgd or 0.023 mgd more than anticipated by the consultant. The generation of 0.065 mgd associated with General Plan buildout combined with existing flows (average daily treatment of 0.3655 mgd discussed above) would result in approximately 0.4305 mgd average daily flows. This is within the 0.55 mgd treatment capacity of the WWRF.[604]

In a situation where the Veterans Home site gets redeveloped, the Town has an operating agreement with the State that if additional treatment capacity at the treatment plant is required the State will bear responsibility for the cost of the improvements. Otherwise, the Town does not have any pending service commitments and does not anticipate extending municipal services outside the Town limits, except for the continued service to Domaine Chandon.[605]

Wastewater Infrastructure and Facilities

The Town's wastewater infrastructure consists of the wastewater treatment plant and wastewater collection system.

[600] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-4.
[601] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-4.
[602] California Regional Water Quality Control Board San Francisco Bay Region, NPDES Permit No. CA0038121, 2004.
[603] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-5.
[604] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-10.
[605] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-5.

Wastewater Treatment Plant

The Wastewater Reclamation Facility (WWRF) is located at 7501 Solano Avenue and is owned and operated by the Town. Wastewater operations are subject to two permits issued by the San Francisco Regional Water Quality Control Board, one of which permits the Town to discharge to the Napa River and another regulates water recycling activities.[606] Facilities include the WWRF, storage ponds, and recycled water facilities. Expenses are shared with the Veterans Home based on flow volumes, solids loading, and strength of influent determined by weekly testing consistent with the agreement.[607]

The treatment process consists of an aerated grit chamber, comminution, primary settling basin, primary trickling filter, intermediate settling basin, secondary trickling filter, aeration basin/solids contact, final sedimentation, filtration, chlorination, and dechlorination. After treatment, the flow can be distributed to the Recycled Water customers, discharged to the Napa River or stored in the 2.7-million-gallon effluent storage pond. A flow equalization pond (3.8-million-gallon capacity) is also operated at the treatment facility. Flow can be diverted to this pond after the primary settling basin and after the final clarifier to manage the flow stream during wet weather periods.[608]

The NPDES permit allows discharge to the Napa River under flow conditions that are sufficient to achieve a 45 to one dilution factor for highly treated effluent that meets advanced secondary treatment standards. Discharge to the Napa River is generally prohibited from May 16 through September 30 of each year. When discharge to the River is not allowed, the Town utilizes a recycled water program.[609]

Collection System

All collected wastewater drains by gravity to the Peter J. Bardessono Memorial Pump Station, where it is then pumped to the WWRF for treatment. The wastewater system consists of:[610]

- 8.5 miles of sewer collection piping (primarily gravity fed);
- Approximately 772 sewer lateral connections, which includes 695 residential service connections, 77 commercial service connections, and one connection to the Veterans Home[611] (which serves about 1,000 residents and 900 employees);
- 0.75 miles of force main from the pump station to the WWRF;
- 1.5 miles of gravity discharge piping from the WWRF to the Napa River;
- 5.5 miles of recycled water force main lines; and
- A duplex (two pumps) wastewater pump station and associated level control and other equipment.

[606] Town of Yountville, Draft General Plan, Envision Yountville, 2018.
[607] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-3.
[608] Town of Yountville, Recycled Water Program Manual and Notice of Intent, Updated 2006, p. 1.
[609] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-4.
[610] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-1.
[611] Veterans Home owns and operates its own collection system.

The average age of the Town's collection system is approximately 45 years.[612] The Town considers its collection system to be in generally good condition. The Town's has a consistent maintenance and repair program, which includes regular repair of pipes and manholes.

As flow volumes increase, there may be a need to develop additional storage facilities and/or additional irrigation disposal capacity for the wastewater effluent that is generated during the dry season when there is no discharge to the Napa River. The Wastewater Treatment Plant Master Plan Update found that the most cost-effective effluent reuse and disposal program includes a combination of storage ponds, discharge to the Napa River, and irrigation of golf courses and other crops.[613]

To provide more details regarding the integrity of the Town's sewer system and adequacy of its services this report includes the analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

Over the last six years (2014-2019) there were five SSO events, including one in 2015, two in 2017 and two (up to March 31, 2019) in 2019. In 2018 (the last full calendar year), the Town's SSO rate was zero spills per 100 miles of sewer mains. Averaged over the five-year period (there was no data for the entirety of 2019 as of the drafting of this report), the Town's SSO rate was about seven spills per 100 miles of mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[614] The two spills in 2019 were category 1 spills; 14,160 gallons of spilled sewage reached surface water.

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The Town has both a permit for treatment and discharge at the WWRF and a general permit for its collection system.

For its collection system, the Town encountered one regulatory measure in 2006 and two violations in 2016, both for missing SSO certification statements. There were no priority violations. Yountville received three enforcement actions in 2004, 2008 and 2016. In regard to the treatment plant, there have been four regulatory measures, one violation and no enforcement actions since 2009. The violation occurred in 2017 and was related to infiltration and inflow (I/I) issues. To reduce the amount of I/I, the Town rehabilitated several locations of sewer main that were contributing to the additional flow. There have been no priority violations associated with the WWRF for at least 10 years.

I/I has been a focus of the Town's improvements over the last five years. The Town has slip lined approximately 6,500 feet of 6, 8- and 10-inch pipe and installed approximately 20

[612] California Water Boards, Order No. R2-2015-0029, NPDES No. CA0038121.
[613] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-4.
[614] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

point repairs. The Town reported that it has seen reductions in flows during large storm events. In 2018, the Town had a peaking factor of 4.55, while flow from the Veterans Home had a peaking factor of 6.81. The collection system at the Veterans Home continues to face I/I issues.

CDVA is responsible for operations and maintenance of the collection system at the Veteran's Home. CDVA indicated that the system was generally in fair condition. The sewer collection system throughout the home has been in place for several years. Design standards have changed since the original installation. There are places in the system where storm water and wastewater comingle as they are fed into the sewage treatment facility. As shown by the peaking factor of 6.81, I/I continues to be a challenge for the system. Due to the I/I in the system, there have been times when flow from the Veteran's Home has neared its allocation at the wastewater treatment facility. CDVA did not indicate specific plans to address this issue but reported that as new construction is implemented and comes on-line, the sewer collection system is upgraded as much as is reasonably possible. This includes design for mitigating infiltration and inflow. [615] Similar to the water system capital improvement planning, major projects are funded through the State budgeting process subject to legislative review and approval, and ratification from the Governor. Specific projects are funded through a Budget Change Proposal for a designated fiscal year budget. The 5-year CIP is a confidential document and is not subject to public review until each project has been reviewed and approved through the legislative process. [616]

Infrastructure Needs

The Town Council adopts an annual operating and capital improvement program budget allocating resources for the operation, maintenance, and repair of the collection system. Preventive maintenance activities that are not addressed in the operating budget are prioritized in the capital improvement program budget.[617] Town staff use a combination sewer cleaning truck to keep the collection system clean and maintains the equipment at the pump station on a regular basis. The entire sanitary sewer collection system is cleaned annually.[618]

The Town has a Sewer System Map that is updated as new facilities are constructed. The map shows the location of all sewer mains, manholes, pumping stations and pressurized sewer lines (force mains). The map also has reference numbers to the particular construction plans that were used to build each portion of the system. The map is used in conjunction with the sewer line capacity calculations as a planning tool for the yearly capital improvement program.[619]

The Peter J. Bardessono Memorial Wastewater Pump Station has undergone several upgrades and improvements recently. These improvements include installation of a new level control system, new variable frequency drives that control the pump speed based on incoming flow conditions, removal of an "interlock" that prevented the two pumps from operating simultaneously, and the installation of a new pump control system that has

[615] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[616] California Department of Veterans Affairs, Response to request for information, December 5, 2019.
[617] Town of Yountville, Sewer System Management Plan, Updated May 2016, p. 5.
[618] Town of Yountville, Sewer System Management Plan, Updated May 2016, p. 7.
[619] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-1.

Supervisory Control and Data Acquisition (SCADA) functionality that can be integrated in to the new Town-wide SCADA system. In addition, two of the older 47 horsepower submersible pumps were recently replaced with a more efficient 45 horsepower pump that is also less prone to plugging. These improvements will reduce the risk of sanitary sewer overflows and reduce the potential for damage to the Napa River ecosystem. In addition to the improvements at the pump station, three manholes were repaired or replaced to prevent infiltration of groundwater into the system.[620]

Development under the proposed General Plan would result in increased wastewater flows, resulting in the need for additional or expanded wastewater treatment facilities and conveyance infrastructure. The infrastructure and facilities necessary to serve new growth would involve development of some facilities on-site, extension of some facilities off-site within roadway rights-of-way, and may also involve improvements to existing facilities and disturbance of existing rights-of-way. Wastewater conveyance infrastructure would need to be extended throughout the currently unserved portions of the General Plan area. The majority of the on-site wastewater conveyance infrastructure will be constructed in conjunction with future development in the Town.[621]

The planned projects for the next five fiscal years through FY 22-23 include SCADA upgrade projects, wastewater building remodel, trickling filter pump replacement at WWRF, video and repair outfall line at the WWRF, installation of a backup sludge heater at WWRF, cleaning and inspection of the primary and secondary digesters, rehabilitation of the slipline outfall to Napa River, epoxy line the interior walls and ceiling of the scum well, upsizing of the Town's sewer force main, replacement of trickling filter media, replacement of the truck for the wastewater department, I/I reduction, sewer main replacement and repair, plant equipment replacement, and Town pump station equipment replacement.[622]

Shared Facilities

Although the WWRF is owned and operated by the Town, it is also used to treat wastewater flows from the Veterans Home under a contract agreement.

Due to separation of other wastewater systems, there is little opportunity for facility sharing. However, there may be potential for resource sharing at a staff level with other larger agencies. This option is discussed in further detail in the governance structure options.

[620] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-2.
[621] Town of Yountville, Draft Environmental Impact Report for the Envision Yountville General Plan Update, 2018, p. 3.15-14.
[622] Town of Yountville, Capital Improvement Plan.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to the Town of Yountville and its water and wastewater services, consisting of possible service structure modifications and the potential for greater collaboration. The feasibility of these options is generally assessed in this report; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Countywide Water Agency

The Town identified several challenges to services that could be potentially addressed by alternative governance structures:

- Some County water resources not being used to the fullest extent possible,
- A need for greater oversight of all jurisdictions providing water services in the County, including CDVA,
- A need for support buying on the spot market,
- Certain redundancies with several smaller systems around the County, which could be eliminated,
- A need for occasional technical expertise and support, and
- A lack of economies of scale in the smaller water and wastewater systems.

Given these challenges, there may be a need for a single agency to conduct water supply management on a regional or countywide level, such as a county water agency and/or an agency to provide management and operational support to the smaller utility systems that could benefit from consolidation of certain services (i.e., lab testing) or from fully transitioning to operations by a regional agency, such as a county water district or sanitation district. As these options may affect all of the water and wastewater service providers reviewed here, these governance structure options are discussed and assessed in further detail in the *Overview* chapter (Chapter 3) of this report.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to the Town of Yountville regarding its water and wastewater service delivery.

1. The Town makes its recycled water available for trucking through a filling station at the reclamation facility. There are no limitations on who may make use of the recycled water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses for trucking of water be defined in the Town's municipal code.
2. In the 2017 MSR, it was recommended that Yountville collaborate with the Veterans Home to create a water management plan regarding the Rector Dam system, including funds for maintenance and repair of the distribution system. This recommendation is continued and expanded to include development of a means for

joint planning and regular collaboration on issues of joint concern for both water and wastewater services. Enhanced communication and collaboration between CDVA and the Town is essential to ensuring sustainable water supply. It is also recommended that CDVA improve its process for dissemination of information to customers (including Yountville) to keep them informed about issues at the reservoir and treatment plant, the potential for water delivery impacts, and the manner in which the issues are being addressed.

3. The Town extended wastewater services to the Domaine Chandon property in 1991 with the agreement that the area would be annexed into the Town. In 2017, the area was added to the Town's SOI, as the only territory within the SOI extending outside of the town limits, in anticipation of the annexation. It is recommended that the Town and County continue conversations regarding the potential annexation of the property and the related necessary tax sharing agreement in the interest of finalizing the agreement conditions and promoting logical boundaries. Further analysis is outlined in LAFCO's SOI Update from 2017.

TOWN OF YOUNTVILLE DETERMINATIONS

Growth and Population Projections

- The Town of Yountville's population, as of 2019, was approximately 2,916, with about 30 percent living at the Veteran's Home.
- Yountville's population decreased by approximately one percent over the 10-year period since 2009.
- The Town is nearing buildout of developable space, and the potential for growth is limited. The Town estimated there is space remaining for 155 single-family homes, 76 multi-family residential units, and 169,555 square feet of commercial space. However, actual development will depend on future market conditions, property owner preferences, site-specific constraints, and other factors.
- LAFCO anticipates a continued decline in population over the period from 2019 to 2030 at an annual rate of 0.32 percent, with an anticipated population of 2,813 in 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- Given the willingness of the California Department of Veterans Affairs (CDVA) to sell surplus water to the Town and the Town's designated emergency water supplies, the water supply is adequate to meet Yountville's current needs.
- Since projected demand at buildout is only slightly higher than current demand, and supply sources have been reliable and adequate to accommodate demand, it is anticipated that the Town's current water supply will be able to accommodate future needs. However, this assertion relies heavily on the sustainability of services offered by the CDVA at the reservoir and the treatment plant. Close coordination between the two agencies is essential to ensuring adequate supply to the municipality.
- In 2018, the Town beneficially reused 93 percent of its wastewater flow. There is no additional recycled water capacity to further supplement/offset the Town's water supply.
- The level of water services offered by the Town were found to be more than adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the Town's water distribution system is excellent as measured by the degree of annual water loss and the rate of main breaks

and leaks per 100 miles of main. The Town was in full compliance with Primary Drinking Water Regulations in 2018 and has had no violations reported by the EPA since 2008.

- The Town appropriately plans for its infrastructure needs in the Capital Improvement Plan. No substantial or unplanned for water infrastructure needs were identified.
- Yountville has more than adequate capacity to accommodate existing and projected demand at its wastewater treatment plant. Over the last five years, the Town has made use of 66 percent on average of the available treatment capacity at its plant.
- The level of wastewater services offered by the Town were found to be minimally adequate based on integrity of the wastewater collection system and regulatory compliance. The Town has struggled with a higher than statewide average rate of sanitary sewer overflows, as a result of infiltration and inflow during wet weather periods, which has been a focus of the Town's capital improvement efforts in recent years.
- As a result of infiltration and inflow reductions measures, the Town reported that it has seen decreases in flows during large storm events. However, the CDVA-operated collection system at the Veterans Home continues to have a high peaking factor and has neared its allocation at the wastewater treatment facility during wet weather events. There is a need for a proactive approach on the part of the CDVA to minimize the load on the treatment plant.

Financial Ability of Agencies to Provide Services

- The Town of Yountville has the ability to continue providing water and wastewater services. While the Town's operating revenues exceed expenditures for FY16 through FY19, surpluses did not fully cover capital improvement and capital recovery costs. Rate increases beginning in FY18 were anticipated to cover capital projects and maintain reserves for the five-year period of rate increases.
- Utility liquidity measures and unrestricted net positions are both positive.
- Combined utility rates fall within accepted thresholds. The Town adopted new utility rate schedules implemented in FY18 based on cost of service studies that included operations, debt services and capital improvement needs.
- FY18 financial reports showed a decline in utility net asset value, indicating that the Town was not keeping pace with infrastructure depreciation. However, rate increases beginning in FY18 should help to provide ongoing capital funding.

Status of, and Opportunities for, Shared Facilities

- Yountville shares two interconnections with the Veterans Home and two interconnections with the City of Napa. Additionally, the Town makes use of and pays for a portion of operations at the CDVA-owned and operated Rector Reservoir and water treatment plant.
- Due to the distance of other water providers, there are limited options for further facility sharing. However, the Town is open to collaboration and resource sharing

with regional municipal water purveyors as demonstrated by its participation in the Napa Drought Contingency Plan.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The Town Council holds regular appropriately noticed meetings.
- Yountville makes available most documents on its website, including minutes, agendas, and financial and planning reports. The website also provides a means to solicit comments and complaints from customers. The Town is compliant with the agenda-posting requirements outlined in AB 2257.
- Enhanced communication and collaboration between CDVA and the Town is essential to ensuring sustainable water supply. It is recommended that CDVA improve its process for dissemination of information to customers (including Yountville) to keep them informed about issues at the reservoir and treatment plant, the potential for water delivery impacts, and the manner in which the issues are being addressed.

Relationship with Regional Growth Goals and Policies

- The Town has maintained a conservative SOI in the interest of "seeking to protect its small-town character through land use planning." This objective protects agriculture within and surrounding the municipality, which aligns with the County's Agricultural Preserve policy.
- The Town of Yountville and four other municipalities of Napa County participate in the Napa Valley Transportation Authority (NVTA), which functions as the region's Congestion Management Agency and provides input to the Bay Area-wide Metropolitan Transportation Commission's (MTC) 20-year Regional Transportation Plan. Plans applicable to Yountville include *Napa Countywide Pedestrian Plan, Vision 2040 Moving Napa Forward – A Countywide Transportation Plan, Countywide Bicycle Plan, SR 29 Gateway Corridor Implementation Plan,* and *Plan Bay Area.*
- The Town of Yountville provides outside water services to 36 rural residences. Water service to these unincorporated properties was established in the 1950s, prior to G.C. §56133 and is specifically exempt given that the service was extended prior to January 1, 2001. New water connections to parcels located outside the Town's jurisdictional boundary have been prohibited by municipal code since 1977, which aligns with State legislation and LAFCO policy.
- The Town of Yountville provides outside wastewater services to the Domaine Chandon property. Wastewater service to the unincorporated property was established prior to G.C. §56133 and is specifically exempt given that the service was extended prior to January 1, 2001. The Town extended services to the property with the understanding that the property would be annexed. The territory has been added to the Town's SOI in anticipation of annexation, which is in alignment with regional planning objectives and LAFCO's policies and mandate.
- The recycled water service area encompasses the Town's municipal boundaries, and approximately 4,000 acres of vineyards in unincorporated Napa County. Recycled

water services are exempt from requiring LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133.

- The Town makes its recycled water available for trucking through a filling station at the reclamation facility. There are no limitations on who may make use of the recycled water for trucking. In order to ensure that trucked water does not promote development and growth in unincorporated areas where water supply is not sustainable and which may adversely affect agricultural uses, it is recommended that approved uses for trucking of water be defined in the Town's municipal code.

9. CIRCLE OAKS COUNTY WATER DISTRICT

AGENCY OVERVIEW

COCWD Profile			
Contact Information			
Contact:	Paul Quarneri, General Manager		
Address:	380 Circle Oaks Drive, Napa, CA 94558	*Website:*	www.cocwd.com
Phone:	707-254-7796	*Email:*	cocwd@circle-oaks.com
Formation Information			
Date of Formation:	1962	*District type:*	Independent
Governing Body			
Governing Body:	Board of Directors	*Members:*	5 residents
Manner of Selection:	Registered resident-voter system	*Length of term:*	4 years
Meetings Location:	District office: 380 Circle Oaks Drive	*Meeting date:*	2nd Tuesday of every month at 6:45 p.m.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	471
Purpose			
Enabling Legislation:	California Water Code 30000-33901 (County Water District Act)	*Empowered Services:*	Water, wastewater, (active), fire protection, EMS, storm drainage, reclamation, hydroelectric power generation/transmission (latent)
Municipal Services Provided (directly or by contract)	Domestic water treatment and distribution, wastewater collection and treatment		
Area Served			
Size:	252 acres	*Location:*	Lake Berryessa Region
Current SOI:	216 acres	*Most recent SOI update:*	2016

Municipal Service Reviews	
Past MSRs:	2016 Circle Oaks County Water District 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study

Boundaries

Circle Oaks County Water District (COCWD) is located in the unincorporated area of northeastern Napa County, approximately halfway between the City of Napa and Lake Berryessa and west of Monticello Road (State Route 121). COCWD/District was established in 1962 to provide potable water and sewer services to a planned resort/residential community in Capell Valley.

Since formation, LAFCO has processed two boundary changes for COCWD—an annexation of 843 acres in 1964 and detachment of 3,017 acres in 1984. More detail on the history of the District's boundaries can be found in the *2016 Circle Oaks County Water District MSR*. The existing boundary for the District is comprised of four non-contiguous, unincorporated areas consisting of approximately 252 acres, as shown in Figure 9-1.

Sphere of Influence

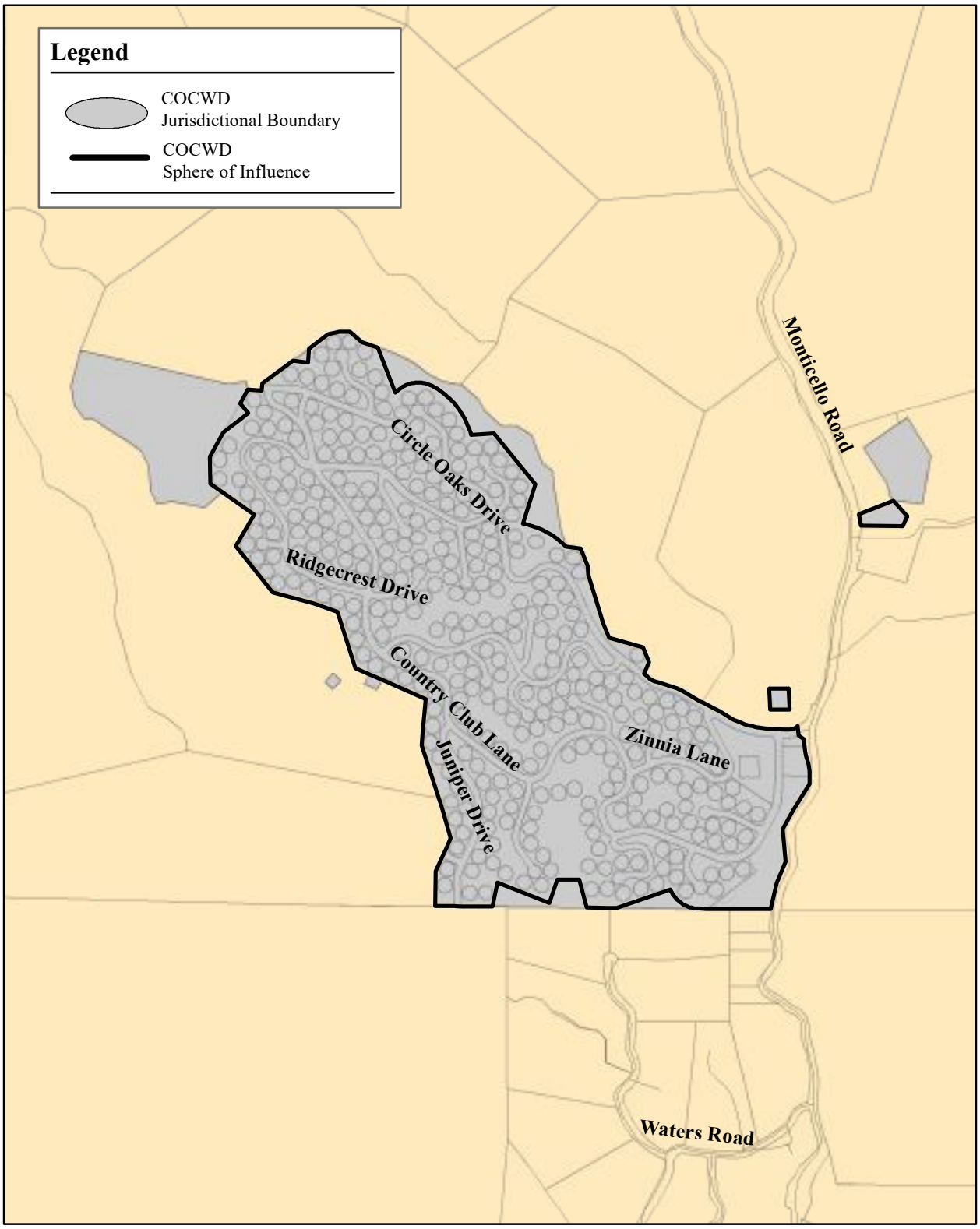
The COCWD sphere of influence (SOI) was first adopted by LAFCO in 1985, amended in 2007, and most recently updated in 2016, which added two non-contiguous properties totaling 1.64 acres that are within the Districts bounds and receiving services.[623]

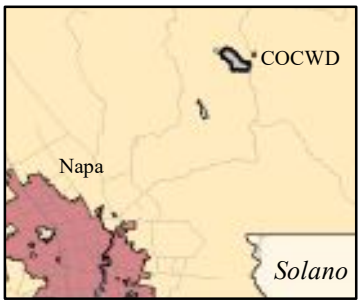
The SOI is smaller than the COCWD's boundaries encompassing 216 acres. The SOI includes all contiguous residential parcels in or adjacent to Circle Oaks Unit One, certain common open-space areas owned by the Circle Oaks Homes Association, and two non-contiguous properties where services are provided—Chance Ranch and the Welsh property.

[623] LAFCO Resolution No. 2016-08.

Figure 9-1

Circle Oaks County Water District (COCWD)





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December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

COCWD is governed by a five-member Board of Directors elected to four-year staggered terms. Directors must be residents of COCWD. Board Members may be appointed by the Napa County Board of Supervisors in lieu of election if there are insufficient candidates to require an election.

The Board meets on the second Tuesday of every month at 6:45 pm at the District's office at 380 Circle Oaks Drive. Agendas are made available on the District's website and Circle Oaks Subdivision bulletin boards. COCWD's primary means of outreach is the District's website where it makes available most documents, fiscal reports, agendas, minutes, and complaint forms.

The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites be set up by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[624] COCWD complies with SB 929 requirements.

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda. Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[625] COCWD makes its agenda available on its primary homepage; it appears the COCWD complies with this requirement.

COCWD demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The District cooperated with requests for information and participated in an interview.

[624] California Government Code, §6270.6 and 53087.8
[625] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/

GROWTH AND POPULATION PROJECTIONS

Based on the number of households in the District and the average number of persons per household of 2.52, COCWD has an estimated population of 471.[626]

Land uses within the District boundaries are single-family residential, rural residential, agricultural, and open space. There are no commercial or industrial uses within the District. Land outside and adjacent to COCWD is primarily characterized by open-space with limited rural residential uses.

COCWD is not a land use authority; the District's boundary area is entirely unincorporated and subject to the land use policies and regulations of Napa County. The County designates land located within and adjacent to COCWD as Agriculture, Watershed and Open Space. The County General Plan specifies the intent of this designation as: "To provide areas where the predominant use is agriculturally oriented; where watershed areas, reservoirs, floodplain tributaries, geologic hazards, soil conditions and other constraints make the land relatively unsuitable for urban development; where urban development would adversely impact on all such uses; and where the protection of agriculture, watersheds, and floodplain tributaries from fire, pollution, and erosion is essential to the general health, safety, and welfare."

Development densities for the County are identified within its Zoning regulations. All land located within Circle Oaks Unit One is zoned Residential Single: B-10 and requires a minimum parcel size of 10 acres. Based on the current average lot size of 0.25 acres, this zoning standard precludes additional subdivision and related growth from occurring in Unit One. All lands adjacent to Unit One are zoned Agricultural Watershed, which requires a minimum parcel size of 160 acres, and limits additional subdivision and related growth from occurring near COCWD.

There is, however, a proposal for a vineyard development known as Walt Ranch Vineyard Development in the vicinity of COCWD. The proposed project calls for the planting of vineyard on 209 acres. The water demand for this proposed new vineyard use has generated concern from the District related to potential groundwater impacts to the District's water supply; COCWD's water system is supplied by a single source well and seasonal springs. The property owners of the Walt Ranch Vineyard project are not proposing to connect to the District's services. The project was approved by Napa County in 2016; however, it has undergone litigation from various entities opposing the project for a variety of reasons, including COCWD, which contends that the project has the potential to overdraft the shared groundwater basin. In October 2019, the State Appellate Court found for Napa County on 19 of the 20 arguments challenging the project and found that refinement was needed to address greenhouse gas emissions.

Future growth within the District is limited to the 143 vacant lots of the 331 lots approved in the subdivision. At maximum build-out of the Circle Oaks Unit One subdivision, the community would hold an additional 360 persons.[627] However, in the past 19 years, there has only been one permit to build a new home in the Circle Oaks residential community and COCWD anticipates a continued low demand for future housing. Additionally, many of the

[626] Napa County Planning Department.
[627] Based on 2.52 persons per household

vacant lots have topography that may limit building opportunities. Future growth within the COCWD service area is expected to continue to be limited due to the continued slow rate of development within Circle Oaks Unit One and due to land use restrictions that effectively preclude new residential subdivisions near the Circle Oaks residential community.

The development density established for land adjacent to COCWD limits additional subdivisions and related growth from occurring near COCWD. Further, the land use designation established for land adjacent to COCWD discourages Napa LAFCO from approving an expansion of COCWD's service area based on its policy to direct the extension of municipal services away from land designated for agriculture unless it is in response to a health or public safety concern. Although there are limitations to growth, COCWD is anticipating vineyard development outside its service area located on three sides of the Circle Oaks residential community for the Walt Ranch Vineyard Conversion proposal.

The Association of Bay Area Governments (ABAG) projects that the population of unincorporated Napa County and the entire County as a whole will grow by about six percent from 2020 to 2030. The California Department of Finance (DOF) has similar projections for Napa County. Thus, the average annual population growth in the unincorporated areas as well as Napa County as a whole is anticipated to be approximately 0.6 percent. Based on these projections, the District's population would increase from 471 in 2019 to 503 in 2030.

Napa LAFCO has developed its own population projections, as the ABAG estimates appear to be higher than actual trends. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017, based on DOF population estimates for these years.[628] Population growth was projected in five-year increments through 2030. According to the LAFCO's projections, the population of unincorporated Napa County is expected to grow by about 0.21 percent a year. LAFCO projects that COCWD will grow from 471 people in 2019 to 477 residents in 2025 and to 482 people in 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[629]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Circle Oaks Water District provides water and wastewater services; its budget and CAFR separate sewer revenues and expenses from those of its water operations; the documents consolidate administrative, overhead and other shared expenses. The District formed an assessment district to issue debt to fund capital improvements.[630]

[628] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[629] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[630] CCWD Assessment District No. 2008-1, Final Engineers Report, July 12, 2010.

The following table summarizes selected financial information for the Circle Oaks Water District's combined water and wastewater operations.

Figure 9-4: Summary of Selected Financial Information, Circle Oaks Water District

Circle Oaks Water District - Water & Wastewater Operations	
FY18-19 Budget	**$108,000**
Operating Revenues	$448,000
Operating Expenditures (exc. debt)	$340,000
Ending Unrestricted Position (FY18) as % of Rev.	**60%**
Ending Unrestricted Net Position	$270,000
Debt Service as a % of Operating Revenues	**na**
Total Debt Outstanding (exc. assessment bonds)	$0
Monthly Water Rates as a % of Household Income	**2.9%**
Typical Monthly Rate	$191
Median Household Income (2017)	$79,600
Pension+OPEB Total Payments % of Revenues	**no obligations**

2019-12-19

Balanced Budget

For any agency, recurring operating deficits are a warning sign of fiscal distress. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's projected FY19 operating revenues exceed expenditures by a margin of about $108,000 before including depreciation expense. The District also receives about $50,000 in property taxes[631] which is about 3.2 percent[632] of each tax dollar from within its boundaries.

The FY19 revenues, including property tax, fall short of covering operating expenses plus depreciation ($125,000) by a shortfall of about ($17,000).[633] Although depreciation is a non-cash expense utilized for accounting purposes, it approximates "using up" capital assets over time; the shortfall indicates that the District may be unable to fund capital repair and replacement over the long-term unless revenues increase (or expenses decline).

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The District's FY18 financial reports show an unrestricted net position of $270,000 ($240,000 cash and investments in the bank), which was similar to the prior year and

[631] Circle Oaks Water District Proposed Budget 2018-19.
[632] County of Napa MPTS2010 Property System – Auditor Tax Increment Distribution Report 2018, TRA 072-031.
[633] Circle Oaks Water District Proposed Budget 2018-19.

represented about 60 percent of revenues. These funds provide a cushion for cash flow needs, short-term contingencies and capital reserves. The District's liquidity ratio is 8.8 (current assets compared to current liabilities), indicates the short-term (less than one year) availability of these funds if needed.

Net Position

An agency's "Net Position" *as reported in its CAFR* represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

The District's net position at the end of FY18 was $3,690,773. The net position is primarily invested in $3.4 million of net capital assets. Unrestricted funds total about $270,000.[634]

Rates and Charges

Combined water and wastewater rates typically are expected to not exceed 4-5 percent of household income;[635] the District's combined rates are about 2.9 percent of median household incomes.[636]

The District offers no discounts to low-income households.

The District's FY19 budget indicates no connection fee revenue.

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements.

The District's only long-term debts are assessment bonds secured by property assessments within the District; no District operating funds are required for debt service. In 2018 COCWD paid of its loan through the Municipal Finance Corporation for the District's booster station and wastewater management project.[637]

The District's two assessment bonds from the USDA total $3,587,925 as of the end of FY18. The District currently maintains $384,000 in its bond fund, or about 10 percent of outstanding debt.

Pension and OPEB Liabilities

The District does not provide pension or OPEB benefits and therefore has no pension or OPEB liabilities.

[634] Circle Oaks County Water District Financial Statements FY17 and FY18 (no page number listed; see pdf pg. 7/27).
[635] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[636] Based on median household income of $79,637 for the County of Napa, according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[637] Circle Oaks County Water District Financial Statements FY17 and FY18, Note 5.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of depreciable capital assets declined about 3 percent from FY17 to FY18. The District's budget shows $125,000 annual depreciation expense. Total asset value, net of depreciation, was $3.4 million at the end of FY18.[638]

The District does not report or allocate to a separate capital reserve. The lack of a CIP makes it difficult to determine whether current unrestricted funds are sufficient to provide for capital replacement.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District has no website.

Financial Policies – The District provided no financial policies.

Comprehensive Annual Financial Report (CAFR), Audited Financial Statements – The District prepares its financial statements every two years (within 2 months of the end of the second year). The reports separately allocate water and wastewater financial items and separately show the position of the assessment district.

Capital Improvement Program – The District has no Capital Improvement Program or related plan.

Cost of Service/Rate Study – No study was provided as a basis for current or future rates.

Financial Forecasts – The District does not prepare long-term financial forecasts.

Other Financial Planning – The District provided no financial documents other than its budget and its audited financial report.

[638] Circle Oaks Financial Statements FY18 Statement of Net Position, pg. 4.

WATER SERVICES

Well-operated public agencies conduct long-term planning activities for the services they provide. COCWD compiled an Engineer's Report in 2010 for the water assessment district to guide capital improvement efforts at the time. Ongoing infrastructure improvement needs are not documented in a capital improvement plan and are performed on an as-needed basis.

Some planning for the area of COCWD related to water services is performed by Napa County in its General Plan and the Environmental Impact Report, updated in 2008. Additionally, the area was included in the planning efforts conducted as part of the 2050 Napa Valley Water Resources Study in 2005.

Type and Extent of Services

Services Provided

The District provides domestic water treatment and distribution. In addition, water is also provided as needed for fire suppression. Recycled water is not available within the District's boundaries.

Service Area

The District does not provide any services to out-of-boundary customers and no requests for water services have been received from anyone outside the District boundaries.

Services to Other Agencies

The District does not provide services to other agencies under contract.

Contracts for Services

COCWD does not contract with other agencies for services.

Overlapping Service Providers

There are no overlapping providers within the District's boundary area.

Collaboration

COCWD collaborates with Spanish Flat Water District by sharing a general manager and a part-time operator.

Staffing

The COCWD operates under the direction of the Board of Directors. Between 2001 and 2014, the operations of COCWD's domestic water and wastewater systems were provided by an independent contractor, and the District employed one full-time General Manager and a part-time secretary who were responsible for day-to-day business on behalf of the Board. COCWD changed its business model in November 2014 to bring district operations in-house. The District Board approved three staff positions. The Manager position is filled by an independent contractor (as of November 2015), and the operators and secretary positions are filled by part-and full-time employees. The Manager is responsible for water and sewer systems, personnel, purchasing, accounts payable, and all plant functions.

Water Supply

COCWD's water supply was originally generated from three wells located along the western edge of Circle Oaks Unit One and a seasonal spring source located along an easement on the northwestern edge of Unit One. Two of the three wells are no longer in production. The spring source is an underground aquifer comprised of three horizontal wells that flow into a common galley. Under normal conditions, the District draws water from its spring source during the summer and fall months, while the well is used primarily during the winter and spring months.

Based on the Department of Water Resources Groundwater Basin Maps (Bulletin 118), COCWD is not located in a formally designated groundwater basin; however, it does directly utilize groundwater as its primary water source. COCWD is located in the Upper Putah Watershed.

COCWD has limited water supply that marginally meets the needs of the community. The remaining well can provide a firm yield of 75 gallons per minute (gpm) or 39.4 million gallons per year and the spring wells can provide a firm yield of 10-50 gpm or 5.3 mg-26.2 mg per year. The firm yield is the maximum quantity of water that can be guaranteed during a critical dry period, it is not a sustainable rate of pumping long term. The District reported that its water tanks cannot be fully filled, as there is limited available water and it presently requires that the pumps be run 24 hours a day to fill the tanks. Several challenges further constrain the District's water source capacity, including:

- The District is looking into the possibility of putting in another well, but a suitable location has not been identified yet.
- The spring water source is limited and can be drawn down quickly.
- Additionally, the District has typically high usage per connection; however, the District has been able to supply all demand.
- High iron content in wells causes the need to backwash, resulting in just enough water to meet demand.

Emergency Preparedness

The District has not identified any specific water supply hazards.

The District does not have any interconnections with other providers to provide an emergency backup supply. COCWD does however benefit from having two sources of water supply, so if one source if offline the other source can enable the district to weather the outage. If both water sources were to go offline at the same time, then the District would have to rely on stored water. The District maintains 480,000 gallons of available stored water capacity, which is equivalent to 3.4 days of peak water use by the District. However, as mentioned, COCWD struggles to completely fill its water tanks.

Water storage for fire emergencies is an important issue for the District. To boost their storage capacity for fire suppression operations, a new 176,000-gallon water storage tank (Tank 2) has been installed with a 600 gallon per minute rating.

Water Demand

The water system currently serves 188 metered residential connections.[639]

District demand is measured by the amount of water processed through the District's WTP and supplied to households through metered connections. In 2018, COCWD delivered approximately 20,319,900 gallons (62.4 acre-feet) of potable water, resulting in a daily average of 55,671 gallons (0.17 acre-feet). The District's peak water demand for the summer was 140,200 gallons (0.43 acre-feet).

Figure 9-5: Demand for Potable Water (acre-feet)

Demand for Potable Water					
	2014	2015	2016	2017	2018
TOTAL DEMAND	**52.9**	**47.4**	**72.1**	**59.1**	**62.4**
Source: COCWD MSR Request for Information.					

Demand for water has fluctuated over the last five years, incongruously peaking in 2016. During the winter of 2015-2016, significant pipeline breaks and leakages resulted in approximately 400,000 gallons of water loss. Most of the breaks and leakages occurred to vacant homes/absentee owners, which resulted in identification and correction delays. The District has resolved these specific issues. Additionally, the District has initiated a plan to contact vacant landowners prior to the winter months to request they shut off their water so as to avoid breakages, which are often the result of burst pipes during winter months.

Water Infrastructure and Facilities

Water Treatment Plant

COCWD provides treatment of raw water generated from local groundwater and spring sources at the Circle Oaks Water Treatment Plant (WTP). Constructed in 1995, the Circle Oaks WTP filters and disinfects raw water prior to entering into the District's distribution system. The treatment process begins as raw water is conveyed to the Circle Oaks WTP through an integrated conveyance system consisting of four- and six-inch water lines. Alum, polymer (coagulants), and chlorine (disinfectant) are added and mixed as raw water is conveyed into a clarifier. Raw water is detained in the clarifier to facilitate the sedimentation of solids in the water. Solids are removed as water is cycled through a filtering tank and conveyed into a 104,000-gallon clearwell tank. The clearwell tank completes the disinfection process by allowing the treated water to complete its necessary contact time with the chlorine.

Finished water remains in the clearwell tank until storage levels within the distribution system require recharge. The Circle Oaks WTP has a treatment capacity of approximately 100 gallons per minute, resulting in a daily treatment capacity of 144,000 gallons. In 2018 during peak day demand, the District made use of 97 percent of its treatment capacity, and on days of average demand made use of 39 percent of its treatment capacity. The water treatment system will need to be expanded should any new connections be considered, or

[639] COCWD, Annual Report to the Drinking Water Division, 2018 p. 7.

the District will need to institute greater conservation measures during summer months to address the high peak usage during those times.

The District has a Supervisory Control and Data Acquisition (SCADA) system that allows staff to monitor the water system remotely from their computers and cell phones on the weekends and from home.

Distribution and Storage System

COCWD's water distribution system receives and distributes treated water generated from the Circle Oaks WTP. The distribution system consists of a network of approximately 6.5 miles of 6-, 8-, 10-, and 12-inch water lines. The Distribution system was originally built in 1964 and is considered to be in fair to good condition.[640]

The distribution system consists of two water pressure zones and is served (recharge and system pressure) by two storage tanks. Due to the topography of the service area, a pump station is required to lift treated water from Circle Oaks WTP's 104,000-gallon clearwell tank into the primary pressure zone, "Zone One." The distribution system operates on a supply and demand basis and responds to storage levels within Zone One. Zone One includes 108 service connections and is served by a 200,000-gallon storage tank (Storage Tank 1). When storage levels within Storage Tank 1 fall below a designated operating level, treated water is discharged from the clearwell tank by means of a pump station. As water enters Zone One, water levels inside Storage Tank 1 are recharged. "Zone Two" includes 80 service connections and is served by a 176,000-gallon storage tank (Storage Tank 2). A second pump station is required to lift potable water from Zone One to Zone Two, which recharges Storage Tank 2. The two storage tanks work in conjunction with one another to maintain adequate pressure throughout the distribution system by utilizing gravity.

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities) as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. COCWD reported that it had no means to calculate the volume or rate of loss in the system, but that the system generally experienced substantial loss due to the need for backwashing as a result of high levels of iron.

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. The COCWD experienced two main breaks in 2016, two in 2017, and one in 2018,[641] which averages to 21 breaks per 100 miles of main per year. This is about equal to the national average of between 21 and 27 breaks per 100 miles of pipe per year.[642]

Shared Facilities

The District practices resource sharing with other agencies by sharing a general manager and operator with Spanish Flat Water District.

[640] Napa County, Planning, Building, and Environmental Services, Routine Inspection of COCWD System, July 5, 2018, p. 5.
[641] The District reported that it did not have records of main breaks in 2014 in 2015, as the District was under different management.
[642] WaterRF, Knowledge Portals, 2017.

There are no facility sharing practices.

Infrastructure Needs

During the County's annual inspection in 2018, no significant infrastructure needs were identified for the water system.[643] Given that the District made substantial improvements to the water system in recent years, there are no known issues with the distribution system at this time.

The water treatment system is in good condition; however, as mentioned, the water treatment system will need to be expanded should any new connections be considered, or the District will need to institute greater conservation measures during summer months.

Additionally, another well will be necessary to meet future demand needs and to provide a second, redundant, and reliable source of water. COCWD's continued operation with only one well and seasonal springs is a risk. Very little development is expected to occur within the District due to the continued slow rate of growth within Circle Oaks Unit One. The District has decided to defer development of a second reliable source of water until there is considerable new development in Circle Oaks that would warrant the expense.

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

COCWD has struggled with high iron and manganese content in its source water. High levels of these minerals can cause discoloration of the water even within the MCL and is safe for consumption. Heavy rains percolate through the soil and wash iron and manganese deposits into the water supply.

In 2018, iron, color, manganese. and turbidity of the District's raw water source exceeded the MCL limits. These samples are collected from the raw water source before any treatment. The treatment process is designed to substantially reduce these minerals in the finished water. Secondary drinking water MCLs are established based only on aesthetics.[644]

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as

[643] Napa County, Planning, Building, and Environmental Services, Routine Inspection of COCWD System, July 5, 2018, p. 5.
[644] COCWD, Consumer Confidence Report, 2018, p. 5.

reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

The EPA documents health and monitoring violations for each public water system in the U.S. Since 2008, COCWD has had no health violations and no monitoring violations as identified by the EPA. However, the Napa County Environmental Services noted delayed reporting manganese sampling for three quarters in 2017.[645]

In 2018, COCWD was in compliance with primary drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

[645] Napa County, Planning, Building, and Environmental Services, Routine Inspection of COCWD System, July 5, 2018, p. 1.

WASTEWATER SERVICES

Well-operated public agencies conduct long-term planning activities for the services they provide. COCWD compiled an Engineer's Report in 2010 for the water assessment district to guide capital improvement efforts at the time, including wastewater system improvements. Ongoing infrastructure improvement needs are not documented in a capital improvement plan and are performed on an as-needed basis.

Some planning for the area of COCWD related to wastewater services is performed by Napa County in its General Plan and the Environmental Impact Report, updated in 2008.

Type and Extent of Services

Services Provided

The primary wastewater services provided by COCWD are collection, treatment, and disposal. COCWD currently has a total of 187connections to its sewer system, all of which are residential connections.

Service Area

The District does not provide any services to out-of-boundary customers and no requests for wastewater services have been received from anyone outside the District's boundaries.

Services to Other Agencies

The District does not provide services to other agencies under contract.

Contracts for Services

COCWD does not contract with other agencies for services.

Overlapping Service Providers

There are no overlapping providers within the District's boundary area.

Collaboration

COCWD collaborates with Spanish Flat Water District by sharing a general manager and a part-time operator.

Staffing

As mentioned in the *Water* section of this chapter, COCWD changed its business model in November 2014 to bring district operations in-house. The Manager position is filled by an independent contractor, and the operators and secretary positions are filled by part-and full-time employees. The Manager is responsible for water and sewer systems, personnel, purchasing, accounts payable, and all plant functions.

Wastewater Flow

COCWD provides sewer service to 187 connections all of which are residential.

The District's average dry weather wastewater flows (ADWF) over time are depicted in Figure 9-6.

Figure 9-6: ADWF Wastewater Flows 2014-2018 and Buildout Conditions, gallons

COCWD ADWF Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
Average Dry Weather Flow	23,000	25,166	21,833	24,066	20,500	Unknown

Source: COCWD MSR Request for Information.

The District reported the peak wet weather flow in 2017 and 2018 was 121,000 gpd and 104,000 gpd, respectively. The District's ratio of peak wet weather flow (PWWF) to average day weather flow (ADWF), or wet weather peaking factor was 5.1 in 2018, which is indicative of moderate infiltration and inflow.

Wastewater Infrastructure and Facilities

The wastewater treatment system was installed when the Circle Oaks subdivision was first built in the 1960's and 1970's and is categorized as a secondary treatment system. The collection system consists of approximately 6.5 miles of pipe, which depends on gravity flow to move wastewater to three percolation/evaporation ponds located on the eastern side of State Route 121. Sludge from the ponds degrades on site.

The Regional Water Quality Control Board (RWQCB) (Region 5) regulates water quality in the northeast portion of Napa County and this includes COCWD's wastewater system. COCWD is subject to Waste Discharge Requirements Order No. 94-097, dated April 29, 1994. The facility is permitted and designed to have a monthly average dry weather flow (ADWF) not to exceed 72,000 gallons per day.

Factors that can influence the District's ability to deliver wastewater service to customers include treatment system capacity and RWQCB regulations. Capacity in the collection system far exceeds buildout projections, but the current treatment system limits service capacity. The wastewater collection, treatment, and disposal systems would require significant modifications to serve the buildout projection of 330 dwelling units.

In 2005, the District was issued Cleanup and Abatement Order No. R5-2005-072020, dated December 16, 2005, from the RWQCB. COCWD submitted a plan to address the cleanup and abatement order and received a $350,000 loan from the California Special Districts Association (CSDA) to install monitoring wells around the sewer ponds and new pumps at the booster station. Additionally, in 2006, the District replaced approximately 1,500 feet of water line from the well to the raw water treatment plant, which was severely restricted. In 2007,the District upgraded the booster station which brought the upper zone into compliance with fire regulations, and in 2009 the District replaced the manual gas pumps with automated electric pumps at the ponds. These improvements were necessary for addressing critical restrictions in the sewer system. In 2005, the COCWD Board of Directors hired engineers to update the 2001 Engineering and Design Report. The Final Engineer's Report was adopted on July 12, 2010 and this report confirmed that the District's water and wastewater systems were originally designed to accommodate full buildout of the service area; however, a number of the components that comprise the systems were at or beyond their useful life, which impacted the District's ability to provide reliable service in

accordance with applicable State regulations and to maintain its obligation to serve the entire constituency.

The Final Engineer's Report identified facility upgrades that would help the District to continue to provide adequate water and wastewater services to its existing customers and to meet anticipated future demands in conformance with State and local health and safety requirements. The wastewater system improvements identified by the consultant included replacing sewer pipes and mains.

An assessment district was formed by the voters on July 12, 2010 to secure improvement bonds financed by the U.S. Department of Agriculture-Rural Development in the amount of $3,147,894 for domestic water system improvements and $393,487 for wastewater system improvements to implement project upgrades The improvement projects were completed in 2013.

As reported, in 2018, COCWD had an ADWF of 20,500 gallons, which equates to 28 percent of the treatment capacity of the system. As shown, during dry periods, the District is typically well within its treatment capacity. However, during wet weather periods the District reported that flows have reached levels of concern.[646] The District has experienced some reduction in wet weather flows due to conservation and changes in weather patterns.

Portions of the sewer collection system were prone to inflow and infiltration due to mainline and lateral breaks. Excessive inflow and infiltration stresses the wastewater system to the point where there is a risk of a discharge violation and utilizes capacity in the treatment facilities that should otherwise be available for existing and future customers. The District replaced the most problematic portion of the collection system to reduce system inflow and infiltration.

However, portions of the sewer collection system are still prone to inflow and infiltration due to mainline and lateral breaks. The original sewer lines were constructed of clay pipes and have substantially degraded, allowing stormwater to infiltrate the collection system and enter the three percolation/evaporation ponds. The ponds have berms to increase the holding capacity of wastewater, but there is a potential risk of the ponds filling up or overflowing after a large rainstorm. The District replaced the most problematic portion of the wastewater collection system as part of the COCWD Assessment District capital improvement project. The District will need to continue monitoring the areas where clay pipes remain, and ultimately, will need to plan a capital improvement project to upgrade all the pipes in the wastewater collection system.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year. COCWD had two SSOs over the five-year timeframe from 2014 through 2018, both of which occurred in 2014. This equates to 6.15 SSOs per 100 miles of main per year. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[647]

[646] Interview with Paul Quarneri, August 6, 2020.
[647] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. COCWD has both a permit for treatment and discharge (WDR Order No. 94-097) and a general permit for its collection system.

Since 2009, COCWD has had 49 violations for its wastewater treatment facility, of which eight were for violation of order conditions such as positive coliform tests in the wells in 2015 and freeboard not meeting minimum height requirements. The remaining 41 violations were for deficient reporting, with 18 violations occurring in 2018. None of the violations were considered priority violations (Class A or Class 1). Over the 10-year time period, the violations have resulted in six enforcement actions—five notices of violation and one oral communication.

Infrastructure Needs

Capital improvement needs are planned for on an as needed basis. COCWD reported a need to reline more of the collection system to address root infiltration. The District has CCTV inspected and smoke tested the areas of concern and reported that I/I had not been a significant issue in recent years. The District did not identify infrastructure needs associated with the treatment facility.

Shared Facilities

Due to the remote location of the District in relation to other service providers, and the steep terrain characteristic of the service area which requires the use of costly pumps to provide service, the District has very limited opportunities to form partnerships with other agencies for the benefit of joint-use facilities and projects.

The District does not currently jointly own or share facilities or services with other agencies. There are no areas in or near the District boundaries that would be better served by a different agency. The District does not participate in any mutual aid agreements.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to COCWD, including possible service structure alteration and reorganization with other agencies. The feasibility of these options is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Contracting for Services

COCWD may wish to consider contracting for services from a larger agency such as City of Napa or Napa Sanitation District (NapaSan) for a portion or all operational services. At present, both City of Napa and NapaSan provide contract services to other agencies and have been found to provide professional and well-managed services. Given that City of Napa provides only water services and NapaSan provides wastewater and recycled water services, contracting out to these agencies would require separate agreements with each agency for the specific service.

In addition to COCWD, there are other small water and wastewater systems in Napa County which struggle to provide an adequate level of services. Smaller service providers in rural areas often must focus on day-to-day operations and do not have the staff capacity to conduct pre-planning and highly technical services. These agencies have expressed interest in either receiving support services or being fully taken over by a larger service provider. Should multiple agencies choose to contract with City of Napa and/or NapaSan, there is the potential for greater economies of scale and efficiency of services, which could result in cost savings.

Contracting out services to agencies, or what also might be referred to as "functional consolidation," allows for flexibility of service structure. COCWD could choose what degree of contract support is necessary ranging from occasional technical support to full service provision.

The benefits of these agencies providing services by contract to interested agencies includes the following:

1. The provision of contract support services would allow for flexibility in the manner and nature of services to be provided to allow for tailoring to the needs of the contracting agency, which could include provision of specific or limited services or consist of all administration and operations.
2. Contracting to agencies for services outside of the boundaries of the respective agency does not require LAFCO approval.
3. A contract would allow service provider and the contracting agency to test out the alternative service structure without making a long-term commitment.
4. The contracting agency would continue to exist and maintain local control.
5. "Functional consolidation" would allow each agency to retain its identity while at the same time combining resources or specialty assets and improving efficiencies.
6. Contracting could result in a reduction in equipment needs and duplication of efforts.

7. Contracting for services would not face the labor concerns that may result from a "full consolidation."
8. Customers of the contracting agency would receive a high level of services and broader expertise from a larger, professionally operated service provider.

Reorganization with a Countywide Water District

Another option identified during this review is the potential for a countywide county water district that could provide support or take on both water and wastewater services for interested agencies. This option would involve the formation of a countywide county water district to include COCWD and other small water and wastewater systems. The small agencies would either then contract with the countywide water district or dissolve and have the countywide agency be the successor agency and provide continued services to these areas.

This governance structure option is discussed in more detail in the *Overview* chapter (Chapter 3) of this report.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to COCWD regarding its water and wastewater service delivery.

1) While COCWD has an Engineer's Report from 2010, there is not an up to date master plan for the District's water and sewer systems. It is recommended that the District develop comprehensive master plans for both water and wastewater services.
2) Ongoing infrastructure improvement needs are not documented in a capital improvement plan and are performed on an as-needed basis. It is recommended that COCWD conduct capital planning at least on a two- to three-year basis.

CIRCLE OAKS COUNTY WATER DISTRICT DETERMINATIONS

Growth and Population Projections

- Circle Oaks County Water District's (COCWD) population, as of 2019, was approximately 471.
- Future growth within COCWD is limited to the 143 vacant lots of the 331 lots approved in the subdivision. At maximum build-out of the Circle Oaks Unit One subdivision, the community would hold an additional 360 persons. However, in the past 19 years, there has only been one permit to build a new home in the Circle Oaks residential community, and COCWD anticipates a continued low demand for future housing.
- LAFCO anticipates growth within COCWD to be similar to the most recent five-year trend of all unincorporated areas of Napa of 0.21 percent annually, with an anticipated population of 482 by 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- COCWD has limited water supply and treatment capacity that marginally meets the needs of the community.
- Several challenges constrain the District's water supply capacity, including 1) lack of a suitable location for another well, 2) the spring water source can be drawn down quickly, 3) high usage per connection, and 4) high iron content in wells requiring the need to backwash.
- The level of water services offered by the COCWD were found to be adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the District's water distribution system has improved since 2016 when there were several breaks and leaks in the system. The District was in full compliance with Primary Drinking Water Regulations in 2018 and has had no violations reported by the EPA since 2008.
- Given that COCWD made substantial improvements to the water system in recent years, there are no known issues with the distribution system at this time. The water treatment system is in good condition; however, the water treatment system will need to be expanded should any new connections be considered, or the District will need to institute greater conservation measures during summer months.

Additionally, another well will be necessary to meet future demand needs and to provide a second, redundant, and reliable source of water.

- During dry periods, the District is typically well within its treatment capacity. However, during wet weather periods flows have reached levels of concern.
- The level of wastewater services offered by COCWD were found to be minimally adequate based on integrity of the wastewater collection system and regulatory compliance. The District has had no sanitary sewer overflows in the last five years, but has had 49 violations, a majority of which were for deficient reporting. Significant improvement can be made to the District's reporting practices.
- Capital improvement needs are planned for on an as needed basis. COCWD reported a need to reline more of the collection system to address root infiltration. The District did not identify infrastructure needs associated with the treatment facility.

Financial Ability of Agencies to Provide Services

- The Circle Oaks County Water District has the ability to continue providing water and wastewater services. The FY19 budget shows revenues exceeding operating expenditures; however, the surplus is not sufficient to cover depreciation expense, indicating that the District may have difficulty fully funding capital repair and replacement.
- Combined utility rates are well below maximum standards.
- The District's positive liquidity ratio and unrestricted net position demonstrate adequate reserves, although declining net asset value and net annual surpluses that are less than depreciation (see above) indicate a potential need for increased capital funding.
- The District has no capital improvement program, no cost of service or rate study, and no long-term projections to provide the basis for determining future operating and capital needs.

Status of, and Opportunities for, Shared Facilities

- COCWD practices resource sharing with other agencies by sharing a general manager and operator with Spanish Flat Water District.
- An opportunity for facility sharing may be contracting with another agency for a portion or all operations, such as the City of Napa or Napa Sanitation District.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District Board holds regular appropriately noticed meetings.
- COCWD primarily conducts outreach via its website, which makes available comprehensive information and documents to the public. COCWD is fully compliant with the SB 929 and SB 2257 requirements.

- Governance structure alternatives include contracting with another agency for services or reorganization with a countywide county water district.

Relationship with Regional Growth Goals and Policies

- COCWD is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- LAFCO's adopted policies relating to special district spheres discourage any expansions of COCWD's existing sphere to promote urban development based on current land use designations of lands located within close proximity to the District.

10. CONGRESS VALLEY WATER DISTRICT

AGENCY OVERVIEW

Congress Valley Water District Profile			
Contact Information			
Contact:	Kiersten Bjorkman, District Secretary		
Address:	Napa County Land Trust 1700 Soscol Avenue, #20 Napa, CA 94559	*Website:*	None
Phone:	707-256-0344	*Email:*	kierstenlarae@yahoo.com
Formation Information			
Date of Formation:	1949	*Agency type:*	Independent special district
Governing Body			
Governing Body:	Board of Directors	*Members:*	5
Manner of Selection:	Elected at large by registered voters	*Length of term:*	4 years
Meetings Location:	Napa County Land Trust 1700 Soscol Avenue, #20 Napa, CA 94559	*Meeting date:*	Second Monday of every month at 5:30 pm
Mapping and Population			
GIS Date:	2019	*Population (2019):*	262[648]
Purpose			
Enabling Legislation:	CA Water Code §30000 (County Water District Act)	*Empowered Services:*	Domestic water (active) Sewage collection/disposal, fire protection, EMS, storm drainage, reclamation, hydroelectric power generation/transmission (latent)
Municipal Services Provided (directly or by contract)	Agricultural and residential water distribution		
Area Served			
Boundary Size:	2.18 square miles	*Location:*	Southwest of the City of Napa
Current SOI:	2.45 square miles	*Most recent SOI update:*	2017[649]

[648] LAFCO estimate based on 104 households (as reported by Napa County Planning) at an average household size of 2.52 persons per household.
[649] Resolution 2017-06.

Municipal Service Reviews	
Past MSRs:	2017 Congress Valley MSR and SOI Update 2014 Central County Region MSR 2004 Comprehensive Water Service Study

Boundaries

Congress Valley Water District's (CVWD) boundaries include the District's agricultural and rural residential uses to the immediate south and west of the City of Napa. CVWD's jurisdictional boundary is 2.2 square miles or 1,398 acres in size and includes 113 total assessor parcels. The Commission has approved only one boundary change to CVWD since 1963 involving the addition of 11.5 unincorporated acres; an amount representing less than one percent of the current jurisdictional boundary. This lone annexation occurred in 2010 and involved a developed lot located off of Old Sonoma Road. CVWD's jurisdictional boundary, sphere of influence, and Water Supply Contract service area are depicted in Figure 10-1.

Sphere of Influence

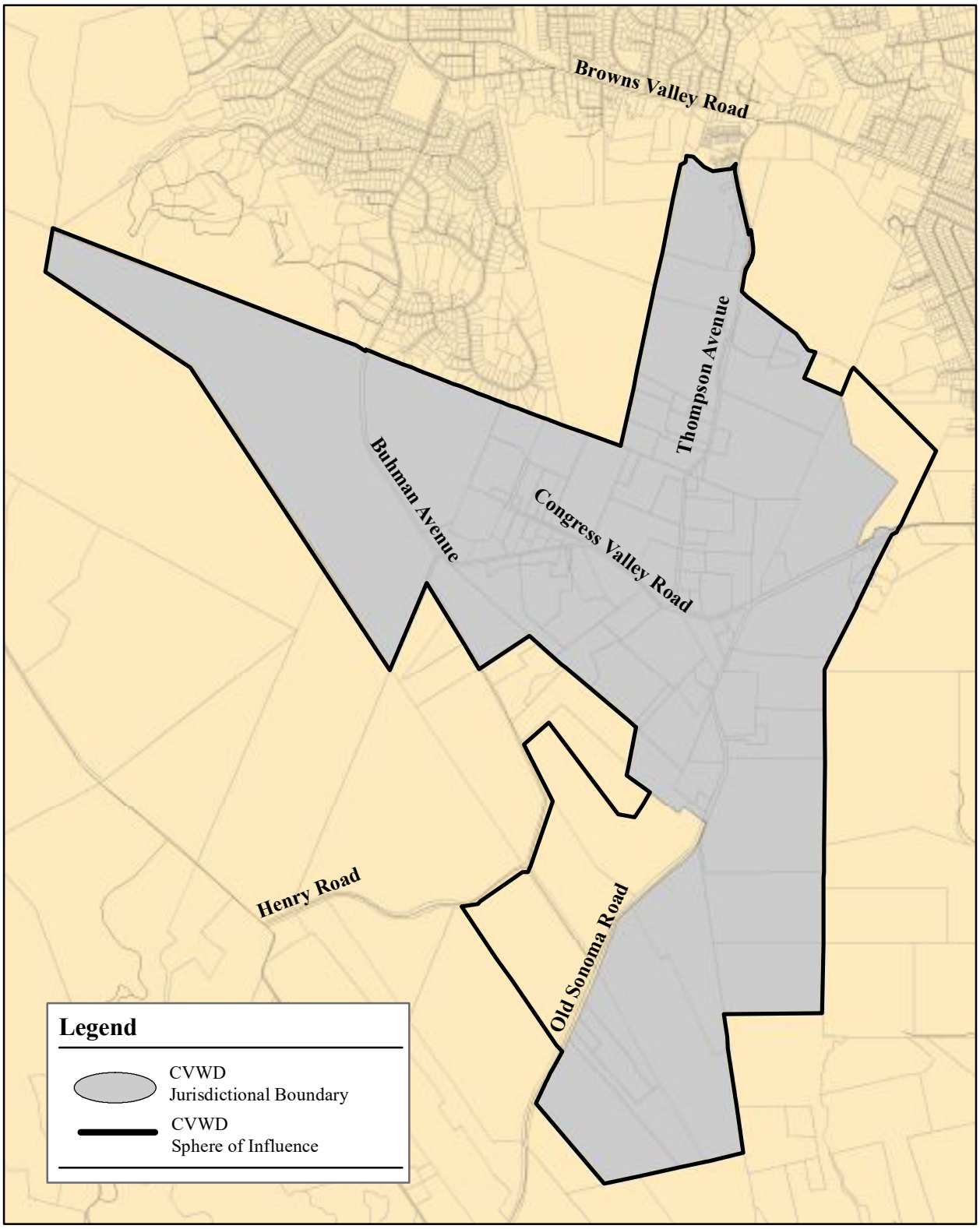
CVWD's sphere was adopted by the Commission in 1985 and comprehensively updated in 2008. CVWD's SOI was most recently updated in 2017, when 10.6 acres, that were previously erroneously presumed to be within the District's boundaries, were removed.[650] The District's current SOI is 2.45 square miles consisting of the entirety of CVWD's boundary territory and four parcels outside of the District's bounds that are eligible for annexation. A more detailed background on CVWD's SOI is found in its most recent *2017 Congress Valley MSR and SOI Update.*

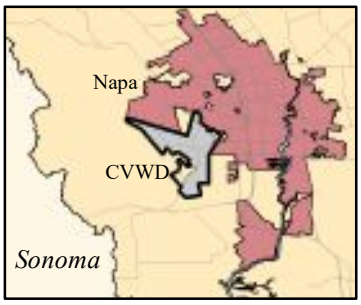
Water Contract Area

The primary function of CVWD, and the cause for its formation over half a century ago, was to provide water service to an area of known groundwater deficiency. The Water Supply Contract between the City of Napa and CVWD, developed in the late 1980's, provided water supply availability for the area envisioned by the then Board of Directors of the CVWD. The resulting Water Supply Contract service area was established as part of CVWD's Water Supply Contract with the City and is distinct from the District's jurisdictional boundary and SOI. The contract service area presently encompasses 2.5 square miles or 1,620 acres and includes 124 total assessor parcels. Of this amount, there are a total of nine parcels located near Buhman Avenue that are currently outside CVWD's boundary and sphere. However, these nine parcels are ineligible for annexation given that they are located outside CVWD's SOI. Further, there are two entire parcels and a portion of a third parcel collectively totaling 92.8 acres currently within the sphere that are located outside the contract service area; all of which were added to the sphere as part of the comprehensive update in 2008. There have been no changes to the service area since it was originally included in the Water Supply Contract.

[650] LAFCO Resolution 2017-06.

Figure 10-1 Congress Valley Water District (CVWD)





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December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The District is governed by a five-member Board of Directors elected to staggered four-year terms by registered voters within the district boundaries. Board Members may be appointed by the Napa County Board of Supervisors in lieu of election if there are insufficient candidates to require an election.

Regularly scheduled meetings are held on Second Monday of every month at 5:30 pm. Meetings are located in the Napa County Land Trust at 1700 Soscol Avenue, #20 in Napa. Agendas are distributed via email and postal mail.

In the 2017 MSR on CVWD it was recommended that CVWD consider developing a website that would include meeting agendas, minutes, Board of Directors information, Board meeting details, annual budgets, and basic financial statements. CVWD has not compiled a website to date, but instead has adopted a resolution[651] declaring a hardship preventing the establishment and maintenance of a district website as required by law.

The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites be set up by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[652] In October 2018, Napa LAFCO sent out a letter to all independent districts in Napa County informing them about the SB 929 requirements and the related districts' obligations. As mentioned, in September 2019, CVWD adopted a resolution[653] declaring a hardship preventing the establishment and maintenance of a district website, and consequently has concluded that it is in compliance with the requirements of SB 929. It is recommended that the District ascertain the cost of creating a website and maintaining and reassess its finding of hardship, given the substantial reserves that the District has been able to accumulate as reported in the *Financial Ability to Provide Services* section.

CVWD demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The District cooperated with the requests for information, interviews, and document review.

GROWTH AND POPULATION PROJECTIONS

CVWD's current resident population is estimated at 262 based on the 104 residential units within the District coupled with household population data published by the California Department of Finance for unincorporated Napa County of 2.52 persons.

The overall resident population within CVWD has risen by 11.5 percent over the last 10 years, representing an annual 1.09 percent population increase.

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651 CVWD Resolution No. 68.
652 California Government Code, §6270.6 and 53087.8
653 CVWD Resolution No. 68.

Land located within the District is subject to the land-use authority of the County of Napa. Current land uses within CVWD include agriculture (i.e. pasture and vineyards), single-family residences, and wineries. The County of Napa has designated all lands within CVWD's boundary, sphere, and Water Supply Contract service area as agriculture, watershed, and open space, which requires a minimum parcel size of 160 acres. Further, the County has assigned an agricultural watershed zoning within the entire area. Notable land use allowances based on these land use regulations without requiring a permit from the County include the following:

- Agriculture,
- One single-family dwelling unit per legal lot,
- One second unit either attached to, or detached from, an existing legal residential dwelling unit,
- One guest cottage, and
- Wineries and related accessory uses and structures which legally existed prior to July 31, 1974.

While there are some parcels within CVWD that do not currently contain developed housing units, there are not a significant number of such undeveloped parcels. With this in mind, in combination with the restrictive land uses in the area, it is reasonable to assume CVWD's resident population growth rate over the foreseeable future will remain low and not significantly impact the District's demand for water.

The Association of Bay Area Governments (ABAG) projects that population of unincorporated Napa County and the entire County as a whole will grow by about six percent from 2020 to 2030. The California Department of Finance (DOF) has similar projections for Napa County. Thus, the average annual population growth in the unincorporated areas as well as Napa County as a whole is anticipated to be approximately 0.6 percent. Based on these projections, the District's population would increase from 262 in 2019 to 280 in 2030.

Napa LAFCO has developed its own population projections, since ABAG estimates are often higher than actual trends. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017 based on DOF population estimates for these years.[654] Population growth was then projected in five-year increments through 2030. According to LAFCO's projections, the population of unincorporated Napa County is expected to grow by about 0.21 percent a year. LAFCO projects that CVWD will grow from 262 people in 2019 to 265 residents in 2025 and to 268 people in 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission

[654] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore LAFCO used the timeframe from 2012 to 2017.

annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[655]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Congress Valley Water District provides water services. Customers are billed directly by the City of Napa, which also provides all operation and maintenance services required by the system. The District receives a 12.2 percent share[656] of the Prop. 13 1% property tax which funds board expenses, legal and financial services.

Figure 10-3: Summary of Selected Financial Information, Congress Valley Water District

Congress Valley Water District - Water Operations	
FY18-19 Water Budget Net	**-$39,000**
Revenues	$95,000
Expenditures	$134,000
Ending Fund Balance as % of Operating Revenues	**725%**
Ending Fund Balance	$689,000
Debt Service as a % of Operating Revenues	**0.0%**
Total Debt Outstanding	$0
Monthly Water Rates as a % of Household Income	**1.0%**
Typical Monthly Rate	$68
Median Household Income (2017)	$79,600
Pension+OPEB Total Payments % of Revenues	**na**

2019-09-17

Balanced Budget

A balanced budget requires that an agency have sufficient funds to pay for its expenditures. For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's budget shows expenditures exceeding revenues in FY19 fiscal year. The FY19 budget's expenditures of $133,600 exceed revenues by about $40,000 (before adding depreciation expense); the shortfall, due to ratepayer assistance, was funded by reserves.[657] However, in the prior year, the FY18 financial report showed a positive annual balance, with revenues exceeding expenditures by about $53,000.

The District, because the City of Napa collects and retains all rate revenues to pay for operations and maintenance of the District's system, only reports connection charges as operating revenue (no connection charges were anticipated in FY19). The District's

[655] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[656] County of Napa AB8 TRA – Fund Increment Factors FY18, Tax Code 37000.
[657] Congress Valley Water District Fund 7400 Preliminary Budget Request for Fiscal Year 2018-2019.

expenses, which include board expenses, legal and financial services, are funded by the District's share of property taxes.

Reserves and Fund Balance

Reserves, including Fund Balances, provide cushions for contingencies and capital needs.

The District does not report a "fund balance" in its budget materials; however, its FY18 financial report indicates a cash balance of $880,000 and unrestricted net position of $730,000.[658] An FY19 budget shortfall of $40,000 would reduce the net position to about $710,000. This level of reserve is more than adequate relative to the District's expenditures before considering any capital investments or reserves.

Net Position

A positive Net Position provides an indicator of financial soundness over the long-term. The District's total net position is $1.1 million of which $730,000 is unrestricted.

Rates and Charges

Water operations and maintenance, handled by the City of Napa, are funded by service charges. Rates typically are expected to not exceed 2-2.5 percent of household income.[659] Rates charged to District customers are the "Outside of City" quantity rates charged by the City of Napa, which are about 44 percent greater than rates inside the City. The typical monthly bill equals about one percent of median household income.[660]

In addition to paying water rates, a share of 1 percent Prop. 13 property taxes paid by District customers goes directly to the District. As described above in the "Operating Budget" section, property taxes pay for the District's board expenses, legal and financial services.

The City of Napa collects water connection fees and transfers them to the District to pay for system improvements required to serve new development.[661]

The City of Napa offers its low-income 'RateShare' program providing a $25 discount on bimonthly water bills for customers outside the City which would include District customers.[662]

[658] Congress Valley Water District Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, Statement of Net Position, pg. 4.
[659] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[660] Based on median household income for unincorporated Napa County of $79,637 according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[661] See the City of Napa Water Service Fees, FY2018-19.
[662] City of Napa RateShare Program (downloaded from City website); comments from City of Napa, 3/6/2020.

Long-term Debt

The District' FY19 budget includes no debt service payments. The prior year financial reports indicate that the District's $400,000 1987 loan from the State of California Department of Water Resources would be retired within one year.[663]

Pension and OPEB Liabilities

The District has no pension or OPEB liabilities according to its FY18 financial report.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the District's depreciable capital assets decreased by about nine percent from FY17 to FY18.[664] The Districts FY18 audited financial report indicates no capital additions to the water system.

The District does not have a Capital Improvement Plan, nor is the system included in any of the expenditures plans by the City of Napa, which is responsible for maintaining the District's system.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District has no website.

Annual Financial Reports – The District prepares biennial audited financial reports.

Capital Improvement Program – The District does not have a Capital Improvement Plan, nor is the system included in capital plans of the City of Napa, which is responsible for maintaining the District's system.

Financial Forecasts – The District does not prepare financial forecasts beyond its annual budget.

Other Financial Planning – The District has not prepared any other system assessments, costs of service, or other plans or analysis.

[663] Congress Valley Water District Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, Note 4, pg. 14.
[664] Congress Valley County Water District Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, Note 3, pg. 14.

WATER SERVICES

CVWD provides one active service at this time—domestic water service. CVWD has not developed a planning document, such as a master plan, to guide provision of water services.

Type and Extent of Services

Services Provided

CVWD provides all potable water services by way of a contract arrangement with the City of Napa for water supplies and delivery.

CVWD retains ownership of the distribution system and collects a share of the property tax, which covers board expenses, legal and financial services. The district is also able to offset a portion of the City's rates for CVWD residents by paying the difference between the resident rates charged by the City and the non-resident rates charged to connections outside of the city limits.

Service Area

As mentioned, the District's service area is defined in its contract with the City of Napa as the Water Service Agreement service area. The contract service area presently encompasses 2.5 square miles or 1,620 acres and includes 124 total assessor parcels. Of the parcels in the service area, 99 are served by the District's water system.

Services to Other Agencies

The District does not provide services to other agencies.

Contracts for Services

CVWD contracts with the City of Napa to supply water and maintain its system. At present, the City provides 100 percent of CVWD's water supply and is responsible for the complete operation, maintenance, and eventual replacement of the distribution system, as well as direct billing to CVWD customers. Given that the City provides all services to the community, previous MSRs have identified the potential for the district to be dissolved and services continued by the City. The original agreement was set to expire in 2017; however, their current agreement was recently extended to 2022 in order to establish a water service transition plan.

Overlapping Service Providers

While City of Napa provides services within CVWD's boundaries, the two agencies do not overlap jurisdictions and coordinate through a defined contract. There is no duplication of services; however, there is certainly potential for greater efficiency of service structure and elimination of duplication of overhead costs, as two separate agencies are not required to offer the current level of services. It was recommended in the 2017 MSR that the potential for reorganization of CVWD with the City of Napa be assessed and a transition plan finalized in 2020 prior to the sunset of Government Code §56133.5 on January 1, 2021. This is discussed in greater depth in *Governance Structure Options* within this chapter.

There are two other public agencies empowered to provide water service whose jurisdictions overlap that of CVWD: the Napa County Flood Control and Water Conservation District and Napa County Resource Conservation District. Both of these agencies have elected not to offer water service and have expressed no intentions of doing so in the foreseeable future.

Collaboration

CVWD collaborates with the City of Napa via its contract service arrangement. The two agencies maintain a good working relationship; however, improvements could be made by initiating a regular reporting structure to keep the District informed.

Staffing

CVWD appoints an at-will and part-time District Secretary to oversee all agency activities, including providing accounting services and coordinating service requests with the City of Napa. The current District Secretary operates out of a home office. Legal services are provided by Coombs and Dunlap, LLP.

Water Supply

CVWD's water supply is entirely generated from the supply of the City of Napa. CVWD has not developed any supply of its own. Pursuant to its Water Supply Contract with Napa, the District is annually allocated 100 acre-feet of potable water. There are no limitations or constraints placed on the allocated water supply in drought years. Napa's water supply is commingled between three sources: Lake Hennessey, Milliken Reservoir, and the State Water Project. The water supplied is limited to domestic, agricultural, and winery purposes only.

Emergency Preparedness

The District does not have interties with other agencies should it experience an outage or interruption in service from the City of Napa. Additionally, there are no water storage facilities within the District's system to aid in weathering an outage.

Water Demand

CVWD currently provides water service to 99 total connections. Of this amount, 92 connections are residential, and seven connections are agricultural. CVWD reports its current total water demand for the last completed calendar year was 65.1 acre-feet. Over the period 2014 to 2017, the District had experienced a general decrease in water demand attributable to the City's water conservation and rebate programs that are also directly applicable to CVWD customers. However, in 2018, there was a significant increase in demand in the District. This amount marks an 8.7 acre-foot increase in annual demand over the last five years, reflecting the "drought rebound" exhibited by other City of Napa customers. The following table summarizes recent trends in water demands over the last five years.

Figure 10-4: Demand for Potable Water, 2015-2018 (acre-feet)

Demand for Potable Water					
	2014	2015	2016	2017	2018
Volume Delivered	56.4	46.3	42.4	49.3	65.1

Source: City of Napa, Request for Information.

With respect to projecting future demands, and based on the preceding growth projection analysis, it is reasonable to assume that growth in demand for water will mirror population growth projections. The projections assume a conservative growth rate of 0.21 percent annually through 2030, based on historical growth trends in unincorporated Napa. The projections directly correspond with the amount of new permanent resident population growth anticipated within CVWD. Based on these assumptions, it is projected that the District will use 65.92-acre-feet of water in 2025 and 66.62 acre-feet in 2030, which would make use of almost 67 percent of the available contract water supply from the City.

Water Infrastructure and Facilities

Treatment

CVWD does not own, lease, or operate treatment facilities. Water delivered to CVWD is treated by the City. The City provides treatment of raw water drawn from its three surface sources at separate facilities; all of which are entirely owned and operated by the City and connected through a common distribution system. The three water treatment plants' combined maximum daily output totals 44 million gallons or 135 acre-feet.

Distribution

CVWD's distribution system receives and delivers potable water generated from the City's distribution system. CVWD's water distribution system has been improved to the City of Napa's standards in recent years. CVWD's system consists of 8- to 12-inch water lines that are served by three connection points to the City's water distribution system at Old Sonoma Road, Thompson Road, and Stonebridge Drive/Sunset Road. CVWD is located within Napa's "Browns Valley–Zone Four" in which water supply and pressure is served by the City's 1.0-million-gallon storage capacity B-Tank. The capacity of the distribution system has been sufficient to provide services and has no known capacity concerns.

Water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities, as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption. The City's 2018 AWWA Water Audit shows that losses represented five percent of overall demand. The Infrastructure Leakage Index (ILI) was just 1.02, the ratio of real losses to unavoidable real losses. Both measures were historically on the low side for the city system, which has ranged up to nine percent loss and 2.14 ILI. Water loss calculations specific to CVWD's distribution system were not available.

Breaks and leaks in the mains and service connections account for some of the loss experienced in the system. The City of Napa was not able to provide the number of breaks and leaks specific to the CVWD system.

Shared Facilities

CVWD relies upon shared facilities with the City of Napa for water conveyance to the District's boundaries. Additionally, the contract service structure allows for resource sharing as the City operates and maintains the Districts' distribution system.

Infrastructure Needs

The City is responsible for planning for the capital improvement needs of the District's distribution system; however, as mentioned the system is not included in capital plans of the City of Napa. It is recommended that CVWD and the City ensure that the capital needs of the distribution system are appropriately planned for in appropriate capital planning documents.

No particular infrastructure needs were identified over the course of this review.

Water Quality

The State Water Resources Control Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

As the treated water purveyor, the City of Napa is responsible for compliance with water quality regulations.

Source Water

Lake Hennessey watershed activities include rural residential land uses, agriculture, raising of livestock, and fishing. The lake is subject to sewage hazards such as overflows and accidental discharges of treated or untreated wastewater from a treatment plant located in Angwin, adjacent to Conn Creek. Historically, the facility has had few overflow incidents. Septic systems located throughout the watershed are generally not adjacent to tributaries and are not considered to be a significant potential contaminant source. The most significant potential sources of contaminants in the Lake Hennessey watershed are the Pacific Union College Wastewater Treatment Plant, older septic tank systems, vineyards, spills of hazardous materials along Highway 128 near the lake, wildfires, and associated erosion around Lake Hennessey.

Additionally, there are various species of algae in Lake Hennessey that have been problematic to the system's water quality, i.e., taste and odors, total trihalomethanes

(TTHMs) and haloacetic acids (HAA5). To reduce organic loading to the treatment facility, the City has a program for applying sodium carbonate peroxyhydrate (PAKTM27) into the lake.[665] The City and County have commissioned a joint study to develop a Watershed Analysis Risk Management Framework (WARMF) model to understand potential effects of land use in the watershed. In 2019, the joint study has started a sampling and analysis program to understand water quality in tributaries throughout the Hennessey and Milliken watersheds. Results of the initial three-year study will be used to populate the WARMF model and better understand water quality throughout the watershed that contributes to the drinking water reservoir.

At Milliken Reservoir, the most significant potential sources of contaminants in the Milliken watershed are cattle grazing, wild animals, wildfires, and erosion from the City's maintenance roads around Milliken Reservoir. However, what little cattle grazing left will eventually be replaced by vineyards.

The State Water Project water is transported from Barker Slough via the North Bay Aqueduct. The source is considered to be vulnerable to cattle and sheep grazing activities in the watershed associated with turbidity, total organic carbon, and coliform bacteria detected in the water supply. Fencing, wells to provide livestock water, watering troughs, and irrigation pipe were installed to exclude cattle from Barker Slough upstream of Campbell Lake. Frequent water quality monitoring is performed on Barker Slough.

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

According to the EPA report the City had one health-based violation in 2013, four in 2015, and one in 2016, all for exceeding the total allowed amount of total trihalomethanes (TTHMs), which is primarily related to disinfection byproducts. The City optimized its water treatment process to reduce natural organic materials, expedited its annual unidirectional hydrant flushing program, and installed new mixing and aeration systems in distribution system storage tanks. Reportedly, these corrective actions resulted in water quality improvements, and the City has had no health violations since 2016.

In 2018, the City was in compliance with primary drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

[665] City of Napa, Permit Report 2016, p. 6.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to the Congress Valley Water District and its water services, including possible service structure modifications and reorganizations with other agencies. The feasibility of each of these options is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Reorganization of Congress Valley Water District

Given that the City of Napa provides almost all services to the customers within CVWD's boundaries, which in essence is a "functional consolidation," there is potential to streamline the service structure by eliminating a level of administration. While there is no duplication of services offered, there is certainly potential for greater efficiency of service structure and elimination of duplicative overhead costs, as two separate agencies are not needed to offer the current level of services. The potential for changing the service structure in the Congress Valley area was outlined in the First Amendment (2017) to CVWD's Water Supply Contract with the City of Napa. The amendment required that CVWD, the City of Napa, the County of Napa, and LAFCO should convene no later than 2020 for the purpose of determining the appropriate long-term service arrangement for the Congress Valley community, including determining whether it would be appropriate for CVWD to initiate dissolution proceedings and transition formal service responsibility to the City of Napa. The long-term service arrangement should be formalized no later than July 1, 2022 according to the agreement.

At present, the City provides 100 percent of CVWD's water supply and is responsible for the complete operation, maintenance, and eventual replacement of the distribution system, as well as direct billing to CVWD customers.

CVWD retains ownership of the distribution system and collects a share of the property tax, which covers board expenses, legal and financial services. The district is also able to offset a portion of the City's rates for CVWD residents by paying the difference between the resident rates charged by the City and the non-resident rates charged to connections outside of the city limits. The District maintains a part-time District Secretary to oversee all agency activities, including providing accounting services and coordinating service requests with the City of Napa. At present, CVWD does not have a plan to expand services offered.

There are several governance structure options available as CVWD moves forward with considering its long-term service arrangement, including the following:

1) Maintaining the status quo,
2) Expansion of the City's SOI and annexation of CVWD territory,
3) Formation of a subsidiary district of the City of Napa,
4) Transition to a county service area, and
5) Dissolution of CVWD and continued service by City of Napa.

Status Quo

One option is continued existence of CVWD as it is currently operated and governed. This option assumes that the City of Napa is willing to continue offering water supply and operational services beyond the agreed upon contract expiration date of July 1, 2022. The City has not indicated if it would be willing to continue services in the long term without follow through on the terms of the First Amendment to the original agreement between the two agencies.

However, this option does not address the issues that have compelled consideration of governance structure options for CVWD, including duplication of administration efforts and costs, as well as continued existence of a surplus governance layer with marginal utility. If CVWD desires to continue providing services as it is presently, it is recommended that it demonstrate its value added in a long-term plan for services.

Expansion of the City's SOI and Annexation of CVWD Territory

Among the purposes of LAFCO is encouraging logical boundaries and promoting efficient delivery of services. Logical boundaries generally entail orderly organization of districts and cities with boundaries that encompass their respective service areas and do not create irregularities, such as islands or division of communities. Logical boundaries promote efficient delivery of services by eliminating overlap of boundaries and consequently minimizing the potential for duplication of services. Ideally, orderly development of local agencies streamlines service structure and reduces the need for multiple agencies providing similar services.

In the case of CVWD, the City is immediately adjacent to the community in question. Based on LAFCO's purpose, the ideal service structure would be an amendment to the City's SOI to include the area already served by the City and a subsequent annexation of the territory in question. CVWD would then be dissolved. This option 1) meets the needs of the agency service agreement, 2) aligns with LAFCO's aforementioned responsibilities by promoting logical boundaries and efficiency of services, 3) allows for continued service by a professional and well-managed agency, and 4) appropriately allows for representation of CVWD residents on the city council as the decision-making body affecting water services in the area.

However, CVWD's boundaries are located outside of the City's Rural Urban Limit (RUL) making this option infeasible in the short term. While the territory could be included in the City's SOI, it is not annexable unless the RUL is amended by voter approval. Consequently, it is determined that a sphere of influence change is not feasible as there is no potential for a correlating boundary change until the RUL is adjusted. Should the City decide to pursue this option, then it would need to work with the County to construct consensus and LAFCO to initiate the SOI change. Finally, the City would need to prepare a ballot measure to adjust the RUL.

Formation of a Subsidiary District

A subsidiary district is a dependent district of a city, where the city council acts as the governing body of the district and the finances of the district are accounted for separately to prevent comingling of funds.

Formation of a subsidiary district mirrors the benefits of the SOI amendment and annexation option discussed previously. It 1) meets the needs of the agency service agreement, 2) aligns with LAFCO's aforementioned responsibilities by promoting logical boundaries and efficiency of services, and 3) allows for continued service by a professional and well-managed agency. This option does not, however, allow for representation of CVWD residents on the City Council.

Unfortunately, this option would require an involved process to meet State requirements for the formation of a subsidiary district. Government Code §57105 requires that 70 percent or more of the area of land within the subsidiary district be within the City and 70 percent or more of the number of registered voters who reside within the district must be within the City. In the case of CVWD, substantial City territory would first need to be annexed to the District in order to meet the 70 percent requirement, since presently the District is entirely outside of the City.

An alternative may be to include the entirety of the City's water service area within the boundaries of the district and then transition to the subsidiary district. In this case, the entirety of the District could be up to 26.29 square miles consisting of the entirety of the city limits (18.4 square miles) and up to 7.89 square miles outside of the city limits to meet the 70 percent requirement. In this scenario, the entirety of the City's water division would then be operated as a subsidiary district. This would allow for an organized structure for the 2,213 out of area service connections presently served by the City of Napa. But, once again, does not allow for representation of out of area residents on the City Council.

Formation of a County Service Area

Another option may be changing the structure of CVWD to a county service area (CSA), which is a dependent special district of the County. The County Board of Supervisors would act as the governing body for the District and provide all administration. This option assumes that the County would be willing to take on responsibility for the District's operations; however, the County has not yet indicated whether it would be agreeable to accepting this duty.

The benefits of this option include 1) continued existence of an entity that can contract with the City of Napa for services, if desired, 2) minimization of duplicative administrative costs as the County can capitalize on the administrative structure it already has in place, 3) residents can benefit from a professional entity with technical knowledge working on its behalf to ensure adequate services, and 4) elimination of a surplus governance layer with marginal utility.

Conversely, transition to a CSA would not fully maximize efficiency for the customers as they would continue to receive services through a network of two agencies. Additionally, while administrative costs would be minimized, this option would not fully eliminate the duplication of administrative costs that would be experienced should CVWD be fully dissolved. Moreover, by the County Board of Supervisors acting as the governing body, the decision-making power would be removed from local trustees that represent the interests of the landowners within CVWD.

Should CVWD, the City of Napa, and the County agree that this option best fits the needs of the residents of the community, then an application to LAFCO to transition to a CSA would

be the next step. Additionally, the City and County would need to determine if the service structure would continue to be appropriate and negotiate a new service agreement.

Dissolution and Continued Service by City of Napa

Given that City of Napa is providing all core services within CVWD, dissolution of CVWD and continued services by the City of Napa is an option that would address duplicative administrative efforts on the part of both agencies. Because the Congress Valley area is entirely outside of the City's Sphere of Influence and Rural Urban Limit, there is no potential for annexation of the territory in the foreseeable future. The inability of the City to annex the territory has posed a challenge in the past because based on former State law, the City would have lacked a legal basis for continuing provision of water service to district customers outside of the city limits. However, the California legislature has adopted a pilot program (Government Code 56133.5), under which LAFCO could authorize the City to extend its water service to the properties already receiving water service from CVWD through an outside service agreement. This pilot program expires January 1, 2021, unless it is extended through future legislation. As of the drafting of this report, Senator Dodd had introduced Senate Bill 799 to extend the provision for five years.

When a district is dissolved, typically a "successor agency" is identified that annexes the territory and all assets and infrastructure are transferred from the dissolved agency to the successor agency. In this case, the only viable successor agency upon dissolution of CVWD is the City of Napa. This MSR finds that the City's administrative controls, as well as public water supplies and capacities, are adequate to meet current and projected demands under normal and multiple dry year conditions into the foreseeable future.

However, the City is unable to annex the CVWD territory, which creates some not insurmountable barriers to finalizing the reorganization. First, there are 14 parcels within CVWD's boundaries that are not yet connected to the distribution system. These parcels would have the ability to connect to CVWD's system if they so choose, should the District continue to exist. Upon dissolution of CVWD, these parcels would no longer be guaranteed service, but would have to apply to the City under the requirements of Government Code 56133.5 allowing extension of services outside of the city limits. LAFCO may consider preemptively approving City of Napa service to these parcels as a condition of the dissolution to ensure the properties are identified and safeguarded for potential future water services.

Second, typically the former district's property tax share would be transferred to the successor agency following negotiations with the County. However, in this case, the City would not be annexing the territory and therefore tax sharing negotiations with the County would not be triggered. (CVWD receives 12.2 percent share of the Proposition 13 1% property tax, which budgeted to be $85,065 in FY18-19.) In general, the rates charged by the City are set to sufficiently cover the cost of providing services and additional property tax revenue would not be necessary; however, as mentioned, with its property tax share CVWD offsets a portion of the City's rates for CVWD residents by paying the difference between the resident rates charged by the City and the non-resident rates charged to connections outside of the city limits totaling $13,089 in FY17-18 and allocated $30,000 in FY18-19. Ideally, in some manner, the tax funds would continue to provide this offset for the residents of CVWD and not be reapportioned to other agencies. It is recommended that the

City and the County discuss a means to continue making use of this tax apportionment for the benefit of the current CVWD customers.

Third, dissolution of CVWD would eliminate a governing body with entirely local trustees that represent the interests of the landowners within CVWD. Additionally, those from outside the city limits are precluded from sitting on the City Council, which would be making decisions affecting water services in the area. All of the City's outside service connections are similarly disenfranchised without representation on the decision making body. It is recommended in order to address this issue, that the City form a Water Commission or Advisory Committee to provide input to the City Council on which out of area customers may sit or for whom seats are reserved. One example of a Water Commission is in the City of Ventura; the Commission reviews and makes advisory recommendations regarding water rates, water resources infrastructure projects in the five-year capital improvement program, the integrated water resources management plan, water supply options, the Urban Water Management Plan approval process, a water dedication and in-lieu fee requirement, and other water resource issues.

As part of the process for this scenario, all financial and physical assets of CVWD would likely be transferred to the City of Napa. Transfer of CVWD's assets is accounted for in its agreement with the City as follows. "In consideration of the services provided by the City under the terms of this Agreement, no later than thirty (30) days prior to the termination of this Agreement, the District shall convey to the City title to all physical system assets of the District." Financial assets of CVWD consist of an estimated fund balance of $689,000 at the end of FY19. CVWD has no outstanding debt.

The quantifiable benefits of this reorganization would be a savings of approximately $100,000 each year, which is presently allocated to CVWD administrative costs, including board expenses, legal, insurance and financial services. These services could likely be covered at little or no additional expense to the City of Napa and are likely already included in the rates that are charged to every connection.

In order to comply with Government Code 56133.5 to approve new or extended services outside of a jurisdictional boundary, the Commission must come to determinations regarding the following:

(1) The extension of service or services deficiency was identified and evaluated in a review of municipal services prepared pursuant to §56430.

The extension of City of Napa services to provide direct water services as opposed to contract water services is identified and evaluated as part of this municipal service review.

(2) The extension of service will not result in either (1) adverse impacts on open space or agricultural lands or (2) growth inducing impacts.

This governance option does not propose changes in land use to open space or agricultural lands. For those parcels within CVWD's boundaries that are not yet connected but may desire to do so at some point in the future, there is potential for growth as a result of offering water services in the area; however, these parcels already have access to the water services as they are within the

boundaries of a water service provider and the change in organization will not create further potential for growth.

(3) A sphere of influence change involving the affected territory and its affected agency is not feasible under this division or desirable based on the adopted policies of the commission.

A sphere of influence change is not being proposed for this governance option. The area is located outside of the City's Rural Urban Limit, which does not preclude the territory from being included in the City's SOI, but does prevent the annexation of the area in question unless the RUL is amended by voter approval. Consequently, it is determined that a sphere of influence change is not feasible as there is no potential for a correlating boundary change.

Beyond cost savings, other potential benefits of this reorganization consist of 1) streamlining and improving clarity of service structure for customers, 2) elimination of duplicative administration and governance services, and 3) provision of all services by a well-managed professional agency with full-time staff and extensive expertise and resources.

There are drawbacks to the potential reorganization of City of Napa and CVWD, including 1) elimination of a governing body with entirely local trustees that represent the interests of the landowners within CVWD and 2) the potential disenfranchisement of local customers. These drawbacks may be addressed by the formation of the recommended City Water Commission, which would be a means for local residents to provide input on water issues.

It appears that this option may provide the most benefits to the Congress Valley community, and provide the most straightforward process, should the challenges specific to this reorganization be appropriately addressed. It is recommended that City of Napa, CVWD, and the County begin discussions regarding the possibility of moving forward with reorganization and the manner of addressing the challenges to this option.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to CVWD regarding its water service delivery.

1) It is recommended that City of Napa, CVWD, and the County begin discussions regarding moving forward with dissolution of CVWD and extended services by the City of Napa. Discussion should focus on the manner of addressing the challenges to this reorganization option.

2) It is recommended that the District ascertain the cost of creating and maintaining a website and reassess its finding of hardship.

3) CVWD and the City of Napa maintain a good working relationship; however, improvements could be made by initiating a regular reporting structure to keep the District informed.

4) It is recommended that CVWD and the City ensure that the capital needs of the distribution system are appropriately planned for in appropriate capital planning documents.

CONGRESS VALLEY WATER DISTRICT DETERMINATIONS

Growth and Population Projections

- Congress Valley Water District's population, as of 2019, was approximately 262.
- CVWD's population increased by 1.09 percent annually between 2009 and 2019.
- While there are some parcels within CVWD that do not currently contain developed housing units, there are not a significant number of such undeveloped parcels. In combination with the restrictive land uses in the area, it is reasonable to assume CVWD's resident population growth rate over the foreseeable future will remain low and not significantly impact the District's demand for water.
- LAFCO anticipates growth within CVWD to be similar to the most recent five-year trend of all unincorporated areas of Napa of 0.21 percent annually, with an anticipated population of 268 by 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The City of Napa's sources of water supply are sufficient to continue to provide service to CVWD's service area and other areas served by the City of Napa.
- Based on recent and projected water demands, there is sufficient water supply available to serve all properties located within the Water Supply Contract service area, including existing and anticipated development.
- The level of water services offered by the City of Napa were found to be more than adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the City's water distribution system and the CVWD distribution system is excellent as measured by the degree of annual water loss and the rate of main breaks and leaks per 100 miles of main. The City was in full compliance with Primary Drinking Water Regulations in 2018. While the City had six violations reported by the EPA since 2008; the City has adjusted its treatment mechanism and has had no violations since 2016.
- No known infrastructure needs were identified with regards to CVWD's water distribution system.
- It is recommended that CVWD and the City ensure that the capital needs of the distribution system are appropriately planned for in appropriate capital planning documents.

Financial Ability of Agencies to Provide Services

- The CVWD relies on the City of Napa for the provision of water; the City bills District customers directly for water and retains all revenues, and the City is responsible for all operations, maintenance and capital planning.
- The District relies primarily on property tax to fund District administrative costs. These costs vary annually depending on needs for engineering and financial biennial auditing services. The FY19 budget showed a $40,000 shortfall, largely due to funding of a portion of customer's water bills to pay for the difference between the City's rates for residents vs. non-residents. The shortfall was funded by reserves.
- The District's cash balance and unrestricted net position appear to be more than adequate as operational reserves; however, future capital needs are unknown.
- The net value of the District's capital assets showed no additions in FY18, and the net value declined by nine percent. The District has no capital plan, and the City's capital plans do not explicitly identify District needs or future costs.

Status of, and Opportunities for, Shared Facilities

- CVWD relies upon shared facilities with the City of Napa for water conveyance to the District's boundaries. Additionally, the contract service structure allows for resource sharing as the City operates and maintains the Districts' distribution system.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District Board holds regular appropriately noticed meetings.
- The District has not developed a website to make information available to the public as recommended in the 2017 MSR. It is recommended that the District ascertain the cost of creating and maintaining a website and reassess its finding of hardship in regard to compliance with SB 929.
- CVWD and the City of Napa maintain a good working relationship; however, improvements could be made by initiating a regular reporting structure to keep the District informed.
- It is recommended that City of Napa, CVWD, and the County begin discussions regarding moving forward with dissolution of CVWD and extended services by the City of Napa. Discussion should focus on the manner of addressing the challenges to this reorganization option.

Relationship with Regional Growth Goals and Policies

- CVWD is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- LAFCO's adopted policies relating to special district spheres discourage any expansions of CVWD's existing sphere to promote urban development based on current land use designations of lands located within close proximity to the District.

11. LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT

AGENCY OVERVIEW

Lake Berryessa Resort Improvement District Profile			
Contact Information			
Contact:	Steven E. Lederer, Director		
Address:	1195 Third Street, Suite 101 Napa, CA 94559	*Website:*	www.countyofnapa.org/1686/Pay-Water-Sewer-Bills-NBRID-LBRID
Phone:	707-253-4351	*Email:*	publicworks@NapaCounty.org
Formation Information			
Date of Formation:	1965	*Agency type:*	Dependent special district
Governing Body			
Governing Body:	County Board of Supervisors	*Members:*	5
Manner of Selection:	Supervisors elected by voters in five Supervisorial Districts	*Length of term:*	4 years
Meetings Location:	1195 Third Street Suite 101 Napa, CA 94559	*Meeting date:*	First Tuesday of every month at 9:15 am
Mapping and Population			
GIS Date:	2019	*Population (2018):*	489
Purpose			
Enabling Legislation:	Public Resources Code §13000	*Empowered Services:*	Sewer and water services
Municipal Services Provided (directly or by contract)	Sewer and water services		
Area Served			
Boundary Size:	3.17 square miles (2,028 acres)	*Location:*	Berryessa Estates along Putah Creek near northwestern shore of Lake Berryessa
Current SOI:	0.34 square miles (217 acres)	*Most recent SOI update:*	2007
Municipal Service Reviews			
Past MSRs:	2011 Lake Berryessa Region: Municipal Service Review 2007 LBRID Sphere of Influence Review 2005 Sanitation and Wastewater Treatment MSR Phase I: Agency Profiles 2004 Comprehensive Water Service Study		

Boundaries

As described in its 2011 MSR, LBRID's jurisdictional boundary is approximately 3.17 square miles or 2,028 acres in size.[666] The District was formed to serve a planned 2,000-unit development known as Berryessa Estates. Due to adverse market conditions only one residential subdivision, "Unit 2", was developed, in addition to "Unit 1" that primarily provides access. There is a total of 343 lots in the subdivision.

Sphere of Influence

As described in the 2011 LBRID MSR, LBRID's SOI encompasses 0.34 square miles, or 217 acres, entirely within its jurisdictional boundary.[667] The SOI was affirmed in 2007. The SOI excludes approximately 1,811 jurisdictional acres with 48 parcels, of which eight units are served by septic systems and well water.

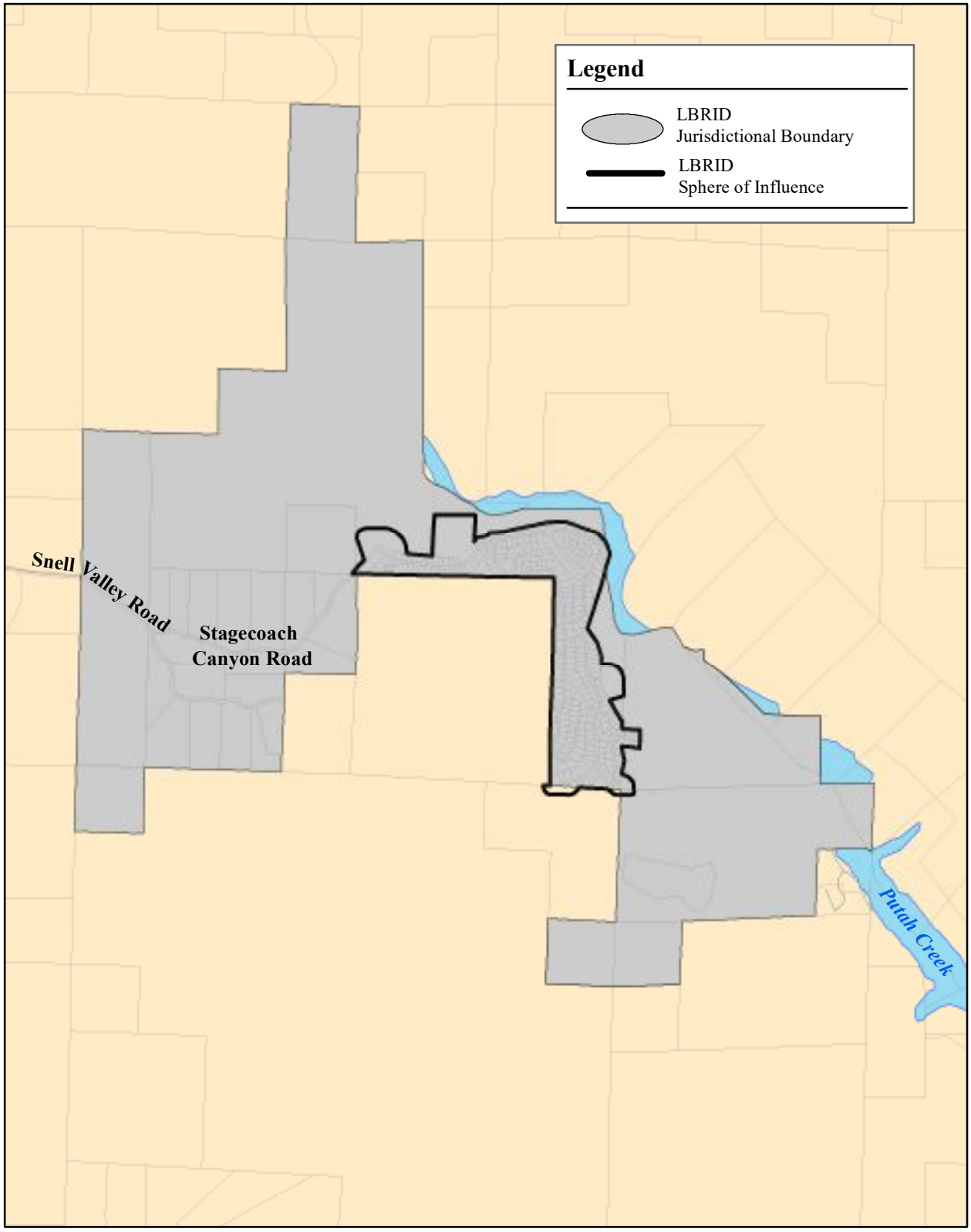
No residential units outside the SOI are connected to the LBRID system nor have the existing unserved units approached the District about extending service; tentative plans to develop the Unit One subdivision, which is outside the SOI, were considered but "the cost was prohibitive and the project abandoned."[668]

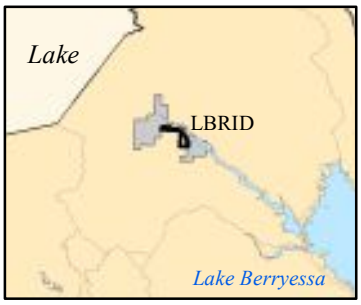
The 1,811 acres within the District's jurisdictional boundary but outside it SOI include parcels of record that could apply for development permits, however, as noted above the costs of extending utility services as well as other public infrastructure and roads makes development unlikely within the next ten years or more. Sufficient undeveloped lots exist within the SOI to accommodate recent and potential development for at least ten years considering recent trends and future population projections.

[666] Correspondence from A. Martinez, County of Napa, 1/23/2020.
[667] Correspondence from A. Martinez, County of Napa, 1/23/2020.
[668] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

Figure 11-1

Lake Berryessa Resort Improvement District (LBRID)





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December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The Napa County Board of Supervisors serves as directors of the District and meet monthly as part of regularly schedule Supervisors' meetings. Agenda, minutes and related staff reports, and documents can be found on the County's website.[669]

The District's website consists of one page on the County's website that displays links enabling residents to pay bills online. The page includes contact information and links to 2016 responses to LBRID residents' questions but provides no other District information.

District staff reach residents through mailings and newsletters, posts on the NextDoor social media site, and in-person meetings as needed. A revised website, or web page hosted on the Napa County site, is expected in 2020.[670] District staff were highly responsive to requests for information during preparation of this MSR.

GROWTH AND POPULATION PROJECTIONS

Originally 2,000 residential units were planned for the Berryessa Estates subdivision along with commercial and recreation uses; however, limited market demand reduced the amount of planned residential development. No marina or golf course were constructed as originally planned until a 1975 lawsuit compelled the development of a marina and adjoining campground.[671]

The District currently serves 183 developed residential lots (167 currently have active accounts). Population estimates indicate 194 households and population of 489.[672] Forecasts predict a 2030 population of 500.[673]

There are no commercial users at LBRID (the marina and campground are not connected to the system); however, one of the developed lots is used for the County's volunteer fire station.

A total of 153 vacant, developable lots exist within the current SOI served by the LBRID system.[674] New connections are possible but at a very slow rate; since Fiscal Year 2012-13 there have been no new connections to LBRID's system.[675] The campground receives no service from the District and likely never will; it is strictly used by the HOA for the Berryessa Estates Unit 2 property owners.

No new development outside the current SOI is anticipated by the District, although lots outside the SOI but within the District boundaries represent "lots of record" and could request a connection assuming the cost of extending utilities, roads and other required infrastructure could be funded by the property owner(s).[676]

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[669] http://napa.granicus.com/ViewPublisher.php?view_id=6
[670] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[671] 2011 Lake Berryessa Region: Municipal Service Review.
[672] 2019 Population estimates by County Planning Dept. as reported by LAFCO (6/13/19).
[673] Population forecasts by LAFCO and Cal. Dept. of Finance as reported by LAFCO (6/13/19).
[674] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[675] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[676] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[677]

However, the Rural Community Assistance Corporation (RCAC) conducted a Median Household Income Survey on behalf of the District in the spring of 2018 and determined that the community qualified as a Disadvantaged Community (DAC).[678] The DAC status enabled application to the State for financial assistance. The results of the survey apply for a five-year period and a new survey is likely in 2023.[679]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Lake Berryessa Resort Improvement District (LBRID) provides water and wastewater services within District boundaries. LBRID is governed by the County of Napa Board of Supervisors[680] and County Public Works and other County departments staff the District. The District funds operations, maintenance and capital improvements for water treatment and distribution facilities, and wastewater collection, treatment and disposal.

Figure 11-2: Summary of Selected Financial Information, Lake Berryessa Resort Improvement District Water and Wastewater Operations

Lake Berryessa Resort Imp. Dist. - Water & Wastewater Operations	
FY18-19 Budget (operations, before CIP or debt)	**$127,000**
Total Revenues (Property tax, usage fees & T-1 tax)	$761,000
Total Expenditures before CIP transfers	$634,000
Ending Fund Balance as % of Revenues*	**413%**
Operating Fund Transfers to CIP	$257,300
*Ending Fund Balance (Operations, after CIP transfers)**	$3,147,000
Debt Service as a % of Operating Revenues	**na****
Total Debt Outstanding	$2,370,000
Debt Service (and related charges) funded by assessments	$211,000
Monthly Water+Sewer Rates as a % of Household Income	**8.5%**
Typical Monthly Rates (water & sewer use, exc. taxes)	$306
Median Household Income (2017)	$43,200
Pension+OPEB Total Payments % of Revenues	**na**
Pension+OPEB Total Payments	$0

* Balance includes revenues collected for capital. *2020-01-28*

** Debt service is funded by assessments.

677 Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
678 LBRID Agenda Letter 9/11/18.
679 Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
680 Lake Berryessa Resort Improvement District Sphere of Influence Review, Final Report, Dec. 2007

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's projected FY19 total operations revenues (including property tax) exceed expenditures by a margin of about $127,000 before including depreciation expense and transfers out to its CIP fund.

The District receives about $32,000 in property taxes (included in total revenues) which is about 14.9 percent[681] of each tax dollar from within its boundaries, in addition to water/sewer charges,[682] special taxes, and assessments applied to debt service.

The positive margin is insufficient to cover the budgeted depreciation expense of $200,000. Although depreciation is a non-cash expense utilized for accounting purposes, it approximates the "using up" of capital assets over time; the shortfall after depreciation costs indicates that the District may be unable to fully fund capital repair and replacement over the long-term unless revenues increase (or expenses decline). The District seeks grants to help fund capital improvements (see "Capital Assets", below).

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs. The positive margin described above in the "Balanced Budget" section should improve the District's cash balance by the end of FY19.

The District's FY19 Budget reports approximately $3.15 million ending operations fund balance,[683] representing about 413 percent of operating expenditures.

Over the longer term, the District has an unrestricted net position of $2.3 million, as described in the following section, which indicates significant positive unrestricted funds, or about 78 percent of total liabilities.

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

The District's FY18 financials show a positive total net position of $10.8 million, and unrestricted net position of $2.3 million.

[681] County of Napa MPTS2010 Property System – Auditor Tax Increment Distribution Report 2018, TRA 077-003.
[682] LBRID (5220) Operations Revenues and Expenses (adj. budget) FY19.
[683] LBRID Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility, or 4 to 5 percent combined.[684]

The District's rates for water use equal 3.4 percent of median household incomes, and typical District wastewater rates equal 5.1 percent of median household incomes, for a combined 8.5 percent.[685] These rates exceed the standard measures noted above partly due to the relatively low area incomes that qualify LBRID as a Disadvantaged Community (see Disadvantaged Unincorporated Communities section, above). The additional assessments and T-1 special taxes paid by residents further increase the burden measures.

LBRID prepared an analysis in 2018 of its future rates.[686] A recent review of the District's proposed rates recommended several revisions to the current and proposed rate structure, and recommended preparation of a Cost of Service Study; the review indicated that rate increases were not required during the five-year study period.[687]

In addition to water and wastewater service charges, the District charges an annual special tax ("T-1") approved by voters in 1998 which increases 4 percent annually;[688] in FY19 the tax is $981 per parcel.[689] The District also charges an assessment (AD 2006-1), currently about $700 per parcel annually,[690] which is deposited in its debt service fund.

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements.

The District's FY19 budget reports approximately $195,000 in principal and interest in its Debt Service Fund which is repayment of a County advance; the budget shows additional administrative fees related to the obligation, and to collection of property assessments.[691] 85% of the debt service is funded by property assessments; the remaining debt service and debt-related charges result in a $41,000 shortfall essentially covered by draws on current fund balances.

The County of Napa General Fund has provided a debt service advance of $2.3 million to the District to refund the District's 2007 Series A bonds.[692] The County has also made a

[684] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[685] Based on median household income of $43,200; the Rural Community Assistance Corporation (RCAC) conducted a Median Household Income Survey on behalf of the District in the spring of 2018 (LBRID Agenda Letter 9/11/18). See appendix for detailed estimate of typical household charges.
[686] Operating Budget 5-Year Projection, presented at Board meeting Nov. 8, 2019.
[687] Rate Study Review of NBRID, Robert D. Niehaus, Inc, NBRID mtg. 10/8/19.
[688] Municipal Service Review: Lake Berryessa Region, LAFCO of Napa County, Final Report, April 2011.
[689] Correspondence with Phillip Miller, Napa County, July 15, 2019.
[690] Correspondence with Phillip Miller, Napa County, July 15, 2019.
[691] LBRID (5220) Debt Service Revenues and Expenses (adj. budget) FY19.
[692] County of Napa CAFR for Fiscal Year ended June 30, 2018, Notes to the Basic Financial Statements, 3-Interfund Transactions, pg. 58.

$384,000 "contribution" to the District.[693] The District's FY18 CAFR shows $2.37 million of "advances from other fund".[694]

The District has benefitted from State grants for improvements needed to replace vintage portions of the system, including more than $1.1 million provided through the Napa County Flood Control and Water Conservation District's 2015 application to the State.[695] The FY18 CAFR reports that the District received "a CDBG grant for the maintenance projects in the Lake Berryessa Resort Improvement District."[696]

The District is in the process of applying for and requesting "100% principal forgiveness" for approximately $2 million from the Small Community Wastewater Grant Program for the District's Wastewater Ponds Groundwater Inflow Mitigation project.[697]

LBRID's status as a Disadvantaged Community qualifies it for special grants, low interest loans, and other programs that help fund its infrastructure needs (see Disadvantaged Unincorporated Communities section, above).

Pension and OPEB Liabilities

The District offers no pension or OPEB benefits and has no corresponding liabilities.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the District's depreciable structures and improvements declined by $274,000 of depreciation with no offsetting additions or improvements from FY17 to FY18. However, the financial reports show $5 million to $7 million of construction in progress that will more than offset the recent declines when construction is complete. This increase in asset value reflects the significant capital replacement and improvement projects undertaken by the District. The depreciated value is about 52 percent of total value, however this ratio will improve when new construction is added to net capital asset value.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District has no website; however, board meeting agendas and minutes are posted on a section of the County's website.[698] A revised website, or web page hosted on the Napa County site, is expected in 2020.[699]

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[693] County of Napa CAFR for Fiscal Year ended June 30, 2018, Notes to the Basic Financial Statements, 3-Interfund Transactions, pg. 59.
[694] County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
[695] LBRID Board Agenda Letter, 4/4/17.
[696] County of Napa CAFR for Fiscal Year ended June 30, 2018, pg. 13.
[697] LBRID Board Agenda Letter, 9/11/18.
[698] http://napa.granicus.com/ViewPublisher.php?view_id=6
[699] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

Financial Policies – The District adopted a Debt Management Policy.[700] No other financial policies specific to the District were identified.

Comprehensive Annual Financial Report (CAFR) – The District's financials are included in the County's annual CAFR as a separate enterprise or business-type activity.

Capital Improvement Program (CIP) – The District does not have a 5-Year CIP.

Cost of Service/Rate Study – The District prepared an analysis in 2018 of its future rates. A recent review of the District's proposed rates recommended several revisions to the current and proposed rate structure, and recommended preparation of a Cost of Service Study.

[700] Resolution No. 2017-07 Adopting a District Debt Management Policy, 7/11/17.

WATER SERVICES

The District routinely monitors, reports on its compliance State and Federal water quality standards. LBRID maintains its system and completes system improvements as needed to maintain its adherence to requirements and standards. Consumer Confidence Reports are provided annually to its customers documenting results of periodic source and finished water assessments performed by the State Water Resources Control Board, Division of Drinking Water Programs.

Type and Extent of Services

Services Provided

LBRID provides potable water to residential customers. A total of 183 units (167 currently active) are connected to the District's system.[701]

Service Area

LBRID provides water to Berryessa Estates' Unit Two which is within the LBRID boundary and SOI. All water connections are located within District boundaries, with no out-of-agency water services provided.

Services to Other Agencies

The District does not provide any water-related services to other agencies.

Contracts for Services

LBRID contracts with NCFCWCD for its supply of water which is drawn entirely from Lake Berryessa. NCFCWCD, in turn, contracts for a total allocation which is apportioned to various subcontractors. LBRID's contract provides for an annual entitlement of 200 AFY (65.2 mill. gallons) and an option to purchase an additional 40 AFY. The current contract between the District and NCFCWCD extends through 2024.[702] The subcontract will be revisited in 2024.[703]

Overlapping Service Providers

There are no overlapping water service providers within the LBRID service area.

Collaboration

In July 2018 the District issued a Request for Proposals (RFP) soliciting operations and maintenance services to ensure continued labor oversight of the water and wastewater systems of both NBRID and LBRID. This shared operational arrangement contributes to improved operating efficiencies of a single operator and leverages the expertise and resources of a single, large engineering firm.

LBRID and NBRID also share administrative and management staff provided by the County of Napa as described below. This arrangement provides opportunities for improved

[701] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[702] 2011 Lake Berryessa Region: Municipal Service Review.
[703] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

efficiencies through economies of scale, and increased access to staff expertise and the resources of a larger organization.

Staffing

LBRID contracts with the County of Napa for administrative and professional services.[704] The Deputy Director of Public Works serves as District Engineer and is principally responsible for overseeing day-to-day operations of the water and wastewater facilities. Administration, procurement of materials and services, records, technical assistance and project management of the utilities are conducted by the Assistant Engineer and Engineering Manager.

Operation of the facility is provided by a contract with a private firm, which also services NBRID facilities.[705]

Water Supply

LBRID's water supply is drawn entirely from Lake Berryessa. LBRID contracts with NCFCWCD which, in turn, contracts for a total allocation which NCFCWCD apportions to various subcontractors. LBRID's 11.147 million gallons (34.2 AFY) of water produced[706] in 2017 is about one-fifth of its annual entitlement from NCFCWCD of 200 AFY. Unless additional development is allowed within LBRID, the District will request to keep the current allocation when the Agreements are redone in 2024.[707]

Emergency Preparedness

Emergency generators are used where available – Water Plant, Disposal Parcel, and all lift stations. District plans to purchase additional generators for those facilities currently without – water tank pump stations.[708] The District participates in the County's Hazard Mitigation Plan.[709]

Water Demand

In 2017 the District reported annual potable water deliveries to retail customers of 8.47 million gallons[710] (26.0 AFY). The amount delivered declined slightly in 2018 to 8.27 million gallons (25.3 AFY).

[704] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[705] Specialized Utilities Services Program, or SUSP, was awarded the contract, and began operations on November 1, 2018.
[706] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[707] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[708] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[709] Napa County Multi-Jurisdictional Hazard Mitigation Plan (2019 Update in progress).
[710] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.

Water Infrastructure and Facilities

In 2017 the District reported annual potable water production of 11.1 million gallons (34.2 AFY).[711] The amount of water produced declined in 2018 to 9.9 million gallons (30.4 AFY).[712]

LBRID's 34.2 AFY of water produced[713] in 2017 is less than one-fifth of its annual entitlement from NCFCWCD of 200 AFY. According to the District's 2018 RFP, "increased water demand from new customer development isn't foreseen over the next 5 years."[714]

Treatment

Water is pumped from an intake within the bed of Putah Creek, which feeds Lake Berryessa. The raw water is pumped through the District's treatment plant. The plant's maximum daily capacity can treat up to 250,000 gallons (0.77 AF); in 2017 the maximum daily production was 111,000 gallons, or less than half of the maximum capacity of the plant.[715]

Distribution

LBRID's distribution system consists of three pressure zones; each zone has a water storage tank to maintain adequate pressure and provide fire protection in accordance with ISO fire flow guidelines.

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption.

A comparison of water produced (34.2 AFY) to water delivered to retail customers in 2017 (26 AFY) indicates losses of 8.2 acre-feet or 24 percent of total potable water produced of .[716] The District also notes that water loss can be attributed to leaks, demands during fire fighting activities near the District, and other non-metered activities such as water plant wasting after cleaning filters.[717]

During 2017 there were three main line breaks or leaks, and 15 service connection breaks or leaks. In 2018 the District reported no main line breaks or leaks, and two service connection breaks or leaks.

Shared Facilities

The District has no shared facilities.

[711] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[712] Small Water System 2018 Report to the Drinking Water Program for year ending Dec. 31, 2018.
[713] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[714] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[715] Description of water source, treatment and distribution is from the RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[716] Losses based on a comparison of "Water Produced" to "Water Deliveries" shown in the Small Water System Report to the State Drinking Water Program.
[717] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

Infrastructure Needs

The District has undertaken a number of past improvements to its system, including a 2014 emergency design of water intake facilities to address reduced water levels in Putah Creek. Other capital improvement projects underway or planned include:[718]

- A new Variable Frequency Drive to control the raw water pump.
- Installation of single-phase circuits to add lighting inside a small building, power a potassium permanganate chemical injection pump and proportionally flow pace the chemical feed rate into Putah Creek raw supply.
- Construction of two (2) new bolted steel water storage tanks.
- Replacement of Redwood Tank No. 3.
- Tank mixing equipment is under consideration for all three water storage tanks to enhance water quality.

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

A number of factors and events affect the quality of raw water drawn from Putah Creek and Lake Berryessa. A 2018 survey conducted by NCFCWCD and the Solano County Water Agency (SCWA) identified a number of factors affecting Lake Berryessa water quality, including fires, spills from activities adjacent to the Lake including wastewater spills, and other activities.[719]

Treated Water

According to reports submitted to the State for 2014 through 2017, LBRID had no ongoing water system violations.[720] In 2017 the District received and investigated three complaints related to water taste, odor and color, and took corrective action.[721] In 2018, thirteen such complaints were received and investigated.

[718] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[719] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[720] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[721] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017, Item 13.

The District reported an ongoing/high sensitivity to water quality degradation during storm events. Disruption of power supplies due to wildfires was identified as an item of high sensitivity. [722]

A 2018 inspection by the State identified a number of actions requiring immediate and ongoing attention in order to protect water quality;[723] all required improvements are complete except replacement of clear well cover which is pending a purchase order.[724] Actions included building repairs to prevent animal access, and additional testing and operational evaluations.

[722] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017, Item 17.
[723] Inspection Report for Berryessa Estates Water System ID# 2800526, SWRCB, Oct. 16, 2018.
[724] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.

WASTEWATER SERVICES

The District complies with all regulatory requirements and orders of the Regional Water Quality Control Board. Work Plans are developed in conjunction with private engineering firms. The District continually plans for maintenance and upgrades of the system but does not have a multi-year CIP document.

Type and Extent of Services

Services Provided

LBRID provides wastewater collection and treatment services to residential customers. A total of 183 units (167 currently active) are connected to the District's system.[725]

Service Area

LBRID provides water to Berryessa Estates' Unit Two which is within the LBRID boundary and SOI. All sewer connections are located within District boundaries, with no out-of-agency sewer services provided.

Services to Other Agencies

The District does not provide any sewer-related services to other agencies.

Contracts for Services

The District does not have any sewer-related contracts with other agencies.

Overlapping Service Providers

There are no overlapping sewer service providers within the LBRID service area.

Collaboration

As described for LBRID water services, LBRID and NBRID share contract services provided by a private firm to operate their water and sewer facilities. This shared operational arrangement contributes to improved operating efficiencies of a single operator and leverages the expertise and resources of a single, large engineering firm.

LBRID and NBRID also share administrative and management staff provided by the County of Napa as described below. This arrangement provides opportunities for improved efficiencies through economies of scale, and increased access to staff expertise and the resources of a larger organization.

Staffing

LBRID contracts with the County of Napa for administrative and professional services.[726] The Deputy Director of Public Works serves as District Engineer and is principally responsible for overseeing day-to-day operations of the water and wastewater facilities. Administration, procurement of materials and services, records, technical assistance and

[725] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[726] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.

project management of the utilities are conducted by the Assistant Engineer and Engineering Manager.

Operation of the facility is provided by a contract with a private firm, which also services LBRID facilities.

Wastewater Flow

The LBRID WWTF currently serves 183 units (167 currently active). A total of 153 vacant, developable lots exist within the current SOI served by the LBRID system.[727] New connections are possible but at a very slow rate; since Fiscal Year 12-13 there have been no new connections at LBRID.[728]

Figure 11-3: Wastewater Flows 2014-2018 and Buildout Conditions

LBRID Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
Flow (MG)	9.208	7.051	8.805	14.284	7.344	Not est'd

Source: LBRID MSR Request for Information.

Exceptionally high flows occurred in 2017 as a result of record-breaking rainfall. The rainfall damaged slopes under the WWTP, which the District has since obtained funding to complete improvements to restore structural integrity. The rainfall and high flows also forced to discharge to spray fields in violation of Waste Discharge Requirements issued by the Central Valley Regional Water Quality Control Board resulting in an April 2017 Notice of Violation.[729]

Wastewater Infrastructure and Facilities

The District's wastewater infrastructure consists of the wastewater collection system and the wastewater treatment plant.

Wastewater Treatment Plant

The disposal of wastewater is allowed under WDR Order R5-2013-0114, issued by the Central Valley Water Board; the order allows LBRID to treat and dispose of an average dry weather flow of 42,000 gallons of treated water per day with a peak flow of 123,000 gallons per day.[730] The wastewater treatment, storage and disposal occurs on District parcels at the southeast corner of the District.

Wastewater from the community flows via gravity to three lift stations where it is pumped to a 91,000 gallon above-ground holding tank. From the tank, wastewater is pumped approximately 1.2 miles into a manhole. From the manhole, wastewater gravity flows to facultative treatment ponds including four treatment ponds and four holding ponds. Spray irrigation applies disinfected wastewater to 15.5 acres of land application area. Runoff

[727] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[728] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19.
[729] History of District Finances and Projects - Formation through June 2019, LBRID mtg. 10/8/19.
[730] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.

from spray fields is pumped or returned by gravity flow back into the pond system for reapplication.[731] The system's current design capacity is roughly 45,000 gallons per day.[732]

The District completed a number of system improvements in response to an order issued by the RWQCB for waste discharge violations. Improvements included pond capacity expansion, pump station and piping improvements. A second phase made improvements to meet wet weather inflow/infiltration requirements and provide stand-by power and improved instrumentation. A third phase replaced over 3,000 feet of sewer force mains and other facilities to improve treatment processes.

Collection System

LBRID has approximately seven miles of sewer pipe (gravity and force mains) in four basins.

To provide more details regarding the integrity of the District's sewer system and adequacy of its services this report includes the analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

According to a 2018 report, there have been a total of 20 spills from the LBRID system from 2014 through 2017 resulting in nine spills reaching surface water (Stone Creek or Butts Creek). The largest spill, which was a controlled discharge, occurred during 2017 due to combination of direct rainfall, local runoff, and groundwater seepage into the storage ponds which exceeded the 100-year design capacity of the ponds.[733]

Over a 4-year period, the 20 spills equates to an average of five spills per year. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[734]

In 2019 one spill resulted in 20,000 gallons reaching surface waters due to a failure of pump station controls.[735]

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations.

In response to a RWQCB Time Schedule Order (TS) in 2017, the District submitted a Feasibility Study to reduce inflow and infiltration. The Study identified improvements and estimated costs to meet required standards.[736]

[731] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[732] Follow-up response rec'd 12/9/19 to LBRID interview 12/4/19, and subsequent clarification rec'd 1/23/2020.
[733] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[734] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.
[735] SWRCB CIWQS SSO Public Report.
[736] LBRID TSO Feasibility Study Letter Report to Cal. RWQCB, May 4, 2018.

Infrastructure Needs

The District has completed all phases of its Wastewater Collection, Treatment, and Disposal Expansion Project. At its July 23rd Board meeting the District discussed additional projects required to ensure compliance with regulatory permits and maintain efficient operation of the District's facilities in the future. These projects include installation of pressure reducing valves at lift stations, reduction of inflow and infiltration (I/I) into the sewer collection system, and various projects to improve operations.[737]

Shared Facilities

The District has no shared facilities.

[737] History of District Finances and Projects - Formation through June 2019, LBRID mtg. 10/8/19.

GOVERNANCE STRUCTURE OPTIONS

The last MSR for the District in 2011 proposed reorganizing the District as an independent community services district (CSD).[738] At that time LAFCO determined that acrimony between the County and District residents justified the reorganization to enable a greater role by residents in District management and operations, and to provide greater flexibility for local control and provision of other services as the community develops. No further action was taken on the proposal.

While formation of an independent district would increase local control, the current governance structure, whereby County staff manage the District in concert with LBRID, provides significant benefits from the sharing of operational staff and planning resources.

Reorganization as a County Service Area (CSA)

There are only six resort improvement districts remaining in the State, two of which are in Napa County. Transition of the resort improvement districts to community service districts was streamlined in the Government Code in 2010; however, that streamlined process expired in 2018. Consequently, the principal act for RIDs is not updated regularly and RIDs are becoming an antiquated governance structure. At present, the most likely alternatives for RIDs are a CSD, a water district or a county service area (CSA).

Reorganization as a county service area (CSA) is an alternative that would modernize the District's structure and retain the benefits of shared County management as a County-dependent district. CSAs are empowered to provide all of the services provided by LBRID. As a dependent district, the County Board of Supervisors would continue to be the governing body of the District, allowing for consistency in governance and operations. The transition would have no impact on the operations of the District, except in name only.

The County noted a concern that a CSA may not be able to compel connection to a utility system similar to a RID (Public Resources Code §13074). However, CSAs are empowered by Government Code §25212(a) to "to adopt and enforce rules and regulations for the administration, operation, use, and maintenance of the facilities and services authorized by Article 4," giving a CSA the ability to compel connection as it relates to use of the District's facilities. Additionally, the County can compel connection within its Code of Ordinances if desired.

RECOMMENDATIONS

1. While the District has identified its capital needs, LBRID also should develop a five-year capital plan to anticipate future system repair and replacement costs, and to assure that current rates and reserves will be adequate to address future needs.

2. The District should undertake revisions to its rate structure and prepare a cost of service study as recommended by the recent third-party review of its proposed rates. As of the writing of this report, the cost of service study has been initiated.

[738] 2011 Lake Berryessa Region: Municipal Service Review.

3. The District should continue to conduct regular surveys of resident income as necessary to establish its status as a DAC.

4. Similar to prior MSR determinations, it is recommended that the District expand the content available on its website to include financial documents such as past and current budgets and financial reports. Additional content can be added, as resources permit, to improve public access to District information and to comply with Assembly Bill 2257 (Government Code §54954.2).

5. The District and the County should explore the option of reorganizing the District as a CSA to assure that current operations and funding, such as the financial benefits of DAC designation, current grant requirements of an ARRA loan obtained following the 2008 recession (approximately 10 more years remain for loan repayment), and the resort district's ability to compel connections to the district system, would not be adversely affected.

6. The County should expand the District's current financial reporting to improve public accessibility – the current annual audits are combined with other County financial reporting and consequently the detail and explanation are abbreviated compared to a typical district audit document. Budget documents for the District did not clearly document the resulting fund balances.

LAKE BERRYESSA RESORT IMPROVEMENT DISTRICT DETERMINATIONS

Growth and Population Projections

- No significant increase in current District population and service demand that would affect service delivery and infrastructure is anticipated within the timeframe of this MSR.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- The District has been determined to encompass a Disadvantaged Community, which enables it to qualify for various low or no-interest loans and grants.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The District has undertaken major upgrades to its water and wastewater system since the 2011 MSR identified significant infrastructure needs.
- Ongoing improvements to replace aging infrastructure and to upgrade facilities are planned and/or underway.

Financial Ability of Agencies to Provide Services

- The District has benefited from loans provided by the County which it has been unable to fully repay to-date.
- A recent rate review and forecast indicated that rate increases were not required during the five-year forecast period; however, capital improvements and County loan repayment were not explicitly included in the forecast.
- Current rates exceed typical burden measures compared to resident incomes. The area has been designated as a Disadvantaged Community, which is provided a significant amount of low or no-cost funding and grants.
- The District appears to have adequate reserves to fund operations, however, the lack of a five-year capital plan precludes a determination as to the adequacy of rates and reserves to fund future improvements.

Status of, and Opportunities for, Shared Facilities

- LBRID is administered by County staff in concert with NBRID. The two County-dependent resort improvement districts also share contract services by a single operator.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The County Board of Supervisors serves as directors of the District, and hold regular, noticed meetings.
- The District maintains a website; however, it contains minimal content beyond payment links and posted responses to questions from 2016.
- District staff inform residents through mailings and newsletters, posts on the NextDoor social media site, and in-person meetings as needed.

Relationship with Regional Growth Goals and Policies

- LBRID is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- LBRID's SOI excludes substantial areas within its boundaries which are designated for single-family development, however, those areas currently are not served by the District and there are minimal prospects of those lands developing and requiring services within a ten-year time horizon.

12. LOS CARNEROS WATER DISTRICT

AGENCY OVERVIEW

Los Carneros Water District Profile			
Contact Information			
Contact:	Cass Walker, Board Member, President		
Address:	2530 Las Amigas Road Napa, CA 94559	*Website:*	http://carneroswater.org/SitePages1/Home.aspx
Phone:	(707) 738-4600	*Email:*	publicworks@NapaCounty.org
Formation Information			
Date of Formation:	1978	*Agency type:*	Independent special district
Governing Body			
Governing Body:	Board of Directors	*Members:*	7
Manner of Selection:	Elected by landowners based on assessed value of property	*Length of term:*	4 years
Meetings Location:	Napa Sanitation District 1515 Soscol Ferry Rd Napa, CA 94558	*Meeting date:*	Second Tuesday of February, May, June, October, December at 6 p.m.
Mapping and Population			
GIS Date:	2019	*Population (2018):*	549
Purpose			
Enabling Legislation:	The California Water District Law: Water Code §34000 et seq.	*Empowered Services:*	Water, sewer, stormwater, and hydroelectric
Municipal Services Provided (directly or by contract)	Distribution of recycled water for irrigation purposes		
Area Served			
Boundary Size:	9.0 square miles (5,772 acres)	*Location:*	Southwest portion of Napa County known as Carneros
Current SOI:	8.77 square miles (5,614 acres)	*Most recent SOI update:*	2016
Municipal Service Reviews			
Past MSRs:	2016 Los Carneros Water District Municipal Service Review 2004 Comprehensive Water Service Study		

Boundaries

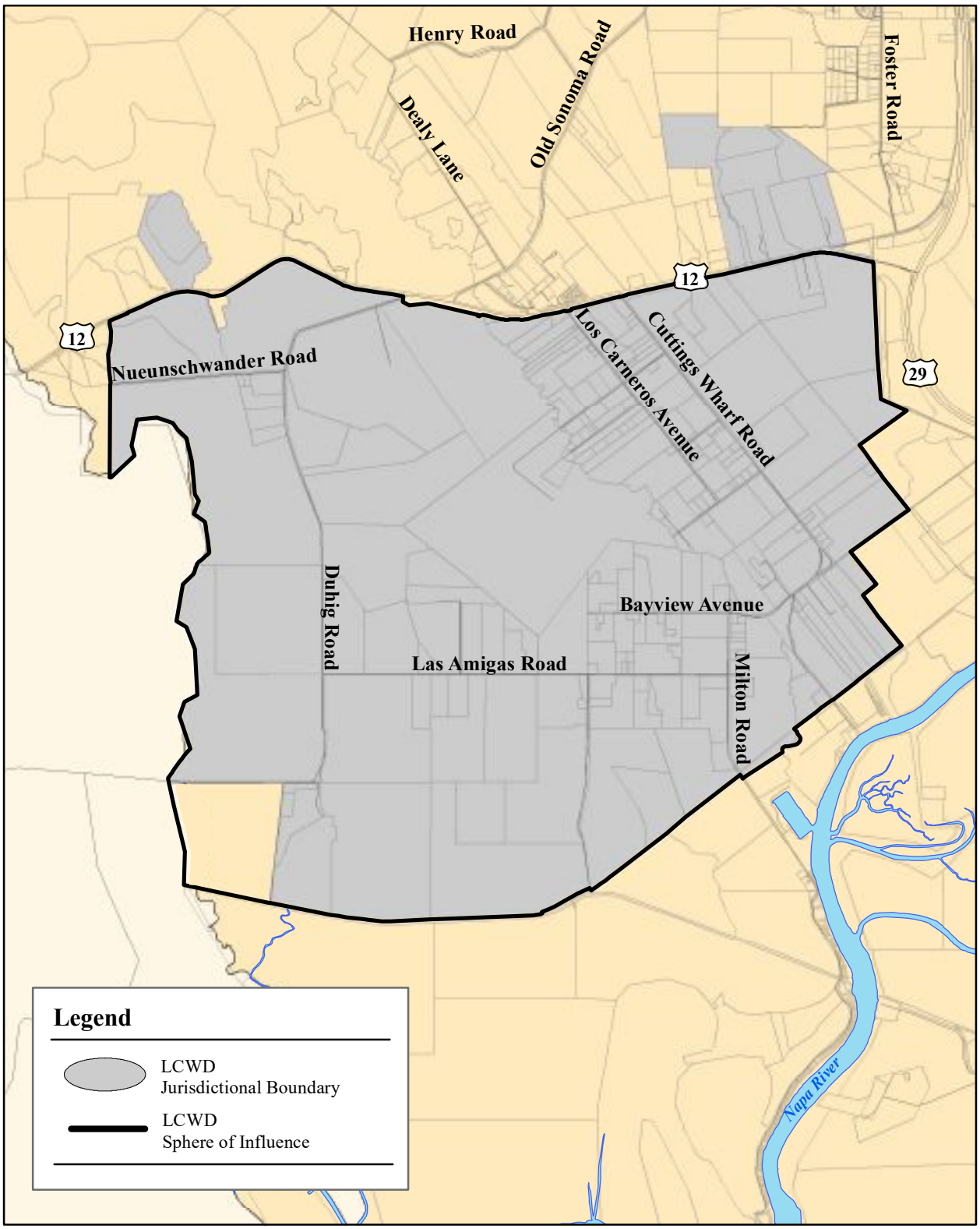
LCWD's jurisdiction boundary is comprised of a contiguous, unincorporated area consisting of approximately 5,772 acres. The boundaries of the District remain unchanged since its establishment.

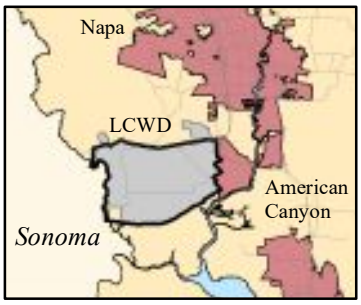
Sphere of Influence

The District's adopted sphere of influence encompasses the majority of its jurisdictional boundary with one notable exception—two territories located north of SR 12.

Los Carneros Water District's sphere was first adopted by LAFCO in 1984 and reaffirmed with no changes in 2007 and in 2016. LAFCO designated the sphere to reflect what the Commission determined was the natural service area of LCWD. This includes lands generally bounded on the east by the Stanly Ranch and the Napa River, on the north primarily by State Route 12, on the west by the Napa / Sonoma County line, and on the south by the Southern Pacific and Northwestern Pacific Railroad lines. Excluded from the sphere but within the District's boundaries are ten parcels located north of State Highway 12, one of which is partially within the sphere, totaling approximately 300 acres. In 1984, those parcels were recommended for detachment from the District, noting that the approximately 305 acres would be substantially more costly to serve than the areas south of the Highway. These areas have not been detached to date.

Figure 12-1 Los Carneros Water District (LCWD)





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December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The District is governed by a seven-member Board of Directors elected to staggered four-year terms by landowners within the district boundaries. Elections, if held, are landowner based by assessed value of property. Board Members may be appointed by the Napa County Board of Supervisors in lieu of election if there are insufficient candidates to require an election.

Regularly scheduled meetings are held on the second Tuesday of February, May, June, October, and December at 6:00 p.m. Meetings are located in Napa Sanitation District at 1515 Soscol Ferry Rd in Napa. Agendas are distributed via the District's website, email, and postal mail.

Los Carneros Water District's website is a communication vehicle and comprehensive clearinghouse for District meeting agendas, meeting minutes, and all archival documents on the District's services and programs.

The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites be set up by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[739] In October 2018, Napa LAFCO sent out a letter to all independent districts in Napa County informing them about the SB 929 requirements and the related districts' obligations. LCWD is fully compliant with the SB 929 requirements.

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda. Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual

[739] California Government Code, §6270.6 and 53087.8

menu.[740] It is recommended that LCWD review its website and ensure it is in compliance with AB 2257.

LCWD demonstrated accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The District cooperated with the requests for information, interviews, and document review.

GROWTH AND POPULATION PROJECTIONS

It was estimated that as of 2015, the District had a population of approximately 523 based on the number of residences in LCWD's boundaries (212) and the average size of a household in the County at that time (2.48 persons per household). Since that time, six new residences had been constructed within LCWD's boundaries. Thus, it is assumed that as of 2019, the population of LCWD is 549, based on an average household size in California of 2.52 persons.[741]

Growth within the District has historically been limited, as the majority of land within LCWD is agricultural use, primarily vineyards, along with rural single-family residences and small wineries. In the 10-year period since 2009, nine residences have been constructed within the district's boundaries, which equates to a population growth rate of approximately five percent or 0.5 percent annually.

Land located within the District is subject to the land-use authority of the County of Napa. Land within the District's adopted boundary and sphere of influence is designated under the County's General Plan as "Agriculture Watershed and Open Space" and "Agricultural Resource."

Approximately 40 percent of the District (consisting of 28 parcels) is under "Williamson Act" contracts with the County of Napa, which helps ensure the preservation of agriculture and open space as predominant land uses within the District. Parcels under Williamson Act contracts are required to maintain their agricultural and open space land uses over the course of renewable 10-year periods in exchange for reduced property tax assessments.

Future growth within the District is currently limited due the agricultural zoning of the lands within and adjacent to the District, which stipulates 160-acre minimum parcel sizes. It is estimated that 52 of the 263 assessor parcels are not developed with residences. However, given historical growth trends and the amount of viniculture and Williamson Act contracts within the District, very little development within the District is anticipated.

Additionally, unlike potable water, demand for LCWD's recycled water is not population driven, but rather driven more by the extent of productive agricultural lands in use in need of irrigation. In the case of LCWD, this is generally the vineyards. Within the District's service area (assessment district), there are 3,140 irrigable acres. While there are a few purely residential parcels attached to the system, they elected to be included due to a hardship in locating groundwater on their parcel.

Additionally, the capacity of the NapaSan's supply source and the distribution system within LCWD was designed to accommodate the 107 connections that are a part of the assessment district, which consists of only a portion of the territory within the LCWD's

[740] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/
[741] CA DOF allocation of 2.52 persons/household.

boundaries. The district is waiting for all properties within the assessment district to connect to the system, so that the extent of any excess capacity may be determined. Additionally, the loans of the assessment district will be paid off in nine years, at which time, the District reported it would be open to considering further financing of expansion projects. Consequently, even if new development should happen, it may not be able to connect to the system until an expansion of the system occurs and a financing mechanism identified.

The Association of Bay Area Governments (ABAG) projects that population of unincorporated Napa County and the entire County as a whole will grow by about six percent from 2020 to 2030. The California Department of Finance (DOF) has similar projections for Napa County. Thus, the average annual population growth in the unincorporated areas as well as Napa County as a whole is anticipated to be approximately 0.6 percent. Based on these projections, the District's population would increase from 549 in 2019 to 586 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017 based on DOF population estimates for these years.[742] Population growth was then projected in five-year increments through 2030. According to LAFCO's projections, the population of unincorporated Napa County is expected to grow by about 0.21 percent a year. LAFCO projects that LCWD will grow from 549 people in 2019 to 556 residents in 2025 and to 562 people in 2030.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[743]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Los Carneros Water District, formed for the primary purpose of providing recycled water for agricultural purposes, relies entirely on benefit assessment revenues for operations and debt service. The revenues fund annual debt service principal and interest payments and district operating costs including community outreach expenses, legal and financial services. All recycled water operations are managed by the Napa Sanitation District (NapaSan) and funded by NapaSan charges to District customers.

Figure 12-2: Summary of Selected Financial Information, Los Carneros Water District

Los Carneros Water District - Recycled Water	
FY18-19 General Fund Annual Net (audited)	**$6,872**
Interest and Assessments allocated to General Fund	$20,985
Expenditures (administration, exc. assessment debt)	$14,113

[742] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore LAFCO used the timeframe from 2012 to 2017.
[743] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

Ending General Fund Balance as % of Revenues	**265%**
Ending General Fund Balance (FY19)	$55,709
Debt Service as a % of Assessment Revenues	**73.9%**
Total Debt Outstanding (end of FY19)	$3,991,000
Debt Service (payment schedule)	$335,220
Additional payment to principal from reserves	$625,000
Total Direct Assessment Collections (General Fund & Debt)	$435,396
Pension+OPEB Total Payments % of Revenues	**no obligations**

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves. LCWD's budgets and financial statements demonstrate the District's ability to fund its general expenditures within its available revenues and reserves. Debt service is funded by property owner assessments.

Of the District's annual benefit assessments, $20,000 to $30,000 is allocated annually to District administrative costs - including board expenses, legal and financial services - supplemented by interest earnings on its General Fund balance. The FY18, FY19 and FY20 budgets show operating expenditures ranging from $20,000-$30,000.[744] Annual expenditures exceeding $20,000 are funded through the use of fund balances. The benefit assessments are calculated each year by the Napa County Auditor-Controller's Office to ensure debt service and District operations are adequately funded.

NapaSan bills District customers directly for services. In FY19, $131,210 of recycled water revenue was attributable to recycled water delivered to LCWD.[745]

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The District's FY19 financial statements report a General Fund balance of $55,709, which is approximately double its annual general expenditures, with no current liabilities.[746]

The District's Debt Service Fund reports a $794,890 balance at the end of FY19.[747] In accordance with the loan covenants, the District established a Restricted Reserve Fund which is at least equal to 150% of one year's installment payment, including accrued interest.[748]

[744] Los Carneros Water District Proposed FY20 Budget, 2018-19 Budget approved 6/12/2018, and 2017-18 Proposed Budget.
[745] Correspondence with J.Tucker, NapaSan, 1/13/2020.
[746] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Statements of Net Position, pg. 3.
[747] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Governmental Funds Balance Sheet, pg. 5.
[748] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2017, Note 3 pg. 18.

The District's Capital Improvement Fund as of FY19 was zero, as the assets were completed and transferred to NapaSan in 2017.[749]

Net Position

An agency's "Net Position" as reported in its CAFR or government-wide audited financial reports represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term

For government-wide statements, assessment revenues and debt are recorded by the District at "full life value", ending with a net position of all remaining District activity.[750] The FY18 ending net position was $12,068 and the FY19 ending net position was $25,774, indicating stability with its on-going general operations.[751] Typically this minimal net position could be a cause of concern, however the District does not own its infrastructure, and its future assessment payments and long-term assessment debt are shown as offsetting assets and liabilities in the District's calculation of its net position.[752]

Rates and Charges

All recycled water operations and maintenance is handled by the Napa Sanitation District (NapaSan), funded by service charges billed by NapaSan to customers of LCWD. NapaSan established rates in 2012; the rates are increased annually by a CPI adjustment.[753]

The County collected assessments totaling $435,396 in FY19 from participating property owners in the District.[754] The majority of the assessments collected by the County on property tax bills pay annual debt service for the State Loan acquired to fund the construction of the recycled water pipeline. A portion of the assessments ($20,000), pursuant to the resolution, along with interest earnings, cover the District's operating costs, which include, community outreach, legal and financial services.

Long-term Debt

In 2015, the District voted on, and successfully passed, an assessment to fund a recycled water pipeline project with an estimated cost, including financing costs, of approximately $24 million.[755] Grants and construction cost estimates reduced the final loan amount required to $8.7 million.

As of the end of FY19, the District owed $8,716,143 for the loan that funded construction of the recycled water system serving the District. The loan was provided by the Clean Water State Revolving Fund (CWSRF) and administered by the California State Water Resources Control Board (SWRCB). The District received State, Federal and County Measure A grants

[749] Correspondence from LCWD 1/09/2020.
[750] Correspondence from LCWD 1/09/2020.
[751] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Statements of Net Position, pg. 3.
[752] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Statements of Net Position, pg. 3.
[753] Napa Sanitation District, Ordinance No. 92, amending Article IX of the District's Sewer Use Ordinance, March 7, 2012.
[754] Los Careros Water District 2018-19 Budget, approved 6/12/2018.
[755] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2017, Management's Discussion.

that helped to both reduce the amount of the loan and to pay down a large portion of the CWSRF loan early.[756] At the end of FY19 the outstanding balance was $3,991,000.

Special assessments paid by participating landowners in the District secure the loan. The District is required to maintain reserves equal to at least 150 percent of one year's maximum required payment, including accrued interest.[757] Assessments are approximately $110 per acre and generate about $435,396 annually, sufficient to pay annual debt service and provide a 150 percent coverage. This assessment is anticipated to fully repay the loan by 2028.[758] The funds in excess of required debt service are utilized for District operating costs, and to prepay the loan balance or increase reserves.

Pension and OPEB Liabilities

The District has no staff and therefore no pension or OPEB liabilities.

Capital Assets

In 2017, the District transferred the completed recycled water pipeline to Napa Sanitation. The District has no other capital assets. NapaSan tracks the depreciation of the LCWD pipeline but does not report it separately in NapaSan financial documents. The system's book value of $11,995,617 depreciated approximately $270,000 annually to its net book value of $11,455,815 at the end of FY19.[759]

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District's website[760] includes agenda documents and minutes, budgets, and financial audits.

Annual Financial Reports – The District prepares biennial audited financial reports unless a single audit is required for loan or grant compliance. The District authorized a regular two-year audit for FY17-18 and FY 18-19 at its Board meeting May 14, 2019.

Capital Improvement Program (CIP) –The District has no CIP. It does not own its distribution system, which was completed in 2016 and transferred to NapaSan.[761]

Financial Forecasts – The District does not prepare financial forecasts other than projected debt schedules; NapaSan owns, operates and bills for the recycled water system.

Other Financial Planning – The District does not prepare other financial documents or analysis.

[756] ibid, LCWD Financials FY17.
[757] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2017, Note 3 pg. 18.
[758] LCWD Assessment Options for Payment of Remaining State Revolving Loan Debt, Jan. 2018.
[759] Correspondence with C.Bolden, NapaSan, 1/13/2020.
[760] http://carneroswater.org/SitePages1/Home.aspx
[761] Correspondence with LCWD, 5/8/19.

WATER SERVICES

LCWD has not developed a planning document, such as a master plan, to guide provision of water services, but has plans to make use of the Water District's Water Master Ordinance as a guiding document. Additionally, the District has developed a work plan for 2017 – 2020 with a vision statement, mission statement, and guiding principles as follows:

1. Educate and inform Water District Landowners regarding regional water polices that affect the LCWD through various types of communications and events.

2. Monitor local water regulations and policies, and advocate on-behalf of Water District Landowners on issues that may affect them such as: well-monitoring, reservoir use, on-site water storage, drought policies, etc.

3. Maintain our relationship with the Napa County Auditor-Controller and the Napa County Treasurer-Tax Collector to ensure that recycled water Landowner assessments are collected to meet the low interest Sate Revolving Fund Loan repayment schedule, including reserve covenants.

4. Work closely with NapaSan to maximize recycled water availability to connecting Water District Landowners, and to ensure that NapaSan's rates and charges are fair and equitable.

5. Work closely with NapaSan to ensure recycled water quality is monitored and water quality reports are available to Water District Landowners.

6. Monitor recycled water availability, quality and infrastructure performance, and report any issues to NapaSan.

7. Work closely with NapaSan to determine if there is additional capacity that would allow Water District Landowners to connect to the recycled water system, and if so, what is the priority order for each connection request, and what is the equitable financial contribution.

8. Work closely with NapaSan to administer the Water District's Water Master Ordinance, and its supporting Administrative Guidelines. Amend the Water Master Ordinance and Administrative Guidelines as necessary.

Type and Extent of Services

Services Provided

LCWD facilitates the delivery of recycled water for irrigation from NapaSan to residents and customers within its boundaries.

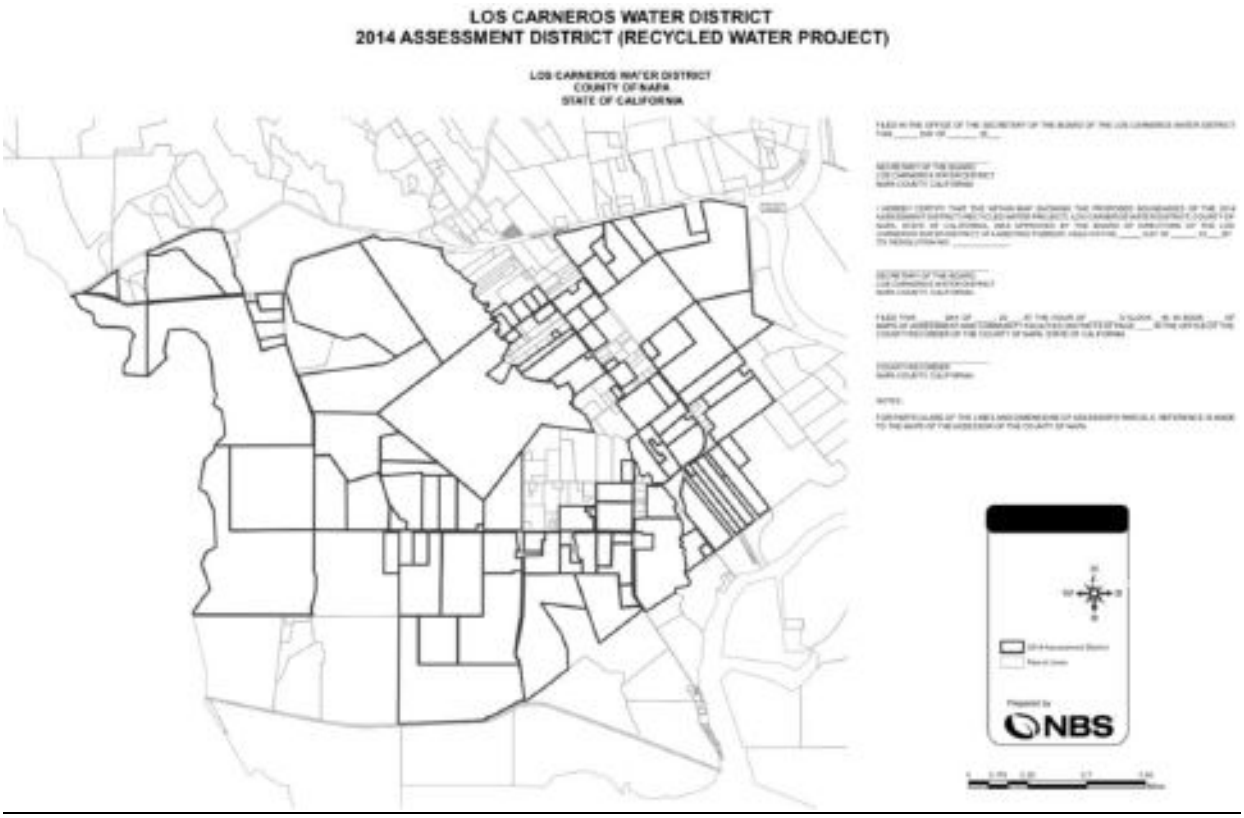
Additional irrigation water and drinking water is provided to parcels within the District through private wells and creek diversions not under the jurisdiction of LCWD.

Service Area

LCWD's service area is smaller than its boundaries. Of the district's total 5,700 acres and 263 parcels within its boundaries, 107 agricultural and residential parcels totaling approximately 4,127 acres of comprise the Assessment District and committed territory of

service for the existing infrastructure. Figure 12-3 shows the parcels that comprise LCWD's assessment district.

Figure 12-3: LCWD Service Area/Assessment District



Services to Other Agencies

LCWD does not provide services to other agencies.

Contracts for Services

In 2014, NapaSan and LCWD entered into an agreement regarding construction, operation and maintenance of a recycled water pipeline to provide service to LCWD. LCWD was responsible for financing the design, planning, and construction of the project. LCWD obtained a number of grants to fund approximately 45 percent of the project. As mentioned, the District also obtained a low-interest loan through the State's Revolving Loan program to fund the remainder of the project. Special assessments paid by participating landowners in the District secure the loan. Joining the assessment district was voluntary and guarantees capacity in the District's system and the ability to connect. Construction of the pipeline was completed, and service initiated in 2016. Upon completion, NapaSan assumed ownership of the pipeline infrastructure along with operation and maintenance responsibilities and bills the customers directly. NapaSan is responsible for construction and installation of the infrastructure, operations, maintenance, and sales of recycled water to the participating landowners. LCWD is responsible for repaying the loan. The District collects the loan payments via the assessment district that was established for this purpose. Assessments to

fund the pipeline and new infrastructure extended to LCWD are collected through the County Auditor's office. The agreement does not have an expiration date.

LCWD adopted Resolution No. 1 in 2014, which outlines a water delivery schedule per agreement with NapaSan.

Overlapping Service Providers

While NapaSan provides services within LCWD's boundaries, the two agencies do not overlap jurisdictions and coordinate through a defined contract. There is no duplication of services; however, there is certainly potential for greater efficiency of service structure and elimination of duplication of overhead costs, as two separate agencies are not required to offer the current level of services. LCWD asserts that overhead costs are minimal and its outreach to water users is critical. It was recommended in the 2016 MSR that the potential for reorganization of LCWD with NapaSan be assessed prior to 2023. This is discussed in greater depth in *Governance Structure Options* within this chapter.

The Napa County Flood Control and Water Conservation District and Napa County Resource Conservation District are both empowered to provide water service for agricultural use and their jurisdictions overlap that of the Los Carneros Water District. Both of these agencies have elected not to offer water service and have expressed no intentions of doing so in the foreseeable future.

Collaboration

LCWD collaborates with NapaSan via its contract service arrangement. The two agencies maintain a good working relationship with a regular reporting structure to ensure transparency.

LCWD has, in the past, considered participating in the North Bay Water Reuse Program (NBWRP), which is a regional water recycling management initiative covering portions of Napa, Marin, and Sonoma Counties that surround the northern rim of the San Francisco Bay. The NBWRP is a coordinated effort of 11 municipal water and sanitation agencies working together to address water supply shortages from a watershed perspective by investing in diverse projects that offset potable demand throughout the region. The Napa Sanitation District is a member of NBWRP.

Staffing

The Los Carneros Water District operates under the direction of the elected Board of Directors and is managed by volunteers. The District President reports to the Directors and is responsible for managing day-to-day administrative functions. The District President takes the lead in planning, organizing, and review of the overall activities of the District; represents the District; and works to ensure the best interests of the District are met.

According to its agreement with NapaSan, LCWD is to provide for a Water Scheduling and Delivery Master or Manager. Because the LCWD pipeline is not designed to convey the peak flow necessary to serve all LCWD users concurrently, the Manager would be responsible for the orderly provision of service, including irrigation quantities, times, and days for users. Additionally, the Manager would be responsible for enforcement of the schedule and actions. The ordinance establishing the manager position provides for the NapaSan General Manager

filling the role, which is the current service structure, or of entering into a professional services contract for the position. Under the agreement, NapaSan is responsible for overseeing the day-to-day administration of recycled water use by LCWD users and monitors recycled water use to ensure compliance with LCWD use policies.

LCWD is currently all volunteer; it has no employees. NapaSan is responsible for all aspects of treatment, distribution, and delivery of the reclaimed water to LCWD.

Water Supply

NapaSan has committed to providing a minimum of 1,250 acre-feet or 0.93 million gallons per day (mgd) of reclaimed water annually to the area within LCWD for landscape and irrigation purposes, with the potential for additional interruptible flow up to 900 acre-feet per year. The maximum flow of reclaimed water to the connections is defined by acreage, time of day, and seasonal flow limitations as outlined in LCWD's Ordinance No. 1.

The maximum instantaneous rate of flow to each parcel is set at no more than 1.57 gallons per minute per acre (on a 7 day per week, 12 hour per day basis). That is the basis for the hydraulic design of the recycled water pipeline. No landowner may exceed this flow rate without prior written authorization from the Manager.[762] The ordinance further outlines seasonal allocations as follows:

Summer "Will Serve" Allocation: The current allocation of Summer "Will Serve" water for each parcel is currently set at 450 acre-feet (af). Each landowner's per acre share is 450 af (Summer "Will Serve" Allocation)/4,127 acres (number of acres in the assessment district). This water is known as "Table A Water."

Summer "Interruptible" Allocation: The allocation of Summer "Interruptible" water for the Water District is to be defined by NapaSan each year. The amount of interruptible water may vary from zero acre-feet to more than 900 acre-feet, depending upon supply available at NapaSan. The allocation of this water to each parcel will be proportionately determined by the Manager as the amount available from NapaSan/4,127 acres. This water is known as "Table B Water."

Winter "Will Serve" Allocation: Allocation of Winter "Will Serve" water for each parcel is defined as that parcel's share of Winter Water, currently set at 800 acre-feet. This water is known as "Table C Water."

Limitation on Seasonal Allocation and Rate of Flow: In no case can the sum of allocation of Table A plus Table B water exceed 0.33 af per acre without the written authorization from the Manager. In no case can the rate of flow exceed 1.57gallons per minute per acre for a 12 hour per day, 7 day per week, without written authorization from the Manager. No more than 30 percent of the Annual Allocation will be delivered in any given month.

The hours of irrigation are defined by use type. Vineyard irrigation hours during the Summer are 6 am to 6 pm. Water for landscape irrigation is available in the Summer from 6

[762] LCWD, Ordinance No. 1, 2014, p. 2.

pm to 6 am, and summer storage filling is available from 6 pm to 6 am.[763] Not complying with the requirements outlined in Ordinance No. 1, may result in monetary or punitive penalties.

Those residents within the District that do not receive reclaimed water rely primarily on creek diversions and groundwater withdrawals. Given the low-producing aquifer in the area, local landowners have generally irrigated primarily with surface water stored in private reservoirs. However, surface water is now fully appropriated, and it is difficult to receive approvals for additional water from the State Water Resources Control Board. Therefore, the ability to use recycled water is critical for the future of agriculture in the Carneros area.

Emergency Preparedness

The District does not have interties with other agencies should it experience an outage or interruption in service from NapaSan. Local landowners would have to rely on their private water storage to weather an outage.

Water Demand

As of 2019, the District served 50 connections or 1,726 acres out of the 107 possible connections or 4,127 acres within the assessment district.

As shown in Figure 12-4, as new connections are added to the system, use of the reclaimed water has increased from 122 acre-feet (af) in 2016 to 319 af in 2018, which is an increase of 161 percent since the system's first year of operation. In 2018, LCWD made use of 53 percent of the 450 af available in summer months.

Figure 12-4: Demand for Recycled Water, 2015-2018 (acre-feet)

Demand for Recycled Water				
	2015	**2016**	**2017**	**2018**
Summer Water Use (May-Oct)	NA	110	194	239
Winter Water Use (Nov-Apr)	NA	12	3	80
Calendar Year Actual Water Use	**NA**	**122**	**197**	**319**

Source: Napa Sanitation District, Memorandum November 2019 Recycled Water Update, p. 1.

In 2019, LCWD experienced a peak hour flow of 2,425 gallons per minute (gpm) and peak day flow of 2,200 gpm, which equates to 69 percent of the system peak design capacity of 3,500 gpm.

Water Infrastructure and Facilities

The 9.12-mile pipeline from NapaSan's Soscol Water Recycling Facility was completed at the end of 2015 in partnership with NapaSan. The pipeline network consists of pipe ranging in diameters from 6 to 20 inches. Given that the system was recently constructed, it is considered to be in excellent condition. Engineers conducted hydraulic analyses to

[763] Parcels near the intersection of Neuenschwander and Duhig Rd. will have to irrigate at night when pressures are sufficient to provide net positive suction head for a booster pump.

determine and assure that the pipeline has sufficient capacity to deliver water at the summer season rate of 0.33 af of water per acre.[764]

The pipeline is located within existing roadways (Las Amigas Road, Duhig Road, South Avenue, Los Carneros Avenue, Withers Road and Cuttings Wharf Road) and NapaSan access easements. The system does not have pump stations or storage facilities, as these are provided within NapaSan's existing facilities or on the end user's private property. The pipeline is owned and operated entirely by NapaSan. From the main pipeline, recycled water users are responsible for connecting their own pipeline/irrigation systems at pre-approved locations along the pipeline. LCWD does not own any infrastructure, facilities, or equipment.

The system was designed with a sufficient capacity to deliver water at the summer season rate of 0.33 af of water per acre as mentioned, which is estimated to be sufficient to accommodate the irrigable acreage within the assessment district that may connect to the system. However, the true extent of available capacity will only be realized once most or all of the potential connections have connected to the system. Once that occurs, LCWD plans to assess the potential for adding additional connections and/or expansion of the system.

Shared Facilities

Having no infrastructure or facilities of its own, LCWD relies upon shared facilities from NapaSan to provide reclaimed water to its customers.

Infrastructure Needs

Given that system serving LCWD was constructed just four years ago, there are no known needs at this time. However, there may be a need for expansion of the system, as several additional landowners have expressed interest in connecting subsequent to the formation of the assessment district. As mentioned, the ability to accommodate additional parcels will be assessed once most assessment district parcels have connected.

Water Quality

The California Water Recycling Criteria (entitled in Title 22 of the California Code of Administration) allow 43 specified uses of recycled water, including irrigation of all types of food crops, parks and schools, golf courses and landscaping. These criteria include different water quality requirements for different types of irrigation. Per their website, NapaSan's recycled water meets the highest quality standard for "unrestricted use."[765]

Water recyclers are required to meet State quality standards for beneficial reuse. Title 22 of California's Water Recycling Criteria refers to California state guidelines for how treated and recycled water is discharged and used. Title 22 requires the California Department of Public Health (CDPH) to develop bacteriological and treatment standards for each level of treated water that is recycled or reused. The regional water boards issue permits for individual water recycling projects in accordance with statewide criteria established by CDPH. Revisions to Title 22 were adopted and published in December 2000. The revamped Title 22 lists 40 specific uses allowed with disinfected tertiary recycled water (such as irrigating parks), 24 specific uses allowed with disinfected secondary recycled

[764] LCWD, Ordinance No. 1, 2014, p. 3.
[765] NBS, Los Carneros Water District Assessment District No. 2014-1, Engineer's Report, 2014, p. 6-1.

water (such as irrigating animal feed and other unprocessed crops), and seven specific uses allowed with undisinfected secondary recycled water (such industrial uses).

NapaSan treats recycled water for reuse to tertiary standards, meaning the reclaimed water can be made available for the widest variety of uses. NapaSan met the treatment standards established by CDPH every day in 2018.

The District has struggled in the past with high chloride levels and continues to monitor chloride levels. During the fall of 2014, NapaSan staff noticed an increase in chloride concentrations in wastewater influent flow and recycled water produced at the treatment plant. Since wine grape vineyards have a low tolerance for chloride in irrigation water, NapaSan staff monitored the chloride levels. When chloride concentrations continued to increase during the fall of 2015, NapaSan began investigating commercial and industrial wastewater sources and exploring what could be happening in the collection system that could contribute to higher chloride concentrations. Collection system videos of the sewer pipelines in areas of high chloride concentration identified two locations of substantial groundwater infiltration. Spot repairs to these damaged areas resulted in a 20 percent reduction in chloride concentration in wastewater influent flow and recycled water produced by NapaSan. Additional sewer collection system rehabilitation was performed to reduce saline groundwater infiltration and adjustments were made at the treatment plant to reduce chloride concentrations. Because of the collection system fixes and operational changes at the treatment plant, peak chloride levels in 2017 were approximately 30 percent lower than in 2016 and 40 percent lower than 2015.

NapaSan continues to monitor chloride levels in influent and recycled water. Because of collection system fixes and operational changes at the treatment plant, chloride levels in 2018 remained low. NapaSan will continue to monitor chlorides and keep recycled water users informed of current chloride levels. [766]

[766] NapaSan, 2018 Recycled Water Annual Report, p. 1

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, one governance structure option was identified with respect to LCWD, including a possible governance alteration and reorganization with another agencies. The feasibility of this option is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Reorganization with Napa Sanitation District

Given that NapaSan provides almost all services to the customers within LCWD's boundaries, which in essence is a "functional consolidation," there is potential to streamline the service structure by eliminating a level of administration through a "full consolidation" of the two agencies. While there is no duplication of services, there is certainly potential for greater efficiency of service structure and elimination of duplicative overhead costs, as two separate agencies are not needed to offer the current level of services. It was recommended in LCWD's 2016 MSR that the potential for reorganization of LCWD with NSD be assessed prior to 2023.

At present, NapaSan is responsible for all aspects of treatment, distribution, and delivery of the reclaimed water to LCWD customers. NapaSan provides 100 percent of the water distributed within LCWD, owns and maintains the distribution system to the customer connections, acts as Water Manager, and bills the customers directly.

LCWD was instrumental in getting the Carneros Pipeline completed by coordinating the funding and spearheading the existing assessment district. LCWD's primary responsibility is repaying the loan, which partially funded the new infrastructure. Assessments to fund the pipeline and new infrastructure extended to LCWD are collected through the County Auditor's office and used to repay the loan, which is to be paid off by 2028. LCWD is currently all volunteer; it has no employees. LCWD reported that it acts as a liaison between NapaSan and LCWD customers, disseminates information regarding rules of water use to customers, and fields all questions regarding the assessment district. At present, LCWD does not have a plan to extend or expand services offered.

Given that NapaSan is providing all core services within LCWD and owns and operates the infrastructure, dissolution of LCWD and annexation of the territory by NapaSan would be relatively straightforward. The Assessment District would remain intact and the property owners would continue to be responsible for and secure the loan with the property assessment, while the manner of collection and payment on the loan would continue to be conducted by the County Auditor. While it does not appear that this would have adverse financial impacts, NapaSan has indicated concerns regarding the possibility of unintended consequences—for example on NapaSan's current and future debt issuances. This reorganization option would require further analysis to assess impacts on existing debt indentures, consistency with bond council opinion and direction, reporting requirements to various State agencies, and GASB reporting guidelines or standards.

As part of this process for this scenario, all financial and physical assets of LCWD would likely be transferred to NapaSan. LCWD does not have any equipment or infrastructure in its name. Financial assets of LCWD consist of a Restricted Debt Service Fund with a balance

of $794,890 at the end of FY19[767] and General Fund balance of approximately $55,000. Should NapaSan become the fiscal agent for the loan associated with LCWD's assessment district as part of the reorganization, then the debt service fund requirements would transfer as well along with the entirety of the debt service fund balance.

The quantifiable benefits of this reorganization would be a savings of approximately $20,000 to $30,000 each year, which is presently allocated to LCWD administrative costs, including board expenses, legal and financial services. These services could likely be covered at little or no additional expense to NapaSan.

Beyond cost savings, other potential benefits of a reorganization consist of 1) streamlining and improving clarity of service structure for customers, 2) elimination of duplicative administration and governance services, and 3) provision of all services by a well-managed professional agency with full-time staff and extensive expertise and resources.

There are drawbacks to the potential reorganization of NapaSan and LCWD, including 1) elimination of a governing body with entirely local trustees that represent the interests of the landowners within LCWD and 2) limiting future water services offered in the area to the distribution of reclaimed water or other services which NapaSan is empowered to provide; although no service expansion has been nor is under consideration.

Should LCWD not be interested in expanding its role in water provision in the area, then it would be appropriate to consider dissolution and annexation by NapaSan to realize cost savings and the other benefits of annexation. It is recommended that NapaSan and LCWD begin discussions regarding the possibility of moving forward with reorganization.

LCWD noted that there is a continued role for it to play as the pipeline nears capacity and remain the "the face of the pipeline" to members until it has been determined how the pipeline responds under peak demands. LCWD has indicated that it prefers to remain independent for the time being, and may consider this option once all debt has been retired.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to LCWD regarding its water service delivery.

1. It is recommended that NapaSan and LCWD begin discussions regarding the possibility of moving forward with reorganization.
2. It is recommended that LCWD review its website and ensure it is in compliance with AB 2257.

[767] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Governmental Funds Balance Sheet, pg. 5.

LOS CARNEROS WATER DISTRICT DETERMINATIONS

Growth and Population Projections

- Los Carneros Water District's (LCWD) population, as of 2019, was approximately 523.
- LCWD's population increased by 0.5 percent annually between 2009 and 2019.
- Future growth within the District is currently limited due the agricultural zoning of the lands within and adjacent to the District, which stipulates 160-acre minimum parcel sizes. It is estimated that 52 of the 263 assessor parcels are not developed with residences. However, given historical growth trends and the amount of viniculture and Williamson Act contracts within the District, very little development within the District is anticipated.
- Unlike potable water, demand for LCWD's recycled water is not population driven, but rather driven more by the extent of productive agricultural lands in use in need of irrigation. In the case of LCWD, this is generally the vineyards. Within the District's service area (assessment district), there are 3,140 irrigable acres.
- LAFCO anticipates growth within LCWD to be similar to the most recent five-year trend of all unincorporated areas of Napa of 0.21 percent annually, with an anticipated population of 562 by 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- NapaSan's recycled water supply is sufficient to continue to provide the committed volume to LCWD's service area. In 2018, LCWD made use of 53 percent of its allocated contract supply volume.
- Engineers conducted hydraulic analyses to determine and assure that the pipeline has sufficient capacity to serve the 107 connections in the LCWD assessment district.
- While there is interest from other landowners in the District but outside the assessment district to connect to the system, the true extent of available capacity will only be realized once most or all of the assessment district connections have connected to the system.
- The level of recycled water services offered by NapaSan were found to be more than adequate based on integrity of the recycled water distribution system and compliance with water treatment requirements. The integrity of NapaSan's distribution system is excellent as measured by the degree of annual water loss and the rate of main

breaks and leaks per 100 miles of main. The District met the treatment standards established by CDPH every day in 2018.

- LCWD's system was constructed just four years ago, and there are no known infrastructure needs at this time. However, there may be a need for expansion of the system, as several additional landowners have expressed interest in connecting subsequent to the formation of the assessment district. As mentioned, the ability to accommodate additional parcels will be assessed once most assessment district parcels have connected.

Financial Ability of Agencies to Provide Services

- All recycled water operations are managed by NapaSan, which bills District customers directly for services. NapaSan owns the distribution system which was funded by a combination of grants and assessment debt secured by District property owners.
- The District's revenues consist almost entirely of benefit assessments. The majority of the assessments pay for debt service that funded system construction; a small portion of the assessment revenue pays for District operations costs.
- The District maintains adequate reserves for annual administrative costs and retains a restricted fund to include required debt service reserves.
- The District's Capital Improvement Fund's balance was zero at the end of FY19. Since the system is owned and maintained by NapaSan, there is no need for District capital reserves.

Status of, and Opportunities for, Shared Facilities

- Having no infrastructure or facilities of its own, LCWD relies upon shared facilities from NapaSan to provide reclaimed water to its customers.
- LCWD collaborates with NapaSan via its contract service arrangement. The two agencies maintain a good working relationship with a regular reporting structure to ensure transparency.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District Board holds regular appropriately noticed meetings.
- The District primarily conducts outreach via its website, which makes available comprehensive information and documents to the public and solicits input from customers. LCWD is fully compliant with the SB 929 requirements. It is recommended that LCWD review its website and ensure it is in compliance with AB 2257.
- Given that NapaSan provides almost all services to the customers within LCWD's boundaries, which in essence is a "functional consolidation," there is potential to streamline the service structure by eliminating a level of administration through a

"full consolidation" of the two agencies. It is recommended that NapaSan and LCWD begin discussions regarding the possibility of moving forward with reorganization.

Relationship with Regional Growth Goals and Policies

- LCWD is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- LAFCO's adopted policies relating to special district spheres discourage any expansions of LCWD's existing sphere to promote urban development based on current land use designations of lands located within close proximity to the District.

13. NAPA BERRYESSA RESORT IMPROVEMENT DISTRICT

AGENCY OVERVIEW

Napa Berryessa Resort Improvement District Profile			
Contact Information			
Contact:	Steven E. Lederer, Director		
Address:	1195 Third Street Suite 101 Napa, CA 94559	*Website:*	www.countyofnapa.org/1686/Pay-Water-Sewer-Bills-NBRID-LBRID
Phone:	707-253-4351	*Email:*	publicworks@NapaCounty.org
Formation Information			
Date of Formation:	1965	*Agency type:*	Dependent special district
Governing Body			
Governing Body:	County Board of Supervisors	*Members:*	5
Manner of Selection:	Supervisors elected by voters in five Supervisorial Districts	*Length of term:*	4 years
Meetings Location:	1195 Third Street Suite 101 Napa, CA 94559	*Meeting date:*	First Tuesday of every month at 9:20 am
Mapping and Population			
GIS Date:	2019	*Population (2018):*	867
Purpose			
Enabling Legislation:	Public Resources Code §13000	*Empowered Services:*	Sewer and water services
Municipal Services Provided (directly or by contract)	Sewer and water services		
Area Served			
Boundary Size:	2.1 square miles	*Location:*	Berryessa Highlands near southeastern shore of Lake Berryessa
Current SOI:	0.4 square miles	*Most recent SOI update:*	2007
Municipal Service Reviews			
Past MSRs:	2011 Lake Berryessa Region: Municipal Service Review 2007 NBRID Sphere of Influence Review 2005 Sanitation and Wastewater Treatment MSR Phase I: Agency Profiles 2004 Comprehensive Water Service Study		

Boundaries

As described in its 2011 MSR, NBRID's jurisdictional boundary is approximately 2.96 square miles or 1,896.5 acres in size.[768] The District was formed to serve a planned 1,700-unit development known as Berryessa Highlands on the southeastern shoreline of Lake Berryessa. Due to adverse market conditions only two residential subdivisions, "Unit 1" and "Unit 2", were developed in addition to the Oakridge Estates. There is a total of 563 lots in NBRID.

Currently certain District facilities, including its treated wastewater storage and disposal areas, are located on parcels outside District boundaries as shown in Figure 13-1a. NBRID has indicated an interest in annexing those parcels in order to recognize District ownership and use.

Sphere of Influence

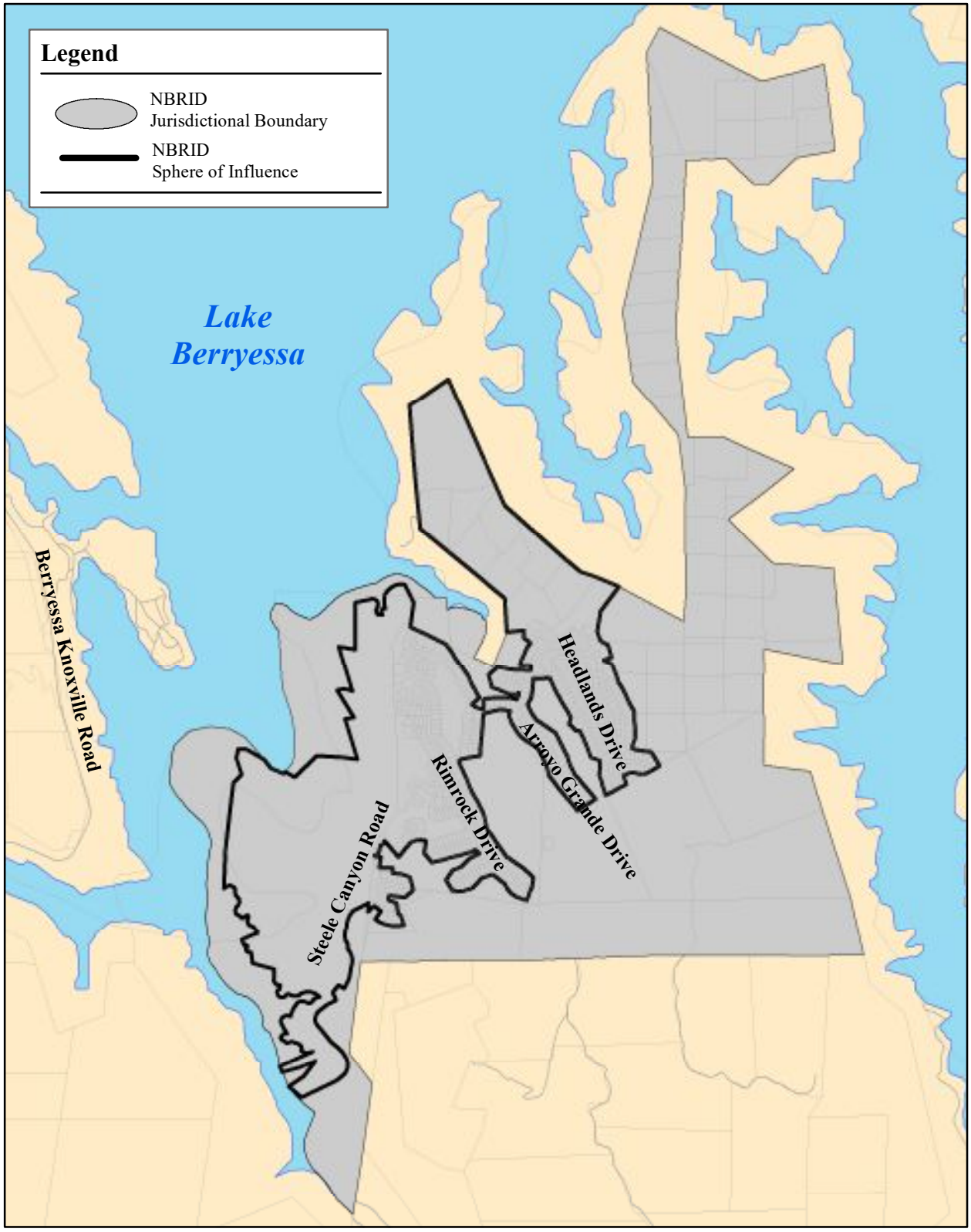
As described in the 2011 NBRID MSR, NBRID's SOI encompasses 1.0 square mile, or 644 acres.[769] The SOI was affirmed in 2007. The NBRID boundary includes 1,252.5 acres within its boundaries but outside its SOI. The 10-lot "Oakridge Estates" subdivision is within and served by the District but is outside of its SOI, as well as three other connections outside the SOI (but within District boundaries).[770]

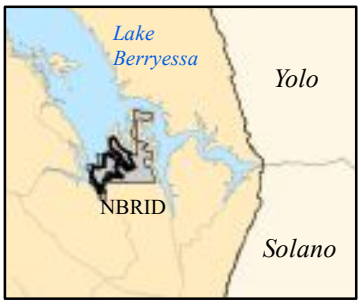
The 1,252.5 acres within the District's jurisdictional boundary but outside it SOI include parcels of record that could apply for development permits, however, as noted above the costs of extending utility services as well as other public infrastructure and roads makes development unlikely within the next ten years or more. Sufficient undeveloped lots exist within the SOI to accommodate recent and potential development for at least ten years considering recent trends and future population projections.

[768] Correspondence from A. Martinez, County of Napa, 1/23/2020.
[769] Correspondence from A. Martinez, County of Napa, 1/23/2020.
[770] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

Figure 13-1

Napa Berryessa Resort Improvement District (NBRID)





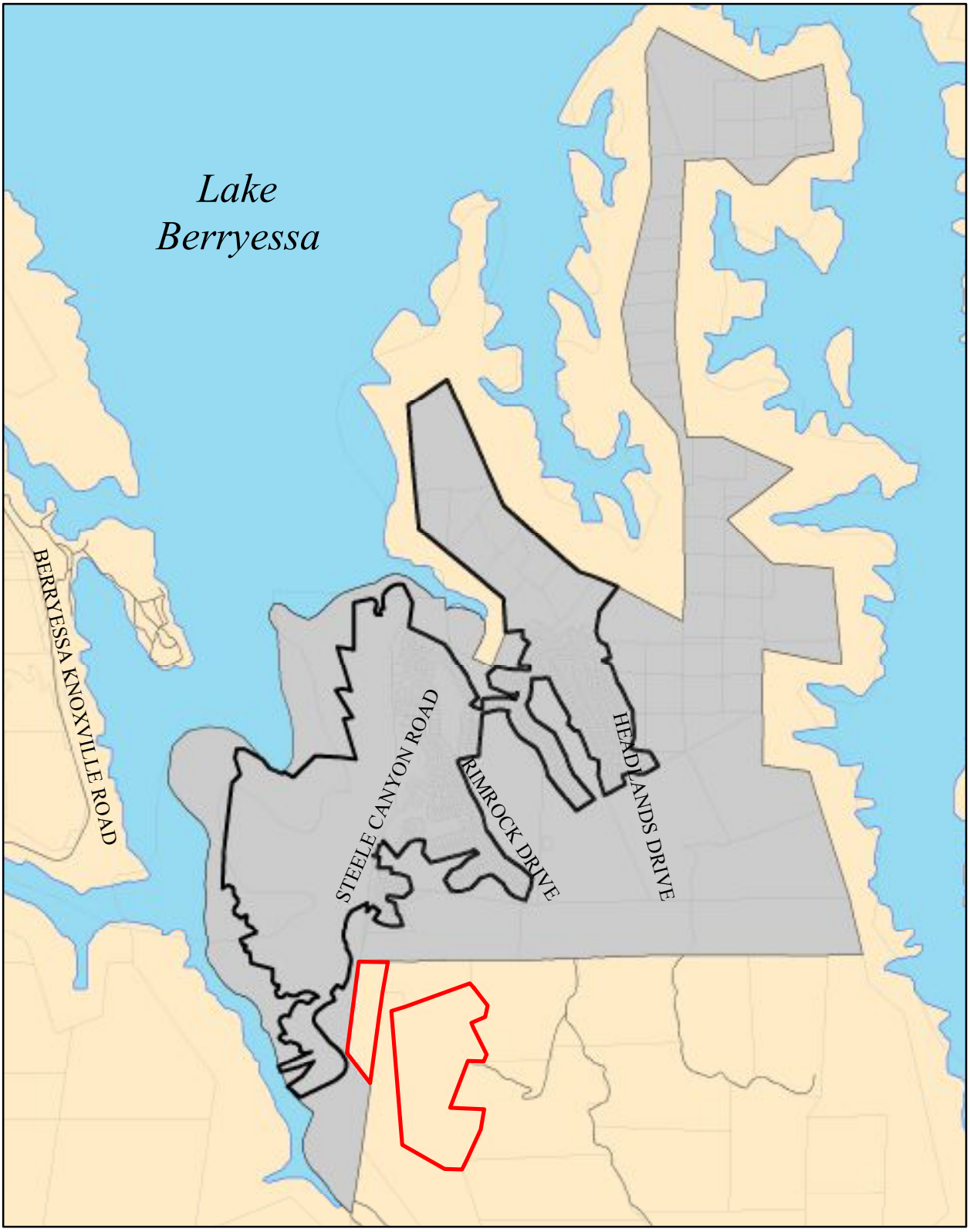
N

0 0.15 0.3 Miles

December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

Figure 13-1a Napa Berryessa Resort Improvement District



Legend

- NBRID Jurisdictional Boundary
- NBRID Sphere of Influence
- APNs 019-220-028 & -038

Not to Scale
August 25, 2015
Prepared by BF

N

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

The Napa County Board of Supervisors serves as directors of the District and meet monthly as part of regularly schedule Supervisors' meetings. Agenda, minutes and related staff reports, and documents can be found on the County's website.[771]

The District's website consists of one page on the County's website that displays links enabling residents to pay bills online. The page includes contact information but provides no other district information.

District staff reach residents through mailings and newsletters, posts on the NextDoor social media site, and in-person meetings as needed. A revised website, or web page hosted on the Napa County site, is expected in 2020.[772] District staff were highly responsive to requests for information during preparation of this MSR.

GROWTH AND POPULATION PROJECTIONS

Originally 1,700 residential units were planned for the Berryessa Highlands along with commercial and recreation uses; however, limited market demand reduced the amount of planned development to about 563 lots, and commercial and recreation uses.

The District reports 330 active connections to the district's water and sewer systems.[773] Population estimates indicate 344 households and population of 867,[774] a decline from the 920 estimated in the 2011 NBRID MSR. Forecasts predict a 2030 population of 887.[775]

There are no commercial users at NBRID; however, one of the developed lots is used for the County's volunteer fire station, and one is for the access road for NBRID's sewer plant.

The Steele Park Resort, which closed in 2008, accounted for about one-third of the District's revenues[776] from range of seasonal/temporary residential, recreational, and limited commercial uses.[777] The 2011 NBRID MSR described plans to replace the Steele Park Resort with similar uses as part of the "Lupine Shores Resort", although at a lower density consuming less water than originally anticipated for Steele Park Resort. The County negotiated an agreement with the BOR, which owns the resort land, enabling the County to manage the resort development.

There are a total of 209 undeveloped lots in Units 1 and 2; the District has received inquiries about potential new development, however, growth is minimal especially when presented with the significant cost of extending services, which new development must bear.[778] Since Fiscal Year 2012-13 there have been five new connections to NBRID's system.[779]

No new development outside the current SOI is anticipated by the District, although lots outside the SOI but within the District boundaries represent "lots of record" and could

[771] http://napa.granicus.com/ViewPublisher.php?view_id=6
[772] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[773] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[774] 2019 Population estimates by County Planning Dept. as reported by LAFCO (6/13/19).
[775] Population forecasts by LAFCO and Cal. Dept. of Finance as reported by LAFCO (6/13/19).
[776] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.
[777] 2011 Lake Berryessa Region: Municipal Service Review
[778] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[779] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

request a connection assuming the cost of extending utilities, roads and other required infrastructure could be funded by the property owner(s).[780]

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[781]

In the mid-1990's, NBRID was denied a state grant and a low interest federal loan because the median household income of residents was too high to qualify for special consideration, precluding improvements to correct problems that resulted in Notices of Violation.[782]

Based on an income study conducted in 2017, incomes were only slightly below the County average, and therefore the community did not qualify as disadvantaged; no further surveys are currently anticipated.[783]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Napa Berryessa Resort Improvement District (NBRID) provides water and wastewater services within District boundaries. NBRID is governed by the County of Napa Board of Supervisors and County Public Works and other County departments staff the District. The District funds operations, maintenance and capital improvements for water treatment and distribution facilities, and wastewater collection, treatment and disposal.

Figure 13-2: Summary of Selected Financial Information, Napa Berryessa Resort Improvement District Water and Wastewater Operations

Napa Berryessa Resort Imp. Dist. - Water & Wastewater Operations	
FY18-19 Total Budget (exc. Debt Fund and CIP)	**$156,000**
Operating Revenues	$814,000
Operating Expenditures (before transfers out; excludes debt)	$658,000
Ending Fund Balance as % of Operating Revenues	**115%**
Ending Fund Balance (Cash & investments, FY18))	$754,000
Debt Service as a % of Operating Revenues	**na***
Total Debt Outstanding	$11,957,000
Debt Service	$488,000
Monthly Water+Sewer Rates % of Income	**4.3%**
Typical Monthly Rates (water & sewer use, exc. taxes)	$210
Median Household Income (2017)	$58,500
Pension+OPEB Total Payments % of Revenues	**na**

[780] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[781] Napa Local Agency FormationCommission, Policy on Disadvantaged Unincorporated Communities, 2018.
[782] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.
[783] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

Napa Berryessa Resort Imp. Dist. - Water & Wastewater Operations	
Pension+OPEB Total Payments	$0

* Debt service is funded by assessments. *2020-01-28*

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's projected FY19 total revenues (and assessments) exceed expenditures by a margin of about $156,000 before deducting depreciation expense and transfers out to its CIP fund.

The District receives about $58,000 in property taxes (included in total revenues) which is about 7.6 percent[784] of each tax dollar from within its boundaries, in addition to water/sewer charges, special taxes, and assessments applied to debt service.[785]

The operating margin is sufficient to fund transfers to the District's CIP ($112,000 transferred from Operations to CIP), but the remainder does not fully offset the effects of depreciating assets. The District's budget includes $171,000 towards depreciation (not included in the total operating expenditures noted above).

Although depreciation is a non-cash expense utilized for accounting purposes, it approximates the "using up" of capital assets over time; the shortfall after depreciation costs indicates that the District may be unable to fully fund capital repair and replacement over the long-term unless revenues increase (or expenses decline).

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The District's FY18 CAFR reports approximately $754,000 cash and investments in the bank,[786] representing about 40 percent of Operating Fund expenditures (including Operating Fund debt service). This amount of cash declined slightly compared to the prior year's $812,000.[787]

Over the longer term, the District has an unrestricted net position of $470,000 as described in the following section, which indicates that liabilities effectively reduce the amount of unrestricted assets available.

[784] County of Napa MPTS2010 Property System – Auditor Tax Increment Distribution Report 2018, TRA 072-029.
[785] NBRID (52400) Operations Revenues and Expenses (adj. budget) FY19.
[786] County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
[787] County of Napa CAFR for Fiscal Year ended June 30, 2017, Statement of Net Position Proprietary Funds, pg. 35.

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

The District's FY18 financials show a positive total net position of $73,000 and unrestricted net position of $470,000. The total net position is low because the net value of capital assets is negative – in other words, the depreciated value of assets is less than long-term capital debt obligations and other liabilities.

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility, or 4 to 5 percent combined.[788] The District's rates are within this range.

The District's rates for water use equal 1.7 percent of median household incomes, and typical District wastewater rates equal 2.6 percent of median household incomes, for a combined 4.3 percent.[789] These rates are below the standard measures noted above. However, assessments and capacity charges paid by residents increase the burden measures.

NBRID currently is considering increases in its rates in order to fund operating costs and the need to make significant capital improvements, and prepared an analysis in 2018 of its future rates.[790] A recent review of the District's proposed rates recommended several revisions to the current and proposed rate structure, and recommended preparation of a Cost of Service Study.[791]

In addition to water and wastewater service charges, the District charges an annual Standby Charge (also referred to as "Availability Charges"); in FY19 the annual water Standby Charge is $120 per parcel and the annual sewer Standby Charge is $120 per parcel.[792] The District also charges a bond assessment (AD 2012-01)of approximately $1,050 per parcel annually which is restricted to its debt service fund.[793]

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10 percent

[788] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[789] Based on median household income of $79,637 for the County of Napa, according to the American Community Survey 2017, DP03, 5-Year estimates. Income data is unavailable for the District. See appendix for detailed estimate of typical household charges.
[790] Operating Budget 5-Year Projection, presented at Board meeting Nov. 8, 2019.
[791] Rate Study Review of NBRID, Robert D. Niehaus, Inc, NBRID mtg. 10/8/19.
[792] Resolution No. 2018-05 (NBRID); see also the document "NBRID Availability Charge for FY 2017-2018 (5/31/17)".
[793] Correspondence with Phillip Miller, Napa County, July 15, 2019.

and 30 percent of their total operating revenues on debt service.[794] However, this standard is not applicable when the debt is paid by property assessments.

In its Debt Service Fund, the District's FY19 budget shows approximately $487,900 in principal and interest, which goes towards prior budget shortfalls funded by a loan from the County;[795] the budget shows additional administrative fees related to the obligation, and to collection of property assessments.[796] The District's FY18 CAFR lists 2013 Series A and Series B bonds with a total of $10.2 million outstanding for water and wastewater improvements. The bonds are repaid from property owner assessments.

Pension and OPEB Liabilities

The District offers no pension or OPEB benefits and has no corresponding liabilities.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the District's depreciable structures and improvements declined by $587,000 of depreciation with no offsetting additions or improvements from FY17 to FY18. The depreciated value is about 72 percent of total value, which reflects the value of capital improvements completed to upgrade the original systems.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District has no website; however, board meeting agendas and minutes are posted on a section of the County's website.[797] A revised website, or web page hosted on the Napa County site, is expected in 2020.[798]

Financial Policies – The District adopted a Debt Management Policy.[799] No other financial policies specific to the District were identified.

Annual Financial Report – The District's financials are included in the County's annual CAFR as a separate enterprise or business-type activity.

Capital Improvement Program (CIP) – The District does not have a 5-Year CIP.

Cost of Service/Rate Study – The District prepared an analysis in 2018 of its future rates. A recent review of the District's proposed rates recommended several revisions to the current and proposed rate structure, and preparation of a Cost of Service Study.[800]

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[794] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[795] Correspondence from A. Martinez, County of Napa, 1/23/2020; FY19 Actual YTD.
[796] NBRID (52410) Debt Service Revenues and Expenses (adj. budget) FY19.
[797] http://napa.granicus.com/ViewPublisher.php?view_id=7
[798] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[799] Resolution No. 2017-07 Adopting a District Debt Management Policy, 7/11/17.
[800] Rate Study Review of NBRID, Robert D. Niehaus, Inc, NBRID mtg. 10/8/19.

WATER SERVICES

The District routinely monitors, reports on its compliance State and Federal water quality standards. NBRID maintains its system and completes system improvements as needed to maintain its adherence to requirements and standards. Consumer Confidence Reports are provided annually to its customers documenting results of periodic source and finished water assessments performed by the State Water Resources Control Board, Division of Drinking Water Programs.

Type and Extent of Services

Services Provided

NBRID provides potable water to residential customers. NBRID reports approximately 330 active residential connections.[801] No public water services are provided to Lupine Shores Resort; originally, the resort was operated as the Steele Park Resort which closed by 2008.

Service Area

NBRID provides water to Berryessa Highlands' Units One and Two that are within the NBRID service area and SOI. The District also serves ten Oakridge Estates units and two other connections outside the SOI but which are in the District.

Services to Other Agencies

The District does not provide any water-related services to other agencies.

Contracts for Services

NBRID contracts with NCFCWCD for its supply of water which is drawn entirely from Lake Berryessa. NCFCWCD, in turn, contracts with USBR for a total allocation which is apportioned to various subcontractors. NBRID's contract provides for an annual entitlement of 200 AFY (65.2 mill. gallons) and an option to purchase an additional 40 AFY. The current contract between the District and NCFCWCD extends through 2024.[802] An increased allocation was considered due to the Steele Resort; however, the application was dropped when the Resort closed.

Overlapping Service Providers

There are no overlapping water service providers within the NBRID service area.

Collaboration

In July 2018 the District issued a Request for Proposals (RFP) soliciting operations and maintenance services to ensure continued labor oversight of the water and wastewater systems of both NBRID and LBRID. This shared operational arrangement contributes to improved operating efficiencies of a single operator and leverages the expertise and resources of a single, large engineering firm.

[801] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[802] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

LBRID and NBRID also share administrative and management staff provided by the County of Napa as described below. This arrangement provides opportunities for improved efficiencies through economies of scale, and increased access to staff expertise and the resources of a larger organization.

Staffing

NBRID contracts with the County of Napa for administrative and professional services.[803] The Deputy Director of Public Works serves as District Engineer and is principally responsible for overseeing day-to-day operations of the water and wastewater facilities. Administration, procurement of materials and services, records, technical assistance and project management of the utilities are conducted by the Assistant Engineer and Engineering Manager.

Operation of the facility is provided by a contract with a private firm, which also services LBRID facilities.[804]

Water Supply

NBRID's water supply is drawn entirely from Lake Berryessa. NBRID contracts with NCFCWCD which, in turn, contracts with USBR for a total allocation which NCFCWCD apportions to various subcontractors. NBRID's 92.7 AFY of water produced[805] in 2017 is less than one-half of its annual entitlement from NCFCWCD of 200 AFY. The water supply declined in 2018 to 79.7 AFY.[806]

According to reports submitted to the State, NBRID has a "medium sensitivity" to potential drought impacts including decreased water storage (low lake and reservoir levels) and change in seasonal runoff and/or loss of snowmelt.[807]

Emergency Preparedness

NBRID has emergency generators at most major facilities and can call in for assistance for those facilities lacking generators. The District participates in the County's Hazard Mitigation Plan.[808]

Water Demand

In 2017 the District reported annual potable water deliveries to retail customers of 16 million gallons,[809] or 49.1 AFY. In 2018 deliveries increased to 51.1 AFY.[810]

[803] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[804] Specialized Utilities Services Program, or SUSP, was awarded the contract, and began operations on November 1, 2018.
[805] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[806] Small Water System 2018 Report to the Drinking Water Program for year ending Dec. 31, 2018.
[807] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[808] Napa County Multi-Jurisdictional Hazard Mitigation Plan (2019 Update in progress).
[809] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[810] Small Water System 2018 Report to the Drinking Water Program for year ending Dec. 31, 2018.

Water Infrastructure and Facilities

In 2017 the District reported annual potable water production of 30.2 million gallons (92.7 AFY).[811] This was an increase compared to 2016's production of 23.5 million gallons (72.1 AFY). Water production 2018 was 26 million gallons (79.7 AFY).[812]

Raw water is pumped from two deep-water screened intakes at different depths. The raw water is processed through a high rate contact clarification/dual media filtration treatment process and disinfection tank operated and monitored by a SCADA system.[813]

NBRID's distribution system consists of seven pressure zones that maintain pressure exceeding the 20-psi regulatory standard. Water storage acts to maintain adequate working pressure under intraday peak demand and provide fire protection in accordance with ISO fire flow guidelines.

The 92.7 AFY of water produced in 2017 is less than one-half of its annual entitlement from NCFCWCD.

Unaccounted for water loss, specifically the amount of water lost due to system breaks and leaks, as well as illegal connections, is a measure of the water system's integrity. Water losses can include "real losses", which are physical losses from the water distribution system and the supplier's storage facilities as well as "apparent losses", which represent losses due to metering inaccuracies, data handling errors and/or unauthorized consumption.

A comparison of water produced of 92.7 AF compared to deliveries to retail customers in 2017 of 49.1 AF indicates losses of 43.6 AF or 47 percent of total potable water produced.[814] The losses declined in 2018. The District also notes that water loss can be attributed to leaks, demands during fire-fighting activities near the District, and other non-metered activities such as water plant wasting after cleaning filters.[815]

During 2017 there were 3 main line breaks or leaks, and 15 service connection breaks or leaks. In the prior year, 2016, no main line breaks or leaks were reported, and 9 service connection breaks or leaks.

Shared Facilities

The District has no shared facilities.

Infrastructure Needs

In response to a June 19, 2019 citation issued by the State Division of Drinking Water for excessive contaminants resulting from the treatment process, NBRID has received and is installing mixing and aeration equipment; initial testing indicated that this equipment should result in water quality that meets required standards.[816]

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[811] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[812] Small Water System 2018 Report to the Drinking Water Program for year ending Dec. 31, 2018.
[813] Description of water source, treatment and distribution is from the RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.
[814] Losses based on a comparison of "Water Produced" to "Water Deliveries" shown in the Small Water System Report to the State Drinking Water Program.
[815] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[816] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.

In its 2018 RFQ/RFP, NBRID indicated that its near-term capital improvements would focus on water pressure reducing valve vaults and obtaining funding to rehabilitate the water storage tank exterior coatings.

The District has identified other large-scale projects needed to "gain/maintain compliance with regulatory permits, and to maintain/ensure efficient operation of the District's facilities in the future."[817] These improvements include:

- Rehabilitation of the raw water intake in Lake Berryessa
- Rehabilitation/replacement of the District's water distribution system pressure reducing stations
- Replacement of the potable water storage tank

The District indicates that the installation of tank aeration will begin in the Spring of 2020.[818]

Water Quality

The State Water Resources Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

Source Water

A number of factors and events affect the quality of raw water drawn from Lake Berryessa. A 2018 survey conducted by NCFCWCD and the Solano County Water Agency (SCWA) identified a number of factors affecting Lake Berryessa water quality, including fires, spills from activities adjacent to the Lake including wastewater spills, and other activities.[819]

Treated Water

According to 2017 reports submitted to the State, NBRID had no ongoing water system violations.[820] In 2017 the District received no customer complaints related to water quality (e.g., taste, odor and color).[821]

[817] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.
[818] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[819] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[820] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017.
[821] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017, Item 13.

The District reported an ongoing/high sensitivity to water quality degradation during storm events on water quality. Disruption of power supplies due to wildfires was identified as an item of high sensitivity.[822]

Reports of water quality tests from 2014 through 2017 reported only one violation (in 2014) of a water treatment standard for turbidity, which has no health effects but can interfere with the treatment process.[823] No violations were reported in 2018.

The State Division of Drinking Water issued NBRID a citation June 19, 2019 for excessive contaminants resulting from the treatment process. As noted in "Infrastructure Needs", NBRID is installing mixing and aeration equipment to address this issue.

[822] Small Water System 2017 Report to the Drinking Water Program for year ending Dec. 31, 2017, Item 17.
[823] Consumer Confidence Report, NBRID.

WASTEWATER SERVICES

The District complies with all regulatory requirements and orders of the Regional Water Quality Control Board. Work Plans are developed in conjunction with private engineering firms. The District continually plans for maintenance and upgrades of the system but does not have a multi-year CIP document.

Type and Extent of Services

Services Provided

NBRID provides wastewater collection and treatment services within its boundary area.

Service Area

All sewer connections are located within District boundaries, with no out-of-agency sewer services provided.

Services to Other Agencies

The District does not provide any sewer-related services to other agencies.

Contracts for Services

The District does not have any sewer-related contracts with other agencies.

Overlapping Service Providers

There are no overlapping sewer service providers within the NBRID service area.

Collaboration

As described for NBRID water services, LBRID and NBRID share contract services provided by a private firm to operate their water and sewer facilities. This shared operational arrangement contributes to improved operating efficiencies of a single operator and leverages the expertise and resources of a single, large engineering firm.

LBRID and NBRID also share administrative and management staff provided by the County of Napa as described below. This arrangement provides opportunities for improved efficiencies through economies of scale, and increased access to staff expertise and the resources of a larger organization.

Staffing

NBRID contracts with the County of Napa for administrative and professional services.[824] The Deputy Director of Public Works serves as District Engineer and is principally responsible for overseeing day-to-day operations of the water and wastewater facilities. Administration, procurement of materials and services, records, technical assistance and project management of the utilities are conducted by the Assistant Engineer and Engineering Manager.

[824] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.

Operation of the facility is provided by a contract with a private firm, which also services NBRID facilities.[825]

Wastewater Flow

The NBRID WWTF serves approximately 360 single-family residences of which 330 "are currently active." [826]

Figure 13-3: Wastewater Flows 2014-2018 and Buildout Conditions

NBRID Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
Flow (MG)	15.891	14.430	13.991	13.808	10,238	Not est'd

Source: NBRID MSR Request for Information.

Wastewater Infrastructure and Facilities

The District's wastewater infrastructure consists of the wastewater collection system and the wastewater treatment plant.

Wastewater Treatment Plant

The disposal of wastewater is allowed under WDR Order R5-2013-0065, issued by the Central Valley Water Board; the order allows NBRID to treat and dispose of an average dry weather flow of 50,000 gallons of treated water per day.[827]

The District's current plant was constructed in 2013. The plant is a membrane bioreactor (MBR) package treatment plant that sends wastewater to two ponds for disinfection and then pumped to a 50,000-gallon storage tank prior to spraying on 60 acres of land application areas. Runoff from the spray fields is returned to the storage tank. Sludge is disposed in a landfill. [828]

The system's design capacity is 51,000 gallons per day.[829]

The treatment plant addressed prior complaints and orders from the RWQCB. The new plant provided a 100,000 gallons per day capacity membrane system to comply with waste discharge requirements. The system is augmented during winter by an MBR train of equal capacity designed to handle additional flows diluted by rainstorms.[830]

A 2018 survey conducted by NCFCWCD and the Solano County Water Agency (SCWA) identified a number of factors affecting Lake Berryessa water quality, including fires, spills from activities adjacent to the Lake including wastewater spills, and other activities. One of the recommendations stated that Napa County and SCWA should "review plans for new wastewater facilities associated with new or redeveloped recreation areas to ensure that

[825] Specialized Utilities Services Program, or SUSP, was awarded the contract, and began operations on November 1, 2018.
[826] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.
[827] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[828] Lake Berryessa 2018 Watershed Sanitary Survey Final Report, Prepared for NCFCWCD and Solano County Water Agency.
[829] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.
[830] RFQ/RFP to Operate, Maintain and Manage Water/Wastewater Facilities, LBRID and NBRID, March 27, 2018.

adequate pond capacity is provided and that the ponds are located as far from Lake Berryessa as possible."

To provide more details regarding the integrity of the District's sewer system and adequacy of its services this report includes the analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

According to a 2018 report, there have been a total of six spills from the NBRID system from 2014 through 2017 resulting in one spill of 600-1,000 gallons reaching Lake Berryessa. Over a 4-year period, the six spills equate to an average of 1.5 spills per year. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[831]

In 2019 two spills were reported, both resulting in a total of 7,500 gallons reaching surface waters due to pump station failures.[832]

Collection System

NBRID has approximately 6.4 miles of sewer pipes (gravity and force mains) and four pump stations.[833]

Infrastructure Needs

The District is evaluating the need for a number of sewer capital improvements including:[834]

- Capacity upgrades to the wastewater treatment plant
- Rehabilitation/replacement of the District's four (4) sewage lift stations
- Repair/replacement of components of the Districts land application areas and equipment
- Abatement of sewer collection system inflow/infiltration

The District indicates that construction of the Lift Station No. 2 pump replacement project will begin in January 2020.[835]

Shared Facilities

The District has no shared facilities.

[831] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.
[832] SWRCB CIWQS SSO Public Report.
[833] 2011 Lake Berryessa Region: Municipal Service Review.
[834] History of District Finances and Projects - Formation through June 2019, NBRID mtg. 10/8/19.
[835] Follow-up response rec'd 12/9/19 to NBRID interview 12/4/19.

GOVERNANCE STRUCTURE OPTIONS

The last MSR for the District in 2011 proposed reorganizing the District as an independent community services district (CSD).[836] At that time LAFCO determined that acrimony between the County and District residents justified the reorganization to enable a greater role by residents in District management and operations, and to provide greater flexibility for local control and provision of other services as the community develops. No further action was taken on the proposal.

While formation of an independent district would increase local control, the current governance structure, whereby County staff manage the District in concert with NBRID, provides significant benefits from the sharing of operational staff and planning resources.

Reorganization as a County Service Area (CSA)

There are only six resort improvement districts remaining in the State, two of which are in Napa County. Transition of the resort improvement districts to community service districts was streamlined in the Government Code in 2010; however, that streamlined process expired in 2018. Consequently, the principal act for RIDs is not updated regularly and RIDs are becoming an antiquated governance structure. At present, the most likely alternatives for RIDs are a CSD, a water district or a county service area (CSA).

Reorganization as a county service area (CSA) is an alternative that would modernize the District's structure and retain the benefits of shared County management as a County-dependent district. CSAs are empowered to provide all of the services provided by LBRID. As a dependent district, the County Board of Supervisors would continue to be the governing body of the District, allowing for consistency in governance and operations. The transition would have no impact on the operations of the District, except in name only.

The County noted a concern that a CSA may not be able to compel connection to a utility system similar to a RID (Public Resources Code §13074). However, CSAs are empowered by Government Code §25212(a) to "to adopt and enforce rules and regulations for the administration, operation, use, and maintenance of the facilities and services authorized by Article 4," giving a CSA the ability to compel connection as it relates to use of the District's facilities. Additionally, the County can compel connection within its Code of Ordinances if desired.

RECOMMENDATIONS

1. While the District has identified its capital needs, NBRID also should develop a five-year capital plan to anticipate future system repair and replacement costs, and to assure that current rates and reserves will be adequate to address future needs.

2. The District should undertake revisions to its rate structure and prepare a cost of service study as recommended by the recent third-party review of its proposed rates. As of the writing of this report, the cost of service study has been initiated.

3. Similar to prior MSR determinations, it is recommended that the District expand the content available on its website to include financial documents such as past and current

[836] 2011 Lake Berryessa Region: Municipal Service Review.

budgets and financial reports. Additional content can be added, as resources permit, to improve public access to District information and to comply with Assembly Bill 2257 (Government Code §54954.2).

4. The District and the County should explore the option of reorganizing the District as a CSA to assure that current operations and funding, including the resort district's ability to compel connections to the district system, would not be adversely affected.

5. The County should expand the District's current financial reporting to improve public accessibility – the current annual audits are combined with other County financial reporting and consequently the detail and explanation are abbreviated compared to a typical district audit document. Budget documents for the District did not clearly document the resulting fund balances.

NAPA BERRYESSA RESORT IMPROVEMENT DISTRICT DETERMINATIONS

Growth and Population Projections

- No significant increase in current District population and service demand that would affect service delivery and infrastructure is anticipated within the timeframe of this MSR.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- The District does not qualify as a Disadvantaged Community.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The District has undertaken major upgrades to its water and wastewater system since the 2011 MSR identified significant infrastructure needs.
- Ongoing improvements to replace aging infrastructure and to upgrade facilities are planned and/or underway.

Financial Ability of Agencies to Provide Services

- The District's net surplus does not fully cover annual depreciation, indicating that the District may have difficulty accumulating adequate funds for future capital repair and replacement.
- A recent rate review and forecast indicated that rate increases were required during the five-year forecast period; capital improvements were not explicitly included in the forecast.
- Current rates approach maximum typical burden measures compared to resident incomes.
- The District appears to have adequate reserves relative to operating costs, however, the lack of a five-year capital plan precludes a determination as to the adequacy of rates and reserves to fund future improvements.

Status of, and Opportunities for, Shared Facilities

- NBRID is administered by County staff in concert with LBRID. The two County-dependent resort improvement districts also share contract services by a single operator.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The County Board of Supervisors serves as directors of the District, and hold regular, noticed meetings.
- The District maintains a website, however, it contains minimal content beyond payment links and posted responses to questions from 2016.
- District staff inform residents through mailings and newsletters, posts on the NextDoor social media site, and in-person meetings as needed.

Relationship with Regional Growth Goals and Policies

- NBRID is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- NBRID's SOI excludes substantial areas within its boundaries which are designated for single-family development, however, those areas currently are not served by the District and there are minimal prospects of those lands developing and requiring services within a ten-year time horizon.

14. NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

AGENCY OVERVIEW

Napa County Flood Control and Water Conservation District Profile			
Contact Information			
Contact:	Phillip Miller, Deputy Director, Flood Control and Water Resources		
Address:	804 1st Street Napa, CA 94559	*Website:*	https://www.countyofnapa.org/1403/Flood-Control-Water-Conservation-Distric
Phone:	707-259-8600	*Email:*	phillip.miller@countyofnapa.org
Formation Information			
Date of Formation:	1951	*Agency type:*	Flood Control and Water Conservation District
Governing Body			
Governing Body:	Board of Directors (all five County Supervisors, the mayors of the five incorporated cities/town, and a council member from the City of Napa)	*Members:*	11
Manner of Selection:	Designated members elected by their respective constituencies	*Length of term:*	Varies by member agency
Meetings Location:	County of Napa's Administration Building	*Meeting date:*	First Tuesday of each month at 1:30 P.M.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	140,779
Purpose			
Enabling Legislation:	Napa County Flood Control and Water Conservation District Act (Chapter 1449, Statutes of 1951)	*Empowered Services:*	Acquire, distribute, and store water for domestic, irrigation, and other beneficial uses. Control, reclaim, and retain flood and storm waters for beneficial uses.

			Perform studies or analyses as it relates to water supplies, water rights, and the control of flood and storm waters for beneficial uses. * NCFCWCD is also authorized to exercise the right of eminent domain to take land, water, water rights, or other property necessary to carry out its duties.
Municipal Services Provided (directly or by contract)	See "Empowered Services" above		
Area Served			
Boundary Size:	506,517 acres	*Location:*	Coterminous with County boundary
Current SOI:	Coterminous with County boundary	*Most recent SOI update:*	2016
Municipal Service Reviews			
Past MSRs and Special Studies:	2016 Municipal Service Review and Sphere of Influence Update Checklist NCFCWCD 2007 Municipal Service Review NCFCWCD		

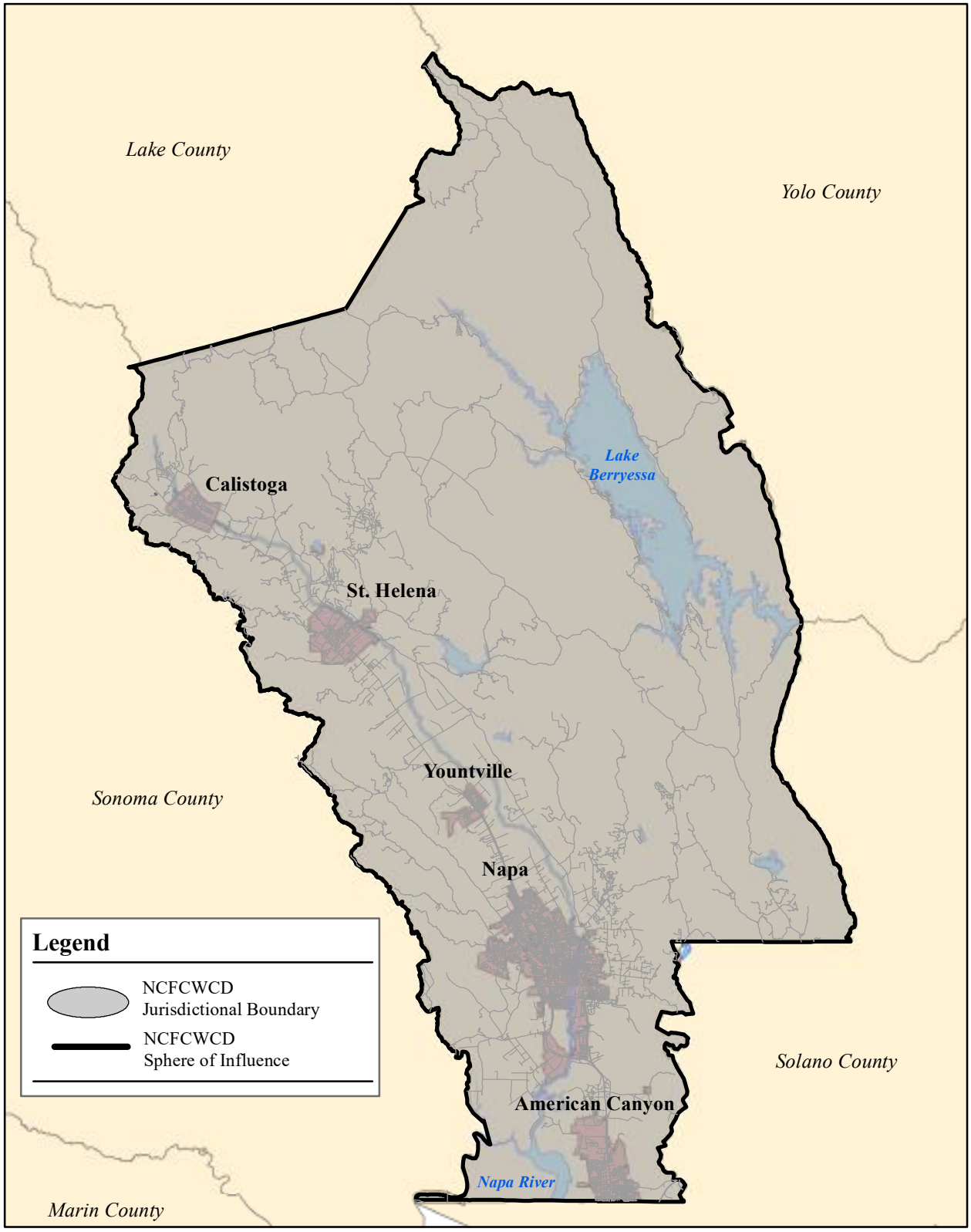
Boundaries

The NCFCWCD boundaries are coterminous with the boundaries of Napa County.

Sphere of Influence

The NCFCWCD SOI is coterminous with the boundaries of Napa County.

Figure 14-1 Napa County Flood Control and Water Conservation District (NCFCWCD)



N

0 2.25 4.5 Miles

December 12, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

NCFCWCD is organized as an independent special district under the Napa County Flood Control and Water Conservation District Act (Chapter 1449, Statutes of 1951). It is empowered to:

- Acquire, distribute, and store water for domestic, irrigation, and other beneficial uses
- Control, reclaim, and retain flood and storm waters for beneficial uses.
- Perform studies or analyses as it relates to water supplies, water rights, and the control of flood and storm waters for beneficial uses.

NCFCWCD is also authorized to exercise the right of eminent domain to take land, water, water rights, or other property necessary to carry out its duties.[837]

Upon its formation, the County Board of Supervisors served as the District's Board. Membership was expanded in 1996 to include 11 members consisting of all five County Supervisors, the mayors of the five incorporated cities/town, and a council member from the City of Napa. Regular meetings are held the first Tuesday of each month at the County of Napa's Administration Building (the District's website and meeting agenda do not indicate the location of the meetings).

The District's website is located on the County's website. Agendas and related documents, minutes and meeting video are posted on the County website, accessible from the District's webpage. The District's webpage does not include financial documents, although the budget and financial report is included in the County's documents available on the County's website. The District's webpages include information about projects and programs, and Frequently Asked Questions about flood control.

GROWTH AND POPULATION PROJECTIONS

NCFCWCD's population corresponds to the total County population of 140,779.[838] Population is projected to increase approximately 0.53 percent annually through 2030 to a total population of 148,995.[839]

DISADVANTAGED UNINCORPORATED COMMUNITIES

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[840]

NCFCWCD is County-wide and serves all communities within Napa County. One community in the County, LBRID, has been determined to qualify as a "Disadvantaged Community" for water and wastewater purposes; no other DUCs have been identified by LAFCO.

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[837] Sec. 6 of enabling act.
[838] Cal. Dept. of Finance 2019.
[839] 2019 Population estimates by County Planning Dept. as reported by LAFCO (6/13/19).
[840] Napa Local Agency FormationCommission, Policy on Disadvantaged Unincorporated Communities, 2018.

FINANCIAL ABILITY TO PROVIDE SERVICES

The Napa County Flood Control and Water Conservation District (NCFCWCD) is an independent county-wide district. The District is staffed by the County of Napa Public Works Department. Funding for its activities come from several sources, dedicated to specific activities, including State loans for infrastructure, a county-wide ½ cent sales tax for the Napa River/Napa Creek Flood Protection Project,[841] and revenues from the District's subcontracts of State and Federal water entitlements to cities and special districts in Napa County, and special assessments for the Rutherford Maintenance Project. The District does not receive property taxes.

Figure 14-2a: Summary of Selected Financial Information, Napa County Flood Control & Water Conservation District

Napa County Flood Control & Water Conservation District	
FY18-19 Budget	
Revenues	$21,172,400
Countywide Watershed Mgmt	2,758,100
NPDES Stormwater Mgmt	524,100
Rutherford Maintenance	99,700
Oakville to Oak Knoll Maintenance	90,500
Flood Control Project	4,000,000
Flood Authority Administration	150,200
Napa Flood Project Measure A*	*
Napa Flood Proj Maint Measure A*	*
Water Supply Contracts	13,452,300
Oakville CFO	97,500
* Measure A projects funded by fund balances	

[841] Measure A expired June 30, 2018; the District continues to account for funds pending final disposition of remaining balances.

Figure 14-2b: Summary of Selected Financial Information, Napa County Flood Control & Water Conservation District

Napa County Flood Control & Water Conservation District	
FY18-19 Budget	
Expenditures (includes use of fund balances)	$40,706,600
Countywide Watershed Mgmt	2,758,100
NPDES Stormwater Mgmt	524,100
Rutherford Maintenance	98,200
Oakville to Oak Knoll Maintenance	90,500
Flood Control Project	21,035,700
Flood Authority Administration	150,200
Napa FLD Project Measure A*	2,114,400
Napa Flood Project Maintenance Measure A*	885,600
Water Supply Contracts	12,952,300
Oakville CFO	97,500
Ending Fund Balance as % of Expenditures	**436%**
Ending Fund Balance	$90,091,000
Total Debt Outstanding	**$13,926,000**

2019-11-19

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's FY19 budget is balanced through the use of annual revenues, augmented by fund balances when necessary. The District frequently receives water contract refunds from the Department of Water Resources; because the annual amounts are unpredictable, the District adds an account of $500,000 as an approximation of these potential revenues.[842]

Non-operating special revenue accounts were established to receive Measure A funds from the Napa County Flood Authority after the expiration of Measure A on June 30, 2018. The Flood District established Subdivisions 800110 and 800120 to receive Measure A funds for the Napa Flood Project[843] pending final disposition of remaining balances and payments.

Specific projects are funded by a number of means. For example, the Countywide Watershed Management Program has three zones of benefit (City of Napa, Napa River Watershed and Berryessa/Putah Creek Watershed). NRVCWCD also manages projects funded by the Rutherford Assessment District and the OVOK Community Facilities District.

[842] Correspondence with Phillip Miller, Napa County, July 15, 2019.
[843] Correspondence with Phillip Miller, Napa County, July 15, 2019.

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The District's FY18 CAFR reported a total ending fund balance of $90.1 million. This fund balance is largely restricted to specific activities; the unassigned fund balance is limited to $631,000 in the Water Supply Contracts Fund.[844] The balance represents an increase of $62.3 million compared to the prior year due to $66.4 million of "Revenue from Other Governments" comprised of capital grants received during FY18. This increase was mainly due to the sunset of Measure A sales tax which provided 20 years of funding for the Napa River/Napa Creek Flood Project. The balance of the unspent funds in the amount of approximately $50 million for capital improvement costs for the project, and approx. $15.5 million for future maintenance of the project were transferred to special revenue accounts pending final disposition.[845]

The CAFR does not distinguish short-term assets and liabilities, so standard measures of "liquidity" cannot be calculated. However, fund balances appear more than sufficient to provide for required debt coverage and cash flow.

Net Position

The District's FY18 CAFR reports an ending net position of $165 million, an increase from the prior year of $64.6 million, largely due to the receipt of capital grants. The unrestricted portion of the net position was $335,000.

Rates and Charges

The District does not provide water directly to end users; water allocations are sold to subcontractors, who in turn provide water to and bill end users. The District basically passes-through the cost of water it obtains from the Department of Water Resources.

Long-term Debt

The District's FY18 CAFR reported $16.8 million of outstanding State revolving loan funds.[846] The FY19 budget shows a proposed appropriation of $16.8 million towards State revolving loan principal plus additional interest payments; "Flood Control Project" fund balances provided the source of funding to fully repay the loans in FY19.

Pension and OPEB Liabilities

The District reports no pension or OPEB liabilities. Because the District utilizes County staff or consultants, its balance sheet carries none of the corresponding personnel-related liabilities.

[844] NCFCWCD Financial Statements, Balance Sheet Divisional Breakdown, June 30, 2018, pg. 23.
[845] Correspondence with Phillip Miller, Napa County, July 15, 2019.
[846] NCFCWCD Financial Statements, Note 5 – Long-Term Liabilities, June 30, 2018, pg. 19.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the District's depreciable structures and improvements declined due to $100,000 of depreciation, however, additions of $1.0 million of assets during the year more than offset the depreciation from FY17 to FY18.[847] The depreciated value is about 50 percent of total value of depreciable capital assets.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District's web page can be found on the County's website and includes links to board meeting agendas and minutes.[848]

Financial Policies – The District follows financial policies established for the County of Napa.

Comprehensive Annual Financial Report (CAFR) – The District's financials are documented in a CAFR prepared annually.[849]

Capital Improvement Program (CIP) – The District does not have a 5-year CIP; it reports that its only capital project is the Napa River Flood Protection Project.[850]

[847] NCFCWCD Financial Statements, Note 4 – Capital Assets, June 30, 2018, pg. 18.
[848] https://www.countyofnapa.org/1403/Flood-Control-Water-Conservation-Distric
[849] NCFCWCD Financial Statements, June 30, 2018.
[850] Correspondence with Phillip Miller, Napa County, July 15, 2019.

WATER SERVICES

A special act of the California legislature created NCFCWCD in 1951.[851] NCFCWCD's water conservation responsibilities consist of administering contracts for water supply to local agencies for water from the State Water Project (SWP) and the U.S. Bureau of Reclamation's Solano Project. These services were initiated in 1963 with an agreement with the State of California's Department of Water Resources (DWR) for an annual water entitlement from the State Water Project.

NCFCWCD is also empowered to perform studies or analyses as it relates to water supplies and water rights.

Type and Extent of Services

Services Provided

NCFCWCD subcontracts its SWP entitlements to the Cities of Napa, American Canyon, and Calistoga. Entitlements are described below under "Water Supply."

In addition, the United States Bureau of Reclamation grants NCFCWCD an entitlement of water drawn from Lake Berryessa (the "Solano Project"), which the District in turn subcontracts as shown below under "Water Supply".

The District does not own any water supply facilities; these are the responsibility of the entities subcontracting for the water.

Staffing

NCFCWCD is staffed by the County of Napa Public works Department.

Water Supply

As noted above, NCFWCD administers contracts for entitlements to two primary water sources: 1) the SWP; and 2) the Solano Project.

State Water Project (SWP)

NCFWCD's agreement with the State[852] provides entitlement to 29,025 afy[853] of water in return for NCFWCD's payment of a share of costs of the Northbay Aquaduct, which delivers water entitlements to Napa and Solano counties.

NCFWCD's subcontracts provide the following amounts of water:

Napa	21,900 afy
American Canyon	5,200 afy

[851] Napa County Flood Control and Water Conservation District Act (Chapter 1449, Statutes of 1951).
[852] Water Supply Contract between the State of California Dept. of Water Resources and Napa County Flood Control and Water Conservation District, inc. amendments through No. 24 Dec. 31, 2013 (no other amendments through 2017). The contract was amended April 16, 2019 to, among other changes, extend the term from 2038 to 2085 (or longer depending on outstanding bonds).
[853] See Table A Annual Entitlements (also shown as "Exhibit A") in Water Supply Contract.

Calistoga	1,925 afy
Total	29,025 afy

The water supply delivery capability of the SWP may be highly variable depending on sequences of wet water years or critically dry years. Most of the subcontractors of SWP water rely on diversions of water from the Sacramento-San Joaquin Delta, which sources its water from the Sierra Mountain Range.

Water supply depends on rainfall, snowpack, runoff, water in storage facilities, and pumping capacity from the Delta, as well as operational constraints for fish and wildlife protection, water quality, and environmental and legal restrictions.[854] To assist planning by water agencies, the State evaluates water delivery capability of the SWP every two years. The most recent 2017 analysis estimated a slight increase in deliveries compared to 2015 estimates.[855]

In June 2019, SWP allocations were increased as a result of the prior winter's "robust storms…above average snowpack…and reservoir levels" that will provide a buffer against drier conditions the following year.[856]

The costs of SWP water to contractors include two components: 1) the Delta Water Charge, which includes the cost of conservation facilities, and 2) the Transportation Charge that covers the use of facilities required to deliver water to the service area of each SWP water contractor.[857] The most recent forecast of water rates indicated an increase of approximately 5.2 percent in the cost per afy from 2018 to 2023 (including inflation), factoring in future operating and capital costs.[858]

Solano Project

NCFWCD's agreement with the United States Bureau of Reclamation provides entitlement to 773 afy of water.[859] NCFWCD's subcontracts provide the following amounts of water:

Lake Berryessa Resort Improvement District	200 afy
Napa Berryessa Resort Improvement District	200 afy
Spanish Flat Water District	200 afy
Private Property Owners (five)	173 afy
Total	773 afy

[854] State Water Project website, referenced 11/12/19, https://water.ca.gov/Programs/State-Water-Project
[855] The Final State Water Project Delivery Capability Report 2017, March 2018, Ca. Dept. of Water Resources.
[856] https://water.ca.gov/News/News-Releases/2019/June/State-Water-Project-Allocations-Increase-to-75-Percent
[857] https://water.ca.gov/Programs/State-Water-Project/Management/Cost-and-Revenue
[858] Management of the California State Water Project, Bulletin 132-17, January 2019, Table 14-12.
[859] NCFCWCD MSR and SOI Checklist, Napa LAFCO, June 2016.

Water Demand

Current entitlements are adequate to meet the current and anticipated needs of subcontractors. Refer to city and district chapters of this MSR for further information about subcontractor water demand for those subcontracting agencies.

Water Infrastructure and Facilities

Subcontractors that receive water entitlements from the SWP and Solano Project are responsible for providing local facilities for collection and treatment of water. Refer to city and district chapters of this MSR for further information about subcontractor water infrastructure and facilities.

Water Quality

Subcontractors that receive water entitlements from the SWP and Solano Project are responsible for treating the water and assuring it meets water quality standards.

FLOOD CONTROL SERVICES

NCFCWCD's enabling act empowers the District to coordinate and manage flood control projects in the County.[860] Flood control activities include:

1) Facilitated designs for the Napa River/Napa Creek Flood Protection Project and funding through a Countywide half-cent sales tax local funding match, and coordinated related projects funded by the tax measure ("Measure A").

2) Coordinates with local jurisdictions on implementing and maintaining local flood control and stormwater quality improvements funded by a District assessment (not collected in American Canyon, which does not receive services).

3) Contracted services from specific cities where the District is reimbursed, including American Canyon.

Activities include clearing and maintaining banks and channels, including areas within the Napa River and its tributaries, and bank stabilization; operating a flood warning system; installing and maintaining storm drain trunk lines; managing groundwater and overseeing adjudicated watersheds; preparing special studies for flood protection and water management, and developing flood plain management regulations.

4) Administers the Napa County Stormwater Management Program (NCSWMP) and coordinates the individual activities of NPDES permits and programs of the five cities and the County. Funding is provided by the participating agencies.

The District stores a mobile pump station at the Napa River Reclamation District's (NRRD) treatment facility and is available for use in the event of flooding in that area. The NRRD, upon its formation, inherited a pump station from the NCFCWCD.

[860] Napa County Flood Control and Water Conservation District Act (Chapter 1449, Statutes of 1951).

RECYCLED WATER SERVICES

The District assists with planning services including recycled water.

The 2016 MSR/SOI for NCFCWCD described the District's work on the Milliken-Sarco-Tulocay (MST) Recycled Water Plan; the Plan provided the basis for construction of facilities for recycled water transport to MST by the County and NapaSan planned to begin operation in Spring 2016.

GOVERNANCE STRUCTURE OPTIONS

The most recent MSR and SOI review prepared in 2016 for NCFCWCD indicated there were no governance options "to enhance services and/or eliminate deficiencies or redundancies."[861] However, the current MSR process has identified possible governance structure options.

Zones of Benefit

NCFCWCD could establish "zones" to provide enhanced reclamation services to existing districts in the County. The NCFCWCD is empowered under its legislative act to establish zones for assessment purposes to provide elevated and focused flood control and water conservation services to a particular area; the assessments would be directly funded by benefiting property owners.[862] The 2016 NCFCWCD MSR/SOI review determined that, when appropriate, NCFCWCD should explore opportunities to establish project zones.

This approach, for example, could enable NRRD to reorganize and provide enhanced reclamation services as a zone of NCFCWCD (see Chapter 15 NRRD Governance Structure Options).

RECOMMENDATIONS

1. NCFCWCD, in collaboration with NRRD, should explore the costs and benefits of reorganizing NRRD as a zone of NCFCWCD for the purpose of providing reclamation services (see Chapter 15 NRRD Governance Structure Options).

[861] NCFCWCD MSR and SOI Checklist, Napa LAFCO, June 2016.
[862] ibid, NCFCWCD MSR/SOI Checklist, 2016.

NAPA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT DETERMINATIONS

Growth and Population Projections

- The District's boundaries and service population corresponds to Napa County's area and population, anticipated to grow at an average rate of about 0.5 percent annually.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- The District does not own public facilities that directly provide water or wastewater services, but does provide planning, technical support and financial assistance to other agencies and communities with infrastructure needs.

Financial Ability of Agencies to Provide Services

- The District provides "conduit" services to obtain and direct financial resources to infrastructure and service needs of other agencies and communities.
- The District does not receive a share of property tax and has no ongoing sources of funding other than project grants and pass-throughs of subcontractor payments.

Status of, and Opportunities for, Shared Facilities

- The District collaborates with local agencies on projects, planning and technical efforts on shared and regional facilities.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District's board includes membership by all County supervisors, and representatives of all incorporated cities/town and a council member from the City of Napa.
- The District is empowered with the ability to create "zones of benefit" that could enable small communities to benefit from the staff expertise of a larger organization for reclamation purposes.

Relationship with Regional Growth Goals and Policies

- County departments staff the District and provide for close coordination with regional growth goals and policies.

15. NAPA RIVER RECLAMATION DISTRICT NO. 2109

AGENCY OVERVIEW

Napa River Reclamation District No. 2109 Profile			
Contact Information			
Contact:	Penny Wilson, Assistant Manager/District Secretary		
Address:	1501 Milton Rd Napa, CA 94559	*Website:*	http://nrrd2109.org/
Phone:	707-255-2996	*Email:*	pennynrrd@msn.com
Formation Information			
Date of Formation:	1974 as Edgerly Island Reclamation District (EIRD)	*Agency type:*	Reclamation district
Governing Body			
Governing Body:	Board of Directors	*Members:*	5
Manner of Selection:	Landowner-voter system	*Length of term:*	4 years
Meetings Location:	1598 Milton Road, Napa	*Meeting date:*	First Thursday of each month at 7:00 P.M.
Mapping and Population			
GIS Date:	2019	*Population (2019):*	333
Purpose			
Enabling Legislation:	Water Code 50000-53901	*Empowered Services:*	Water Code 50905 (added 1981) authorized EIRD to provide sewage services in addition to reclamation.
Municipal Services Provided (directly or by contract)	Sewer and limited reclamation services		
Area Served			
Boundary Size:	74 acres	*Location:*	Eight miles southwest of the City of Napa along the western shoreline of the Napa River
Current SOI:	54 acres	*Most recent SOI update:*	2016

Napa River Reclamation District No. 2109 Profile	
Municipal Service Reviews	
Past MSRs and Special Studies:	2016 Municipal Service Review and SOI Update Napa River Reclamation District No. 2109 2007 Napa River Reclamation District No. 2109 SOI Review 2006 Governance Study Napa River Reclamation District No. 2109 2005 Comprehensive Study Napa River Reclamation District No. 2109 Service Review 2005 Sanitation and Wastewater Treatment MSR Phase I: Agency Profiles

Boundaries

NRRD's adopted jurisdictional boundary is comprised of one contiguous area consisting of approximately 74 acres. NRRD's 74-acre service area includes 134 residential units and 14 undeveloped lots in Ingersoll Tract and Edgerly Island.[863]

Sphere of Influence

NRRD's SOI was adopted in 1985 and included approximately 54 acres entirely within its jurisdictional boundary but excluded a 20-acre parcel that is owned by the District and is the site of its administrative office and sewer treatment facility.[864]

The 2016 NRRD MSR recommended that LAFCO expand NRRD's sphere of influence to include the 0.4-acre portion of the study area on which the District's administrative office is situated. The property was added to the SOI in December of 2016.[865]

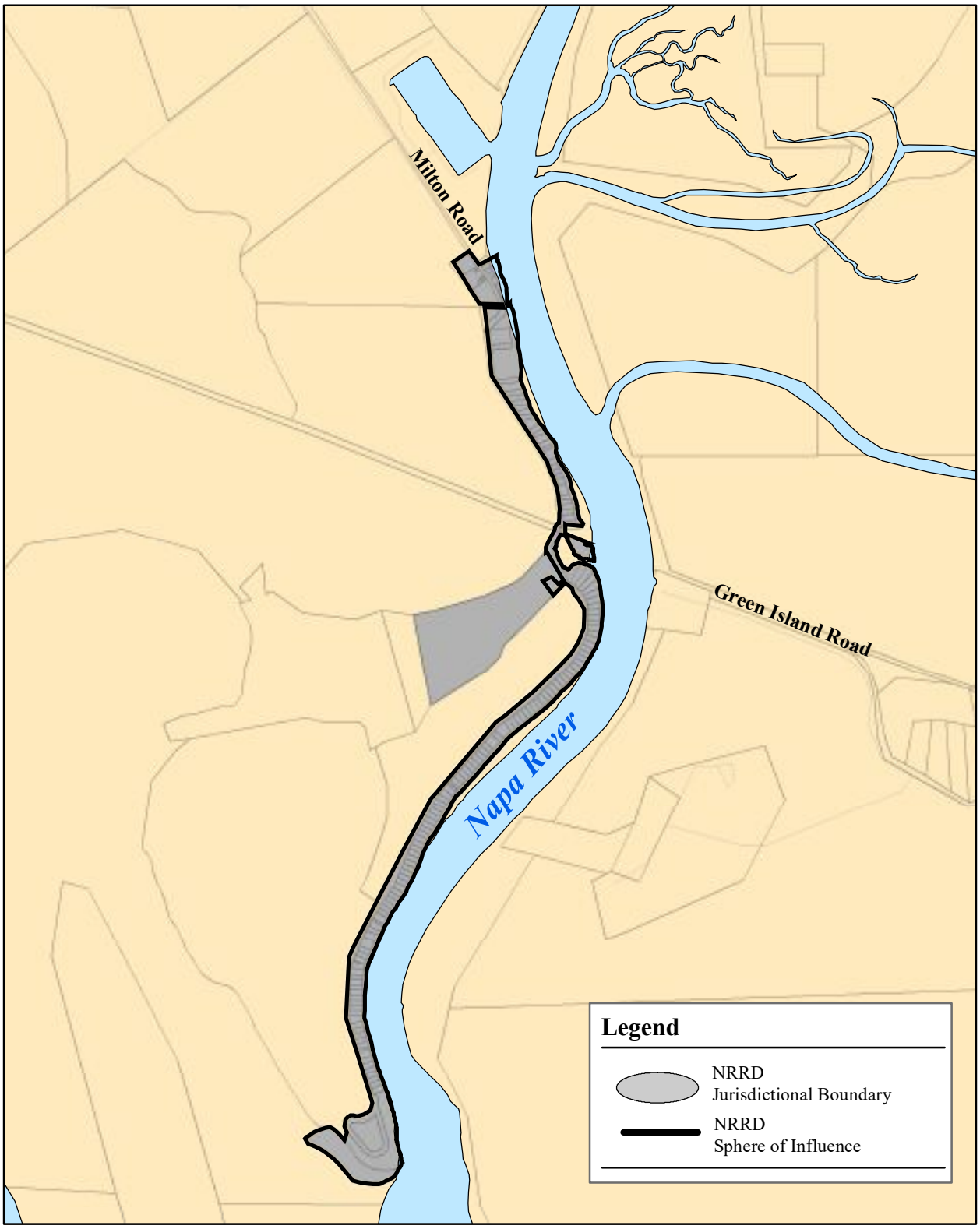
The remaining 19.6 acres of the District's boundary outside its SOI was not recommended to be added pending resolution of NRRD's current status as a reclamation district, similar to findings of the 2007 SOI Update.[866] When considering the potential SOI expansion to include the 19.6 acres, the 2016 MSR cited the 2007 SOI review in stating that "in the absence of addressing inconsistencies between NRRD's service activities and principal act, any changes to the SOI would be premature."[867]

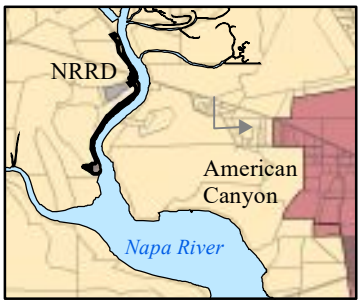
The 19.6 acres includes NRRD ponds and treatment facilities and is zoned by the County as "Agricultural Watershed: Airport Compatibility." The property is owned by the District and required for its wastewater system, and no new development requiring extension of wastewater service is planned or likely on the property; therefore, no expansion of its SOI is appropriate at this time.

[863] Correspondence with NRRD 10/8/19.
[864] Napa River Reclamation District No. 2109 MSR & SOI Update, LAFCO of Napa County, Final Report, Dec. 2016.
[865] Napa LAFCO Resolution No. 2016-5, Dec. 5, 2016.
[866] Napa River Reclamation District No. 2109 SOI Review, Final Report, April 2007.
[867] Napa River Reclamation District No. 2109 MSR & SOI Update, LAFCO of Napa County, Final Report, Dec. 2016, pg. 24.

Figure 15-1

Napa River Reclamation District No. 2109 (NRRD)





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December 12, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

NRRD is organized as an independent special district under the Reclamation District Act, Division 15 California Water Code empowered to construct, maintain, and operate reclamation works necessary for the unwatering and watering of district land. In addition, the Water Code provides that NRRD "may provide for the disposal of sewage, industrial waste, or other waste and, for that purpose, may design, finance, construct, operate, and maintain sewage treatment works."[868]

NRRD's five-member board of trustees are elected by a landowner-voter system[869] for a four-year term on a rotating basis. All seats have remained filled, and any vacancies that have occurred have been filled by Board of Supervisors' appointment.[870]

Board meetings are held the first Thursday of each month at 7:00 P.M. at 1598 Milton Road, Napa, California 94559. The meeting room is wheelchair accessible.[871]

The Financial Auditor and the Legal Counsel for NRRD (Napa County Counsel) are contracted services. The County Auditor-Controller provides bookkeeping services.[872]

The District's Auditor prepares an annual Financial Report every two years; the report is completed within a timely manner. The NRRD budget and Financial Report are not available on its website but were provided to the MSR consultant.

NRRD maintains a website that includes agendas for forthcoming meetings and agendas and minutes of past meetings, although it is lacking basic financial documents (e.g., budget, financial audits). The District was responsive when agenda documents not posted to the website were requested. Public workshops are held to provide the community with information about District plans, and the public is invited to Board planning retreats. The District is sponsoring an ongoing series of community meetings to discuss District flood control improvements and funding options; the District hopes to make decisions based on resident input by mid-2020.[873]

The District distributes a newsletter annually describing preparations and emergency procedures to manage potential flooding.

GROWTH AND POPULATION PROJECTIONS

The District reports 134 developed and 14 empty parcels in the District.[874] Population estimates indicate 132 households and population of 333,[875] a slight decline from the 340 estimated in the 2016 NRRD MSR. Forecasts predict a 2030 population of 340.[876] The District

[868] California Water Code 50905 (added 1981).
[869] The landowner-voter system allows each landowner one vote for each dollar that his or her property is assessed.
[870] Interview with NRRD, Dec. 12, 2019.
[871] NRRD Meeting Agenda, Oct. 3, 2019.
[872] Interview with NRRD, Dec. 12, 2019.
[873] Interview with NRRD, Dec. 12, 2019.
[874] Correspondence from NRRD, 10/8/19.
[875] 2019 Population estimates by County Planning Dept. as reported by LAFCO (6/13/19).
[876] Population forecasts by LAFCO and Cal. Dept. of Finance as reported by LAFCO (6/13/19).

reports approximately two new service connections over the past ten years, and overall a net reduction due to the replacement of multiple older units with a single new project.[877]

Development of the 14 empty parcels would add approximately 35 residents, indicating a buildout population of about 368. Buildout population estimate assumes full occupancy of 14 additional units at 2.52 persons per household reported in LAFCO's population forecast estimates for unincorporated areas.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[878]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Napa River Reclamation District primarily relies on assessments[879] which account for about 85 percent of its revenues,[880] to fund its provision of wastewater services. Property taxes comprise the balance.

Figure 15-2: Summary of Selected Financial Information, Napa River Reclamation District

Napa River Reclamation District Wastewater Operations	
FY18-19 Water Budget Net	**$20,000**
Revenues	$192,000
Expenditures (excluding depreciation)	$172,000
Ending Fund Balance as % of Operating Revenues	**420%**
Ending Fund Balance	$722,000
Debt Service as a % of Operating Revenues	**na**
Total Debt Outstanding	$0
Monthly Sewer Rates as a % of Household Income	**2.2%**
Typical Monthly Rate	$148
Median Household Income (2017)	$79,600
Pension+OPEB Total Payments % of Revenues	**na**
Unfunded Pension Liability	*No pensions*
Unfunded OPEB Liability	*No OPEB*

2019-11-06

[877] Interview with NRRD, Dec. 12, 2019.
[878] Napa Local Agency FormationCommission, Policy on Disadvantaged Unincorporated Communities, 2018.
[879] According to the District, the County assigns the District's assessment revenue to a category labelled "Water Use Fees" (NRRD email, 5/9/19).
[880] NRRD Final Budget for FY2018/19.

Balanced Budget

For any agency, recurring operating deficits are a warning sign. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

The District's FY19 budget shows revenues exceeding expenditures by $20,000 before deducting depreciation expense; after the budget subtract depreciation of $20,000 revenues equal expenditures.[881] Prior financial reports also show a positive annual balance before depreciation.

The District budgets receipts of approximately $24,000 of property tax annually, which is about 18.7 percent[882] of each tax dollar from within its boundaries. The property tax revenues are the only source of funding for reclamation services and facilities since NRRD has no revenues dedicated for that purpose.

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

The District reported $702,400 of "Total Current Assets" (including cash and receivables) at the end of FY18,[883] which represents nearly four times annual expenditures (excluding depreciation). Liquidity, which compares current assets to current liabilities, is significantly greater than 1.0, indicating substantial liquidity.

The District sets aside $20,000 annually for future capital replacement; in the FY20 budget year NRRD segregated its fund balance to distinguish reserves of $566,900 at the start of FY20 for its wastewater system. Reclamation reserves, which cannot utilize wastewater system revenues, total $113,000 at the start of FY20.[884]

Net Position

An agency's "Net Position" as reported in its CAFR or audited financial reports represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

The District's total net position is approximately $1.1 million, of which about $650,000 is unrestricted. The total net position is approximately equal to assets due to minimal liabilities.

[881] Napa River Reclamation District Final Budget for FY2018/19.
[882] County of Napa MPTS2010 Property System – Auditor Tax Increment Distribution Report 2018, TRA 072-042.
[883] Napa River Reclamation District Basic Financial Statements, June 30, 2019 and 2018, pg. 4.
[884] Interview with NRRD, Dec. 12, 2019.

Rates and Charges

The District charges all lots, including vacant lots, a base fee of $286 annually. Developed lot owners pay $1,494 annually per single-family dwelling including the base charge.[885]

Long-term Debt

The District has no long-term debt.

Pension and OPEB Liabilities

The District has no pension or OPEB liabilities according to its FY17 financial report.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The District has no CIP, however, it has recently commissioned technical studies to evaluate capital improvements for its wastewater system and for flood control.

The value of depreciable capital assets declined by about 12 percent from FY18 to FY19 as capital investments made by the District in that period did not offset depreciation.[886] The net depreciated capital assets are approximately 13 percent of their total original value.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District maintains a website.[887] The website does not provide financial documents but does have a link to agendas and minutes. Financial documents and other reports generally can be found in meeting minutes posted on the website if the applicable meeting dates are known. The website also has copies of recent engineering reports posted. The District was very responsive in providing requested documents not found on its website.

Annual Financial Reports – The District prepares a biennial financial audit. The FY18/FY19 audit was prepared in a timely manner within about 3 months of the end of the prior fiscal year.

Capital Improvement Program (CIP) – The District has no CIP, but in 2018 the District contracted for services to identify reclamation needs, potential costs and funding.[888] A 2018 sewer system evaluation identified system conditions and need, but not costs. The evaluation

[885] Ordinance No. 133 (Amending Ord. # 102), May 2, 2019. Inclusion of base charge per correspondence with NRRD 12/19/19.
[886] Napa River Reclamation District Basic Financial Statements, June 30, 2019 and 2018, Note 3 – Changes in Capital Assets.
[887] http://nrrd2109.org/
[888] Napa River Reclamation District Wastewater Treatment and Disposal System Evaluation Technical Memorandum 2018, Bracewell Engineering, Inc., January 28, 2019.

did provide a template for the District to forecast and plan for ongoing maintenance and replacement costs.[889]

Financial Forecasts – The District does not prepare financial forecasts beyond the current year budget.

[889] Edgerly Island and Ingersoll Tract Flood Management Plan and Adaptation Study, ESA, August 30, 2018 and addendum.

RECLAMATION SERVICES

Type and Extent of Services

As described above, NRRD was formed as a reclamation district and has provided authorized services, including flood control, as well as sewer services added by special legislation. The 2006 LAFCO Governance Study of NRRD concluded that reclamation services represent an authorized, active service. However, according to the District, it is the only reclamation district in California that does not own levees,[890] which limits its ability to mitigate flood risks. The absence of a dedicated funding source also constrains the extent of its services.

Services Provided

Current reclamation services provided by NRRD are limited to maintaining and operating a pump station on Edgerly Island to remove flood and storm water out of the island's roadside drainage ditch. As described in the 2016 MSR, the pump station was "inherited by NRRD from NCFCWCD upon its [NRRD's] formation."[891] The pump station on Edgerly Island was funded through an annual assessment paid by local property owners as part of a benefit zone established by NCFCWCD in 1952. This benefit zone was dissolved, and the pump station was turned over to the Napa River Reclamation District No. 2109 following its formation in 1975.[892]

The District has also provided advisory services related to flood control practices and standards. However, Napa County Superior Court determined that NRRD did not have the authority to issue a nuisance complaint.

Private ownership of levees precludes the District's ability to maintain levees to desired standards. In the early 2000's, NRRD attempted to enforce maintenance standards by issuing nuisance complaints to property owners not meeting levee standards; however, litigation determined that the District did not have authority to issue nuisance complaints despite its objective of protecting its wastewater facilities. Although deed covenants imposed by the original subdivision developer required property owners to maintain privately property on levees, those requirements expired after 20 years; private property owners have had some success encouraging their neighbors to make levee improvements to avoid the risk of adjacent property damage and resulting private lawsuits.[893] NRRD indicated that the County's building code enabled the County to enforce flood protection requirements, however those requirements were removed from the code.[894]

The District is investigating expansion of reclamation services (see "Infrastructure Needs", below). Recently the District authorized the purchase of "Tiger Dams" to help control flooding.[895]

[890] Interview with NRRD, Dec. 12, 2019.
[891] Napa River Reclamation District No. 2109 MSR & SOI Update, LAFCO of Napa County, Final Report, Dec. 2016.
[892] NCFCWCD MSR and SOI Checklist, Napa LAFCO, June 2016.
[893] Interview with NRRD, Dec. 12, 2019.
[894] Interview with NRRD, Dec. 12, 2019.
[895] Interview with NRRD, Dec. 12, 2019.

Service Area

The District encompasses 54 acres, as described above in "Boundaries". The Ingersoll Subdivision portion of the District is not served by the District's pump station; however, a mobile pump station purchased in 2004 by NCFCWCD is stored at the NRRD treatment facility and is available for use in the event of flooding.

Services to Other Agencies

NRRD does not provide sewer services to other agencies.

Contracts for Services

NRRD contracts with County departments for administrative services including legal counsel and bookkeeping services.

Overlapping Service Providers

Two other agencies are empowered to provide reclamation services and overlap the NRRD service area. The agencies are the Napa County Flood Control and Water Conservation District (NCFCWCD) and the Napa County Resource Conservation District (NCRCD). Prior to formation of NRRD, NCFCWCD formed a zone of benefit to charge an assessment to property owners for flood control purposes. According to prior MSRs, NRRD formation was prompted by a County consultant's recommendation to dissolve the zone and create an independent reclamation district in recognition of the desire of property owners "to retain local control with regard to costs and standards."[896]

Collaboration

NRRD collaborates with NCFCWCD. The two agencies recently completed a flood management plan for Edgerly Island and Ingersoll Tract; each agency contributed $75,000 towards the plan's costs.[897] As noted above, NRRD stores and utilizes a portable pump purchased by the NCFCWCD, and NFCWCD helped pay for repair of the permanent pump facility in 2015.[898] A sandbag station is provided by the County for residents' use.

Staffing

NRRD reclamation services are provided by District staff, with contract services for maintenance and engineering as needed. The District has one part-time assistant manager who handles administrative matters, and a part-time sewer plant operator. Residents assist, when needed in an emergency, with operations of the flood water pumps.

[896] NRRD MSR 2005.
[897] Interview with NRRD, Dec. 12, 2019.
Edgerly Island and Ingersoll Tract Flood Management Plan and Adaptation Study, ESA, August 30, 2018 and addendum. NRRD provided the plan's funding shares.
[898] Interview with NRRD, Dec. 12, 2019.

Reclamation Infrastructure and Facilities

Pumps

The pump station consists of three pumps that discharge water into the Napa River. Parts of one of the pumps were replaced 2015 with a cost share agreement with NCFCWCD. One of the pumps is electric and automatically senses water levels requiring pumping from drainage areas back into the Napa River; two of the pumps are diesel and require manual operation.

Levees

The District has been provided access to about 10 private properties in the event of a flood emergency, but otherwise has no ability to maintain privately-owned levees.

Other Property

The District owns 20-acres utilized for its treatment facilities and office. A portable pump is stored at the site. As noted above, recently the District authorized the purchase of "Tiger Dams" to help control flooding.[899]

Shared Facilities

The District utilizes a portable pump purchased by the NCFCWCD.

Infrastructure Needs

The NRRD, in collaboration with the NCFCWCD, funded an engineer's report to evaluate options to address long-term flood protection needs, costs and funding.[900]

The engineer's report described conditions that have led to substantial flooding occurring about once every decade, and additional adverse contributions of sea-level rise. The report identified three options and their costs, ranging from Plan 1 "preparedness and planning" to Plan 3 "Sheet Pile Floodwalls". Cost estimates ranged from $3.5 million to $79.3 million respectively. Specific outside funding was not identified, although the report suggested that up to half of the total cost could come from outside sources.

A community meeting to review the report was held in February 2019 and was "sparsely attended"; the 18 property owners at the meeting indicated a preference for Plan 1 with possible additional investments in the future.[901] Community meetings are ongoing and anticipated to continue into mid-2020 when decisions will be made about improvements and funding.[902]

WASTEWATER SERVICES

The District provides sewage collection, treatment and disposal services to its service population of 134 single-family connections (as of 2019).[903] Treatment facilities have a maximum design capacity of 40,000 gallons per day (mgd).

[899] Interview with NRRD, Dec. 12, 2019.
[900] Edgerly Island and Ingersoll Tract Flood Management Plan and Adaptation Study, ESA, August 30, 2018 and addendum.
[901] NRRD #2109 minutes for the meeting of the Board of Trustees March 7, 2019.
[902] Interview with NRRD, Dec. 12, 2019.
[903] Correspondence from NRRD, 10/8/19.

Type and Extent of Services

Services Provided

NRRD provides collection, secondary treatment and disposal of wastewater via its 35-year old treatment plant. The sewer system consists of 15 community septic tanks that deliver effluent to a central treatment plant that utilizes a mound system. Disinfected effluent is pumped from the mounds to evaporation ponds.

Service Area

NRRD's 74-acre service area includes 134 residential units and 14 undeveloped lots in Ingersoll Tract and Edgerly Island. The NRRD SOI is approximately 54 acres and excludes a 20-acre parcel owned by the District and utilized for its treatment plant.

Services to Other Agencies

NRRD does not provide sewer services to other agencies.

Contracts for Services

NRRD contracts with County departments for administrative services including legal counsel and bookkeeping services.

Overlapping Service Providers

There are no overlapping sewer service providers.

Collaboration

No sewer-related collaboration was identified.

Staffing

NRRD has an Assistant Manager, a Chief Plant Operator, and a Plant Operator. Other services are contracted. NRRD contracts with County departments for administrative services including legal counsel and bookkeeping services.

Wastewater Flow

The system assessment prepared for NRRD in 2019 was unable to draw conclusions about hydraulic influent vs. effluent flows due to apparently unreliable measurements; the assessment indicated that the accuracy of flow measurements needed to be addressed.

Wastewater Infrastructure and Facilities

The sewer system consists of 15 community septic tanks that deliver effluent to a central treatment plant that utilizes a mound system. Disinfected effluent is pumped from the mounds to evaporation ponds. The District owns approximately 1.5 miles of sewer lines.[904]

[904] Interview with NRRD, Dec. 12, 2019.

A recently prepared assessment of the sewer system determined that the system is treating effluent "…as well as it was designed to and with a higher hydraulic efficiency."[905] The system's theoretical treatment capacity is 44,000 gallons per day (gpd) compared to its original design capacity of 40,000 gpd. The assessment recommended steps to further improve the efficiency of mound bed percolation and increase disposal capacity. Treatment performance appeared to be excellent.

The system assessment prepared for NRRD in 2019 was unable to draw conclusions about hydraulic performance of wet vs. dry weather due to apparently unreliable measurements; the assessment indicated that the accuracy of flow measurements needed to be addressed. The assessment strongly recommended that "…the siphon cycle counter, the siphon discharge cycle volumes, and the mound effluent pumping rates be verified so that influent and effluent flow measurements can be analyzed with confidence."[906]

Heavy rainfall and rising groundwater have required discharges from evaporation ponds into Mud Slough; these discharges occurred several days each year but have been infrequent in recent drought years.

In the past, NRRD operated under an NPDES permit (Order No. 93-19) allowing discharge to Mud Slough; however, after the permit's expiration in 1998 no new permit was issued. The permit was rescinded in 2006 apparently due to a misunderstanding that discharge had never occurred, and the permit was not required. The State Water Board indicated that it would adopt an order indicating NRRD was not subject to State water discharge requirements, but the order was never adopted. NRRD continues to operate as it did under the original NPDES permit pending further action by the State Water Board.[907] No SSO events are reported by the State Water Board. The District provides reports monthly to the State Water Board.[908]

Infrastructure Needs

The assessment concluded that "overall the condition of the 35 year old treatment plant is still quite good" although some repairs were needed to address various issues.[909] The assessment did not estimate costs, but did provide a worksheet with estimated equipment life expectancy values for revision and use by the District. The District anticipates the need to repair and replace its siphon and related equipment due to age in the near future; costs have not been estimated, although the District indicates the costs are likely to be under $100,000 and well within the capacity of its reserves.[910] The District also anticipates a need to expend reserve funds to raise the heights of manhole covers when planned road resurfacing occurs.[911]

Shared Facilities

NRRD has no shared sewer facilities.

[905] Napa River Reclamation District Wastewater Treatment and Disposal System Evaluation Technical Memorandum 2018, Bracewell Engineering, Inc., January 28, 2019.
[906] ibid, Bracewell, 2019.
[907] ibid, Bracewell, 2019.
[908] Interview with NRRD, Dec. 12, 2019.
[909] ibid, Bracewell, 2019.
[910] Interview with NRRD, Dec. 12, 2019.
[911] Interview with NRRD, Dec. 12, 2019.

GOVERNANCE STRUCTURE OPTIONS

Prior MSRs and SOI reviews determined that the District's status as a reclamation district created a "disconnect between its operational and governance authority"[912] due to inaction of the District related to levee control services. The District's primary services, added by amendments to the District's governing authority, remain the provision of wastewater collection and disposal.

Expansion of Services

Currently the District is investigating expansion of reclamation services beyond its current advisory role and management of flood water pumps. Community meetings are ongoing and anticipated to continue into mid-2020 when decisions will be made about improvements and funding.[913]

If the community and the District pursue expanded reclamation services, the District's new reclamation infrastructure and services would eliminate the "disconnect" between its reclamation authority and its provision of services.

If the District does not undertake funding, construction and maintenance of levee improvements and other flood control measures, several governance structure options could mitigate the "disconnect" between its name, its authority, liability, and its actual services provided under the "Status Quo". These options potentially could improve governance structure and service delivery even if the District expands its reclamation services.

Reorganization as a Community Service District

As a community service district (CSD), selected services would be activated by the District with LAFCO approval, depending on community needs and preferences, including eliminating potential liability for reclamation services authorized but not provided under the current governance structure. A CSD provides a governance structure consistent with Statewide practices and continual legislative review and revision. The CSD would be empowered with the same authority to raise revenues, issue debt, construct and maintain improvements for reclamation services and/or wastewater services as enabled for by the current reclamation district authority as amended for NRRD.

Reorganize as a Zone of NCFCWCD for Reclamation Services

This option would place the area under the jurisdiction of NCFCWCD and enable the creation of assessments, with the approval of residents, to fund increased reclamation and flood control services. This option would formalize the current collaboration between NRRD and NCFCWCD, and the area would benefit from the larger organization and staff expertise of NCFCWCD. Additionally, the County could levy its enforcement ability as the land use authority in unincorporated territory to ensure proper maintenance of levees on private

[912] Napa LAFCO Resolution No. 2016-5, Dec. 5, 2016, Statement of Determinations, 6b.
[913] Interview with NRRD, Dec. 12, 2019.

property. NRRD's wastewater services could continue as is or could be reorganized into a CSD as described above with wastewater as an authorized service separate from reclamation services.

Other Options

Prior MSRs and SOI reviews identified other governance structure options which were not pursued further:

1. Reorganize into a county water district[914] – similar to formation of a CSD, this option allows for selective activation of desired services including wastewater services and reclamation services. However, the designation as a "water district" perpetuates a potential "disconnect" between the district's name and actual services provided. The water district offers no advantages compared to a CSD.

2. Form a geologic hazard abatement district (GHAD)[915] – this option would add a new district authorized to address flooding hazards but would not further empower any additional services; the 2016 NRRD MSR stated that formation of a GHAD appeared unnecessary.

RECOMMENDATIONS

1. NRRD should develop a capital plan to anticipate future system repair and replacement costs, and to assure that current rates and reserves will be adequate to address future needs.

2. NRRD should expand the content available on its website to include financial documents such as past and current budgets and financial reports. Additional content can be added, as resources permit, to improve public access to District information and to comply with Assembly Bill 2257 (Government Code §54954.2).

3. NRRD and LAFCO should defer any governance reorganization actions pending the outcome of current community meetings underway that will result in decisions about expansion of reclamation funding, infrastructure and services. The outcome of these meetings and NRRD decisions will influence the governance options that could be considered at that time.

4. Depending on further NRRD decisions about reclamation services to be provided, NRRD and NCFCWCD should further investigate the potential for NRRD to become a zone of NCFCWCD, solely for the purpose of reclamation services (wastewater services would continue under NRRD), and evaluate potential costs and benefits including increased enforcement authority, clarification of liability issues related to levee maintenance, and the benefits of sharing of technical expertise and resources. Reorganization could depend upon property owner approval of additional tax or assessment funding.

[914] Napa River Reclamation District No. 2109 SOI Review, Final Report, April 2007.
[915] Napa River Reclamation District No. 2109 MSR & SOI Update, LAFCO of Napa County, Final Report, Dec. 2016.

NAPA RIVER RECLAMATION DISTRICT NO. 2109 DETERMINATIONS

Growth and Population Projections

- No significant increase in current District population and service demand that would affect service delivery and infrastructure is anticipated within the timeframe of this MSR.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- No DUCs exist within or contiguous to the Agency's SOI.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- Current wastewater capacity and services are adequate. The District anticipates the need to replace aging facilities including its siphon in the near future.
- NRRD is in the process of studying its reclamation needs and engaging the community in discussions about future reclamation funding, facilities and services to address concerns about potential flood risks.

Financial Ability of Agencies to Provide Services

- NRRD has the ability to continue providing wastewater services. Reserves appear to be sufficient to fund anticipated repair and replacement of aging infrastructure, however, NRRD does not have a CIP or other plan to identify future capital needs and funding sources.
- The expansion of reclamation services depends on additional funding such as assessments, which are currently being discussed by NRRD with the community.

Status of, and Opportunities for, Shared Facilities

- NRRD collaborates with NCFCWCD on various reclamation-related activities, including shared funding of a study of reclamation needs. Governance structure options exist whereby this collaboration could be formalized and expanded, for example, if NRRD were to become a zone of NCFCWCD for reclamation purposes.
- As noted by prior MSRs and SOI reviews, NRRD and its residents should explore opportunities to work with the Napa County Resource Conservation District (NCRCD) to educate constituents with regard to activities to control settlement along their portion of the levee.[916]

[916] Napa River Reclamation District No. 2109 MSR & SOI Update, LAFCO of Napa County, Final Report, Dec. 2016.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- NRRD conducts regular public hearings in conformance with the Brown Act and maintains a website to provide information to its residents.

Relationship with Regional Growth Goals and Policies

- NRRD's SOI excludes substantial areas within its boundaries which are owned and utilized by NRRD for its wastewater plant, and which are designated by the County as "Agriculture, Watershed and Open Space" similar to adjacent lands outside the District.
- Excluding approximately 20 acres consisting of NRRD's wastewater plant from NRRD's SOI is consistent with LAFCO's policy to not promote "urban development within land designated as agriculture or open-space under the County General Plan."[917]

[917] Napa LAFCO Resolution No. 2016-5, Dec. 5, 2016.

16. NAPA SANITATION DISTRICT

AGENCY OVERVIEW

Napa Sanitation District Profile			
Contact Information			
Contact:	Andrew Damron, Technical Services Director		
Address:	1515 Soscol Ferry Road Napa, CA 94558	*Website:*	https://www.napasan.com/
Phone:	707-258-6000	*Email:*	info@napasan.com
Formation Information			
Date of Formation:	1945	*Agency type:*	Independent special district
Governing Body			
Governing Body:	Board of Directors	*Members:*	5
Manner of Selection:	The mayor and one council member of the City of Napa, a County Supervisor, and one Director appointed by each the City and the County.	*Length of term:*	Varies
Meetings Location:	Soscol WRF 1515 Soscol Ferry Road Board Room Napa, CA 94558	*Meeting date:*	First and third Wednesdays of each month
Mapping and Population			
GIS Date:	2019	*Population (2018):*	83,061 (2019)[918]
Purpose			
Enabling Legislation:	Health and Safety Code 4700 et. seq.	*Empowered Services:*	Wastewater and reclaimed water (active) Operation of a refuse or disposal system and street cleaning (latent)
Municipal Services Provided (directly or by contract)	Wastewater collection, treatment, and disposal Treatment, storage, and distribution of non-potable water supplies		
Area Served			
LAFCO-approved Boundary Size/Wastewater Service Area:	22.1 square miles	*Location:*	Overlapping and surrounding the City of Napa in Central Napa

[918] LAFCO estimate based on an aggregate of the NapaSan's estimate of encompassing 93 percent of the City of Napa's population (79,490), the islands surrounded by the City of Napa (2,291), and the Silverado unincorporated community (1,280).

Napa Sanitation District Profile			
Current SOI:	26.4 square miles	*Most recent SOI update:*	2014[919]
Recycled Water Service Area:	13.4 square miles		Includes existing customers in unincorporated areas of Napa County
Municipal Service Reviews			
Past MSRs:	2014 Central County Region Municipal Service Review 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study		

Boundaries

NapaSan's boundaries overlap nearly all of the City of Napa as well as most surrounding unincorporated development, including the Silverado area and the Napa Valley Gateway Business Park.

NapaSan's existing boundary is approximately 22.1 square miles in size and covers 14,132 acres. All developed parcels have established wastewater services with NapaSan.

The Commission has approved and recorded 440 annexations covering 7,498 acres since 1963 increasing the District's service area by one-half. Since the most recent MSR was adopted for NapaSan in 2014, LAFCO has processed 20 annexation applications for the District comprised of 297.6 acres.

Sphere of Influence

NapaSan's SOI–which includes two distinct and non-contiguous areas centering on the City of Napa and the Silverado area–was most recently amended in 2015 to include the County Jail site[920] that was later annexed and again in 2018 to include the Alston Park territory that was simultaneously annexed.[921] The District's sphere presently encompasses 26.4 square miles or 16,895 acres. For a detailed description of the history of NapaSan's SOI, refer to LAFCO's Municipal Service Review on the Central County Region (2014).

[919] The District's most recent comprehensive SOI update was in 2014. Most recent SOI amendment was the Alston Park SOI Amendment on December 3, 2018.
[920] LAFCO Resolution 2015-07.
[921] LAFCO Resolution 2018-16.

Figure 16-1

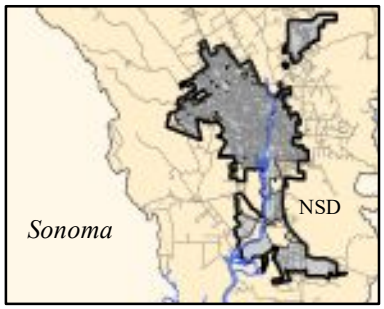
Napa Sanitation District (NSD)

29
Big Ranch Road
Dry Creek Road
Silverado Trail
Monticello Road
Redwood Road
Trancas Street
California Boulevard
Jefferson Street
Browns Valley Road
Soscol Avenue
Coombsville Road
Old Sonoma Road
Imola Avenue
12
Stanly Lane
221
29
Airport Boulevard
12

Legend

NSD Jurisdictional Boundary

NSD Sphere of Influence



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0 0.5 1 Miles

December 12, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

NapaSan is organized as a "dependent" special district, meaning that its Board is not directly elected, but consists of appointed officials from the Napa City Council and County Board of Supervisors. NapaSan's Board is comprised of five board members, which serve different terms of office, depending on the agencies they represent. One of the two City members is the Mayor of the City of Napa, the other City member serves at the pleasure of the Mayor. The County member is appointed or re-appointed annually by the County Board of Supervisors. The public member appointed by the City is appointed to a four-year term. The public member appointed by the County Board of Supervisors is appointed to a two-year term of office.

Board meetings are held on the first and third Wednesdays of each month at 4 pm in the Board room at the Soscol Water Recycling Facility. Agendas are posted at the District's office and on the District's website at least 72 hours prior to a meeting. Meeting minutes are also made available on the District's website. Former agendas and minutes that are not available online are made available for review at the District's office.

The Financial Auditor and the Legal Counsel for NapaSan are contracted services. These functions report directly to the Board. All other functions report to the General Manager. NapaSan is organized into three departments—Operations Services, Technical Services and Administrative Services, each headed by a Director. Under each Director, there are several departments.

The District primarily conducts outreach via its website, which makes available information on meetings, bill paying, rates and fees, wastewater services, recycled water services, water quality results, current project descriptions, and planning documents. The website also solicits sign up for subject specific mailing lists on areas of constituent interest and invites the public to come for tours of its facility. In addition to its website, the District also operates the Community Outreach & Pollution Prevention Program, which is a cross-departmental program designed to ensure that NapaSan communicates transparently with ratepayers and stakeholders, and acts proactively to disseminate its pollution prevention message through school programs, community events and treatment plant tours. Additionally, every year, NapaSan puts out a Spring and Fall Pipeline newsletter that goes to every customer in the District. The newsletter contains information about pollution prevention, NapaSan events, and any new NapaSan programs.

As part of the District's most recent Strategic Plan, the Board adopted a goal to focus on community outreach and communications in order to provide ratepayers with the information they need to understand NapaSan's mission, operations, finances and rate structures. In order to accomplish this goal, the District created the following departmental objectives which are ongoing:[922]

- Work with community partners to promote NapaSan's services and rate structure (Community Outreach & Pollution Prevention),

[922] NapaSan, Budget FY 19-20, p. 23.

- Respond to requests for information from the general public and other local agencies within three working days of request (Engineering),[923]
- Partner with local agencies for collection of unwanted medications from drop-off sites (Community Outreach & Pollution Prevention),
- Conduct plant tours and make public presentations (Community Outreach & Pollution Prevention),
- Promote and deliver classroom presentations targeting elementary school students (Community Outreach & Pollution Prevention),
- Continue public outreach on proper disposal of fats, oil and grease (FOG) (Community Outreach & Pollution Prevention),
- Develop and disseminate to stakeholders pollution prevention best management practices (BMPs) as necessary Community Outreach & Pollution Prevention), and
- Continue Spanish language outreach for pollution prevention messages (Community Outreach & Pollution Prevention).

As a result of the standard of services provided by NapaSan, the District has won awards for its performance over the last three years.

- In 2018, NapaSan was designated a "Utility of the Future Today" by the National Association of Clean Water Agencies, the Water Environment Federation, WateReuse Association and the Water Research Foundation.
- The Government Finance Officers Association of the United States and Canada presented the Distinguished Budget Presentation Award to NapaSan for its annual budget for the fiscal year beginning July 1, 2018. In order to receive this award, a governmental unit must publish a budget document that meets program criteria as a policy document, as an operations guide, as a financial plan, and as a communications device.
- California Water Environment Association Redwood Empire Section Awards 2018 - NapaSan was awarded the Supervisor of the Year Award, and the Collection Systems Person of the Year Award.
- NapaSan was awarded the Popular Annual Financial Reporting Award in 2017 and 2018 by the Government Finance Officers Association.
- WateReuse Agricultural Project of the Year in 2016 - This award was for the expansion of the recycled water system including the pipelines into the MST and LCWD use areas.

As mentioned, NapaSan maintains a website with information readily available for the public. The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites be set up by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other

[923] NapaSan, Budget FY 19-20, p. 23.

relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[924] In October 2018, Napa LAFCO sent out a letter to all independent districts in Napa County informing them about the SB 929 requirements and related districts' obligations. NapaSan's website preemptively meets the requirements of SB 929.

In 2016, the State Legislature enacted Assembly Bill 2257 (Government Code §54954.2) to update the Brown Act with new requirements governing the location, platform and methods by which an agenda must be accessible on the agency's website for all meetings occurring on or after January 1, 2019. AB 2257 provides two options for compliance. Under the first option, an agency that maintains a website must post a direct link to the current agenda on its primary homepage. The link may not be placed in a "contextual menu," such as a drop-down tab, that would require a user to perform an action to reveal the agenda link. Additionally, the agenda must be: (a) downloadable, indexable, and electronically searchable by common internet browsers; (b) platform independent and machine readable; and (c) available to the public, free of charge and without restrictions that might interfere with the reuse or redistribution of the agenda. Under the second option, an agency may implement an "integrated agenda management platform," meaning a dedicated webpage that provides the necessary agenda information. The most current agenda must be located at the top of the page. Under this option, a direct link to the current agenda does not need to be posted on the homepage; however, the agency *is* required to post a link to the platform containing the agenda information. Again, this link may not be hidden in a contextual menu.[925] NapaSan is compliant with the AB 2257 requirements as it has a dedicated webpage that provides the required agenda information.

The District has demonstrated transparency and accountability throughout the MSR process by responding promptly and thoroughly to requests for information, participating in an interview and workshops, and reviewing draft reports comprehensively.

GROWTH AND POPULATION PROJECTIONS

Based on the District's estimates, residents of the City currently account for approximately 93 percent of the District's total population.[926] The remainder of the population is divided between three unincorporated areas with the bulk lying within 13 islands surrounded by Napa but served by NapaSan followed by the Silverado and Penny Lane areas.

It is estimated that as of January 1, 2019 there were approximately 83,061 residents within NapaSan. This estimate is based on an aggregate of 93 percent of the City of Napa's population (79,490), the islands surrounded by the City of Napa (2,291), and the Silverado unincorporated community (1,280).[927]

Recent growth trends between 2012 and 2017 show that the area within the City has had an average annual growth rate of 0.57 percent, which is greater than the unincorporated

[924] California Government Code, §6270.6 and 53087.8
[925] https://www.jdsupra.com/legalnews/ab-2257-new-brown-act-requirements-for-35346/
[926] Napa Sanitation District, Budget FY 19-20, p. 123.
[927] Napa LAFCO, Memo: Current and projected (2025 & 2030) population for the County, cities and affected districts

areas that experienced an average annual growth rate of 0.21 percent during that same time period.[928]

The District projects population growth to be 0.75 percent annually over the next four years in its current financial plans; although, growth will likely be higher in the short term inside the Napa City limits. Based on this estimate, the District's population would reach 85,581 by 2023.

By comparison, should the population continue to grow at a slightly slower pace as was experienced in recent years (0.57 percent in incorporated areas and 0.21 percent in unincorporated areas), then the District is projected to have a population of 85,825 by 2025 and 88,128 by 2030.

The District plans to serve three new developments and has provided Will Serve letters for all three. Stanly Ranch is a luxury Resort, Winery and Residential Community in Napa, California, to be developed on the vineyards of the historic 712-acre Stanly Ranch. When completed, the 500,000 SF development will include a luxury 135-room Resort & Spa, 70 Vineyard Homes, 40 Villas and Winery. Stanly Ranch construction commenced Fall 2018 and is anticipated to open Q1 2021.

Development has long been considered on a 305-acre Montalcino Napa Valley property. The site is fully entitled, with a 379-room full-service, high-end resort hotel being contemplated.

The Napa Pipe site is located at 1025 Kaiser Road in unincorporated Napa County, about three miles south of downtown Napa, on the east side of the Napa River, and northwest of the intersection of SRs 29 and 221. The owner of the 154-acre property has proposed a high-density residential neighborhood with open space, neighborhood-serving retail, restaurants and a hotel on the western portion of the site (about 63 acres), and a Costco on the eastern portion of the site. The project, which calls for 945 housing units over several phases along with the retail development, is spread across two jurisdictions — the City of Napa and Napa County.

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[929]

[928] Annual percentage change calculation: Department of Finance data for years 2012-2017 was used. The change in population, especially unincorporated area, between 2017-2018 was significant due to wildfires and loss of homes. Therefore, the time period from 2012-2017 was used to calculate average annual growth, as it was more indicative of normal population change.
[929] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.

FINANCIAL ABILITY TO PROVIDE SERVICES

The Napa Sanitation District provides wastewater services supported by rate revenues and charges; no property tax revenue accrues to NapaSan.

The following table summarizes selected financial information for NapaSan's wastewater operations. The agency's Fiscal Profile in Appendix A provides additional detail and indicators.

Figure 16-2: Summary of Selected Financial Information, Napa Sanitation District

Napa Sanitation District	
FY18-19 Sanitation Budget Net	**$10,080,000**
Operating Revenues	$30,670,000
Operating Expenditures (inc. debt service)	$20,590,000
Ending Fund Balance as % of Operating Revenues	**62%**
Ending Fund Balance	$18,910,000
Debt as a % of Operating Revenues	**15%**
Total Debt Outstanding (as of 6/30/2019)	$50,490,000
Monthly Wastewater Rates as a % of Household Income	**0.8%**
Typical Monthly Rate	$56
Median Household Income (2017)	$82,361
Pension+OPEB Total Payments % of Revenue	**9.1%**
Pension+OPEB Payments (before additional contributions)	$2,800,000
Unfunded Pension Liability	$14,050,000
Unfunded OPEB Liability	$6,550,000

See Appendix A-16 *2019-07-22*

Balanced Budget

Recurring operating deficits are a warning sign of fiscal distress. In the short-term, reserves can backfill deficits and maintain services. However ongoing deficits eventually will deplete reserves.

NapaSan's projected FY19 operating revenues (excluding capacity charges) exceed expenditures (including debt) by $10.1 million, or about 49%.

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include funds for cash flow and liquidity, in addition to funds to address longer-term needs. Cash reserves should be adequate to respond to system emergencies, temporary deficits, economic downturns and fiscal emergencies, as well as to fund needed capital improvements.

After accounting for capital expenditures, the District's projected balance declined about $2.2 million from FY18 to FY19, to an ending balance of $18.9 million or about 62 percent of operating revenues; this ending balance is allocated to operating reserves ($6 million) and

operating cashflow reserves ($12.5 million); $400,000 are the net additional funds undesignated but available for use.[930] The NapaSan's wastewater service charges, representing about 80 percent of total revenues, are collected on property tax bills and therefore minimal revenue is received from July through November; NapaSan must retain sufficient cash for expenditures during this period.

NapaSan's liquidity ratio, which is positive (current assets exceed current liabilities), indicates the short-term (less than one year) availability of these funds if needed. NapaSan's financial policies require cash flow reserves to exceed operating expenditures for July 1 through November 30 (in addition to operating reserves).[931]

Net Position

An agency's "Net Position" as reported in its CAFR represents the amount by which assets (e.g., cash, capital assets, other assets) exceed liabilities (e.g., debts, unfunded pension and OPEB liabilities, other liabilities). A positive Net Position provides an indicator of financial soundness over the long-term.

NapaSan has an unrestricted net balance of $11.65 million;[932] the balance of its net position (assets exceeding liabilities) is invested in capital assets and/or restricted.

Rates and Charges

Wastewater and recycled water operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. NapaSan's rates are less than one percent of median household incomes.[933] Rates typically are expected not to exceed 2-2.5 percent of household income, for each utility.[934]

NapaSan offers a low-income assistance program that provides for a 28 percent reduction in sewer service rates; the program's $141,000 costs are funded by NapaSan lease revenues (not from rate revenues).[935]

NapaSan established a 5-year schedule of rate increases for FY17 through FY21.[936] After initial rate increases of about 15 percent for FY17 and FY18, increases slowed to about 4-6 percent.[937] A low-income assistance program provides rebates to property owners meeting certain criteria.

NapaSan collects a "capacity charge" (also called a connection fee) from new development to address impacts on system expansion. The fee in FY19 for a single-family unit is $9,520.[938] NapaSan prepared a Capacity Charges Report for FY18 documenting that

[930] NapaSan Operating and Capital Budget Fiscal Year 2018/19, pg. 36.
[931] NapaSan Financial Policies, Reserve Policies 2.3, Updated May 16, 2018.
[932] (NapaSan, 2018), Statement of Net Position, pg. 9.
[933] Based on median household income of $82,361 for the City of Napa, according to the American Community Survey 2017, DP03, 5-Year estimates. See appendix for detailed estimate of typical household charges.
[934] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[935] NapaSan Interview, April 4, 2019.
[936] Napa Sanitation District Sewer Service Charge Rate Study, January 2016, NBS.
[937] Napa Sanitation District Code "5.01.010 Rates".
[938] NapaSan website (NapaSan, n.d.)

the charges were being used for their intended purpose consistent with Government Code §66013.[939]

NapaSan collects its wastewater service charges on property tax bills. While an alternative method of more frequent direct billing was considered, analysis recommended NapaSan continue with its current, lower cost billing method.[940]

Long-term Debt

Excessive long-term debt incurs interest charges that consume financial resources that could otherwise fund needed services and capital improvements. Studies indicate that a majority of debt-paying water and wastewater agencies surveyed spent between 10% and 30% of their total operating revenues on debt service.[941] NapaSan spends about 15 percent of operating revenues for debt service,[942] which falls within a reasonable range of 10 percent to 25 percent.[943]

In 2017, NapaSan issued $14.185 million of bonds to refund 2009 Certificates of Participation, and secured by revenues which provide significantly more than a minimum 1.2 coverage ratio relative to debt service of approximately $1.8 million annually and $4.5 million for all debt.[944] S&P rated the debt AA/Positive Outlook, an improvement compared to NapaSan's prior 2012 AA-/Stable Outlook rating.[945] Both ratings are defined as "high investment-grade" indicating a "Very Strong" capacity to meet financial commitments and differing from the highest rating only to a small degree.[946]

Pension and OPEB Liabilities

Unfunded pension and OPEB liabilities present one of the most serious fiscal challenges facing many cities and districts. Total annual pension payments and potential changes in current Napa Sanitation pension costs do not appear to be a significant adverse factor relative to its total budget. NapaSan has established a trust to accrue funds to paydown its OPEB obligations.

The Napa Sanitation District provides pension benefits to its employees through NapaSan's CalPERS plan, which is divided into three tiers, or benefit levels, based on date of hire. NapaSan's unfunded pension liability is approximately $14 million.[947] NapaSan's Tier 1 pension liabilities are approximately 69 percent funded as of the end of FY17, while the Tier 2 pension liabilities are approximately 90% funded and the Tier 3/PEPRA pension liabilities are approximately 96% funded.[948] CalPERS projections indicate a stable payment towards

[939] Capacity Charges Report for Fiscal Year 2017-18.
[940] Napa Sanitation District Cost of Service Rate and Capacity Charge Study, FINAL, August 2018.
[941] http://efc.web.unc.edu/2014/02/17/napshot-debt-service-as-percent-of-total-operating-revenues/
[942] Appendix A, Napa Sanitation District Fiscal Profile.
[943] Benchmarking and Measuring Debt Capacity, Government Finance Officers Association, June 2000.
[944] NapaSan FY18 CAFR, Note 4 – Long-Term Debt, pg. 20, and Debt Service Coverage past Ten Years, pg. 42.
[945] NapaSan Operating and Capital Budget Fiscal Year 2018/19, pg. 254.
[946] Bond Credit Rating, Wikipedia, retrieved 2/28/19 from
https://en.wikipedia.org/wiki/Bond_credit_rating#Rating_tier_definitions
(Wikipedia, n.d.)
[947] NapaSan FY18 CAFR, Statement of Net Position, pg. 9.
[948] CalPERS Actuarial Valuation as of June 30, 2017 for the Napa Sanitation District, pg. 5.

"normal" pension costs and a decline in payments towards unfunded pension liabilities by FY25 compared to FY20.[949]

NapaSan provides Other Post Employment Benefits (OPEB) to retired employees and their surviving spouses through CalPERS. For the year ending FY18 NapaSan's actuarially determined contribution rate is 18.09 percent of covered employee payroll. The net unfunded OPEB liability was $6.6 million at the end of FY18 of a total OPEB liability of $10,072,678.[950] In 2010 NapaSan established an OPEB Trust Fund that is about 35-40 percent funded and is expected to be fully funded in about eight to ten years.[951]

The combined pension payments (normal and unfunded liabilities) plus OPEB payments is about $2.8 million annually, or 9.1 percent of operating revenues.[952] In FY19 NapaSan made an additional $135,000 retirement liability payment to CalPERS in excess of the minimum required contribution.[953]

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

As a general indicator, the California Municipal Financial Health Diagnostic compares changes in the value of assets and asset improvements.[954] Persistent and substantially negative trends, particularly without a reasonable plan for stabilizing declines, raise caution and warning signs. This negative condition can occur if repairs and replacements do not keep pace with aging infrastructure.

Depreciation typically spreads the life of a facility over time to calculate a depreciation amount for accounting purposes. The actual timing and amount of annual capital investments require detailed engineering analysis and will differ from the annual depreciation amount, although depreciation is a useful initial indicator of sustainable capital expenditures.

The value of depreciable capital assets increased about 7.5 percent from FY17 to FY18. The change in accumulated depreciation of $8.6 million (after deducting depreciation attributed to retired assets)[955] was more than offset by additions to capital value. NapaSan's performance goals include: "Rehabilitate or replace at least 1.3% of the Collection System sewer mains" annually; this goal is expected to increase to 2.0% in 2020.[956] The FY19 budget reports that it has achieved or exceeded this goal since 2014, except for 2016 when NapaSan achieved 1.1%.[957] NapaSan rehabilitated 2.2% of the collection system in 2017, 2.5% in 2018, and 2.4% in 2019.[958]

[949] (NapaSan, 2017)
[950] NapaSan FY18 CAFR, Required Supplementary Information, pg. 32. See also: (NapaSan, 2017).
[951] (NapaSan Interview, 2019).
[952] CalPERS Actuarial Valuations June 30, 2017, estimated FY19, and GASB 75 Report, Oct. 20, 2017, pg. 3, projected FY18.
[953] Correspondence with J.Tucker, NapaSan, 1/13/2020.
[954] The California Municipal Financial Health Diagnostic: Financial Health Indicators, League of California Cities, 2014.
[955] NapaSan FY18 CAFR, Note 3 – Capital Assets, pg. 19, including reduction in accumulated depreciation due to retirement of assets.
[956] NapaSan Strategic Plan 2019-2021, Goal 1, Objective 1A.
[957] NapaSan Operating and Capital Budget Fiscal Year 2018/19, pg. 19.
[958] NapaSan comments 3/6/2020 on Admin. Draft Report.

NapaSan maintains and regularly updates a 10-year Capital Improvement Plan.[959] The Plan identifies each project, its cost, its funding, and impacts on NapaSan's operating budget (e.g., potential energy savings). NapaSan generally has funded the Plan each year consistent with the needs identified in the Plan.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – NapaSan's website includes descriptions of and access to current and past water and wastewater financial documents.

Comprehensive Annual Financial Report (CAFR) -- NapaSan's CAFR is published in a timely manner within six months of the end of the fiscal year.

Operating and Capital Budget – NapaSan's budget is produced annually and describes the annual spending plan for operations and capital. The budget includes long-term budget forecasts and descriptions of forecasting assumptions.

Popular Annual Financial Report (PAFR) – NapaSan's PAFR is published alongside the CAFR and conveys a summary of financial information, plus narrative and charts to clarify and add context to financial data for non-financial readers.

Capital Improvement Program – The annual 10-year CIP is updated each year as part of the budget process.

Asset Management Plan (AMP) – NapaSan has an Asset Management Plan.[960]

Cost of Service/Rate Study – The basis for NapaSan's current rates is a study prepared in 2016.[961]

[959] Capital Improvement Plan, NapaSan FY19 Budget, pg. 73.
[960] Napa Sanitation District Asset Management Plan, Prepared by GHD, July 2017.
[961] Napa Sanitation District Sewer Service Charge Rate Study, January 2016, NBS.

RECYCLED WATER SERVICES

NapaSan provides recycled/reclaimed water to several connections for irrigation purposes. The non-potable water is produced at Soscol Water Recycling Facility (SWRF) and distributed to connections via the dedicated reclaimed pipeline system or pumped and trucked to customers.

The District's recycled water system was prompted by limitations on the amount of discharge from the treatment facility into the Napa River during non-discharge periods and NapaSan's desire to allow for growth of demand and its treatment system.

Type and Extent of Services

Services Provided

NapaSan's core recycled water program currently distributes approximately 2,000 afy for irrigating landscaping, industrial parks, golf courses, pasture lands, feed and fodder crops, cemeteries, the Napa State Hospital, Napa Valley College ball fields and landscaping, a recreational park, and vineyards. Pipelines have been extended to serve the Milliken-Sarco-Tulocay (MST) area east of the City of Napa, the Stanly Ranch area to the west of the facility, and the residents of the Los Carneros Water District, located west of the Stanly Ranch pipeline.

Figure 16-3: Recycled Service Connections by Type

Recycled Water Connections in Service Area	
Commercial/Institutional	13
Industrial	3
Landscape Irrigation	10
Agricultural Irrigation	77
Total	103
Source: NapaSan Annual Recycled Water Report, 2018	

Service Area

NapaSan's recycled water service area differs from its LAFCO approved boundaries, as recycled water services are exempt from needing LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133. The District's recycled water service area in comparison to its wastewater service area is shown in Figure 16-4. As shown, the District's recycled distribution system serves areas to the northeast, southeast, and west of its boundaries. It should be noted that this service area is based on the extent of the District's existing pipeline infrastructure.

The District serves outside of the defined service area shown in Figure 16-4 via trucking of recycled water to local customers for agricultural purposes, such as irrigation of vineyards

and pastureland. The District has two truck filling stations at its treatment facility, and another in the Coombsville area at Silverado Middle School. The service area for distribution of trucked water is limited by district policies and supply capacity. Growers can either haul the water themselves or hire a company to haul recycled water to their property; NapaSan does not provide recycled water delivery by truck.

NapaSan has adopted program requirements that must be met prior to the commencement of hauling recycled water, as follows:

1. An agreement must be entered into between the recycled water user and NapaSan, which sets forth the reuse program authority and contractually binds the user to abide by the reuse program rules.

2. Each tanker truck that will be used to transport recycled water must be labeled to notify the public, users, and workers that recycled water is being hauled in the tank and that it is not fit for human consumption. Inspection by NapaSan staff will verify that this requirement has been met.

3. Training by NapaSan will be provided to the truck driver regarding the procedures to follow when filling the truck tank under normal conditions, and what to do in case of an emergency.

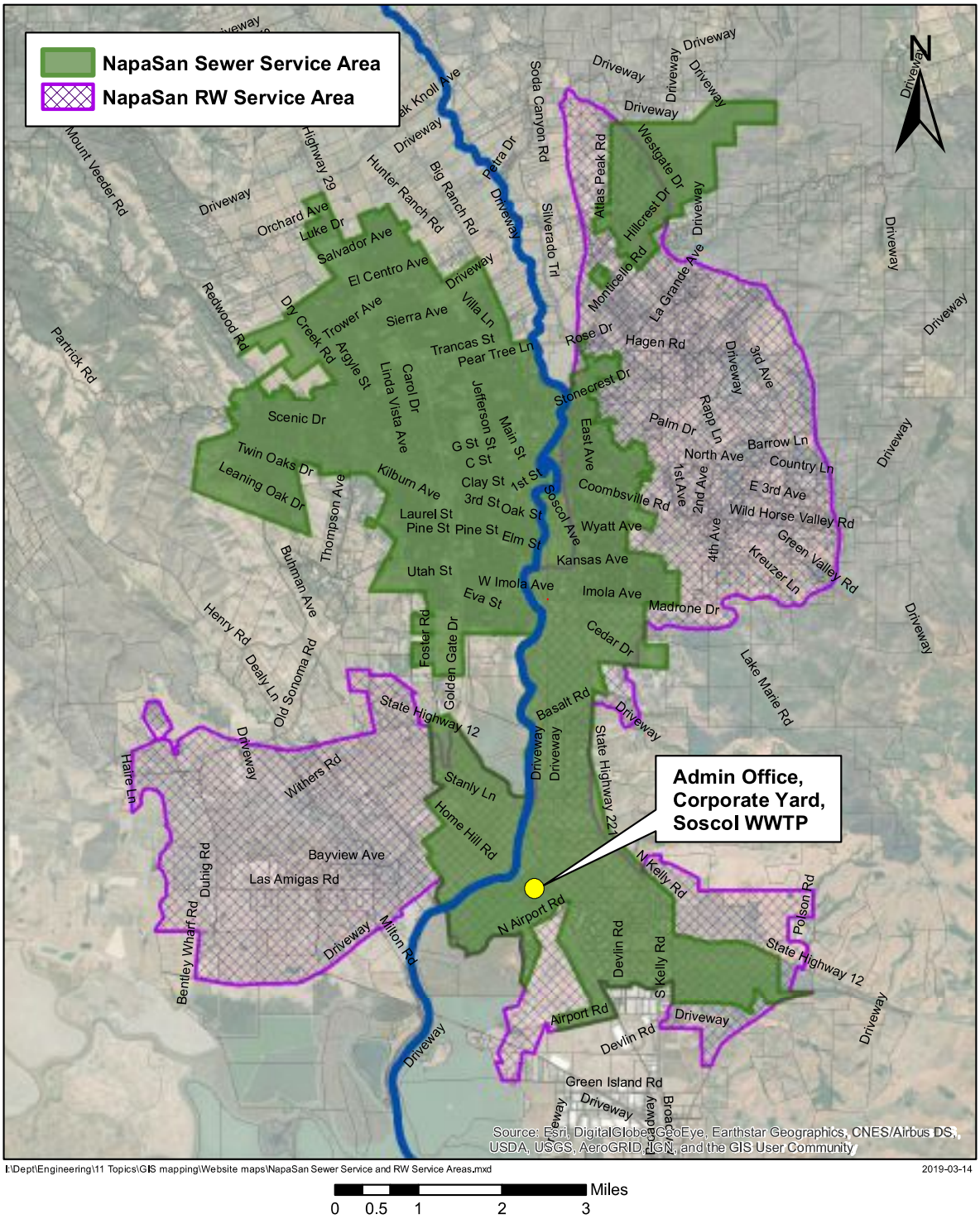
4. NapaSan will issue a truck hauling permit to the user, which must be carried in the truck at all times. An annual fee of $50 is required at the time of permit issuance.

Additionally, NapaSan has adopted a policy to prioritize recycled water allocation as follows:[962]

1. Current recycled water customers;
2. Parcels within the District's existing service area close to the District's existing recycled water system that either have not yet developed, or have already developed but not yet connected to the District's recycled water;
3. Parcels for which an agreement has been executed with the District committing recycled water in the future;
4. Parcels that have been or will be required to use recycled water by local land use authorities or retail water suppliers; and
5. Parcels in areas where a recycled water delivery system has been studied and funding is being arranged for construction of piping.

[962] Napa Sanitation District, Resolution No. 11-004, p. 2.

Figure 16-4: Wastewater and Recycled Water Service Area



Services to Other Agencies

NapaSan provides water and services to Los Carneros Water District (LCWD). In 2018, a pipeline was extended to LCWD allowing NapaSan to provide 100 percent of irrigation water to LCWD residents that chose to connect to the distribution system. NapaSan owns and operates the distribution system within LCWD's boundaries and bills the connections directly. Assessments to fund the pipeline and new infrastructure extended to LCWD are collected through the County Auditor's office.

Additionally, NapaSan has an agreement with City of Napa to serve those areas within the city limits that receive recycled water. The recycled water distribution system to these areas is owned and operated by NapaSan.

Contracts for Services

The County provides IT, accounting, treasury, and assessor services to NapaSan by contract.

Overlapping Service Providers

While NapaSan largely overlaps the City of Napa, there are no known concerns of overlapping or duplicative service deliveries, as NapaSan provides the only source of recycled water to City customers. The two agencies appear to capitalize on collaborative efforts and a close communicative relationship, which minimizes the potential for duplication of services.

In order to formalize the two agencies' roles, NapaSan reached a 20-year agreement with Napa in 1998 allowing the District to solicit and provide reclaimed water service within a specified area of the City's water service area. Referred to as the "reuse area," the agreement defines NapaSan's recycled service area as lands east of the Napa River, south of Imola Avenue, west of SR 221, and north of American Canyon. The agreement also allows NapaSan to deliver reclaimed water to the Napa State Hospital, Stanly Ranch, and the South Napa Market Place. NapaSan agrees to reimburse Napa for the loss of potable water sales revenue in the event customers take delivery of recycled water in lieu of potable water from the City. NapaSan also agrees to furnish up to 50 acre-feet per year of reclaimed water to Kennedy Park and Napa Valley College in exchange for 11 acre-feet of potable water usage. The existing agreement terms automatically extend if the agreement is not renewed. The City of Napa has indicated that they wish to modify the terms of the agreement. NapaSan is waiting for the City's proposal.

Collaboration

NapaSan and the City of Napa collaborate on various aspects of service provision to improve efficiency and effectiveness. The two agencies benefit from a joint water conservation program and collaboration on pipeline projects where the City can plan to make street improvements in tandem with NapaSan pipeline renewal/construction projects. Also, NapaSan, the City of Napa, and Napa Recycling coordinate scheduled tours of the wastewater treatment plant, water treatment plant, and recycling facility for Napa area students. Additionally, the recently completed Coombsville recycled water truck filling station in the MST area is a joint project with the County and funding coming from the MST CFD and the State.

Staffing

NapaSan recycled water distribution services are managed by the Water and Biosolids Reclamation Department. The Department is staffed by three positions—the Reclamation Systems Director, and two maintenance workers. Recycled water is produced by the SWRF staff, as a result of wastewater operations.

Recycled Water Supply

Up until 2015, NapaSan was only able to produce reliably about 2,000 acre-feet of recycled water during the irrigation season (May-October), and during this time was successful in delivering the water to customers or for application on NapaSan property. In FY15, NapaSan completed construction of the recycled water system expansion at the treatment plant. This allowed NapaSan to deliver reliably about 3,700 acre-feet of recycled water during the irrigation season. In FY16, NapaSan completed construction of five miles of recycled water pipeline in the MST area, and nine miles of recycled water pipeline in the LCWD area. The expansion of pipeline to these areas allows for increased distribution, which is expected to reach the production capacity of NapaSan once new customers connect to the system.[963]

During the non-irrigation season (November-April), the District will pump recycled water to those that want to fill storage for later months at a reduced rate. March of every year has the lowest rate of the year. Water pumped during the off season does not count against the allocation to those areas. In 2018, 281 acre-feet of water were pumped for storage during the off season by NapaSan customers.[964] The volume of recycled water produced annually from 2014 to 2018 during the irrigation season is shown in Figure 16-5. As shown, the total amount of water produced has increased, which is attributable to the increased capacity at the treatment facility and the extension of pipelines leading to greater demand than in previous years.

Figure 16-5: Recycled Water Produced During Irrigation Season (2014-2018)

Water Produced (acre-feet)					
	2014	2015	2016	2017	2018
Recycled Water	1,777	1,816	1,988	2,166	2,222
Source: Napa Sanitation District, Response to Request for Information, January 22, 2019.					

Recycled water supplies are highly reliable during drought events; although, total wastewater flows may be reduced slightly. This is because wastewater flows are primarily generated by indoor water uses which are not reduced significantly during drought conditions compared to outdoor uses. Additionally, in cases where recycled water use is replacing the use of potable water, it increases the reliability of potable supplies.

[963] NapaSan, Performance Measurement Report, 2017, p. 95.
[964] NapaSan, Response to Request for Information, Flow Data, January 22, 2019.

Recycled Water Demand

Recycled water sales are affected by the weather—cooler, wetter spring and summer months result in less need to irrigate and, therefore, lower volumes of water are sold. Similar to the volume of water produced, NapaSan has experienced an increase in sales of 52 percent of recycled water over the last five-year period from 2014 to 2018. It is anticipated that sales will continue to rise as additional customers are connected to the system.

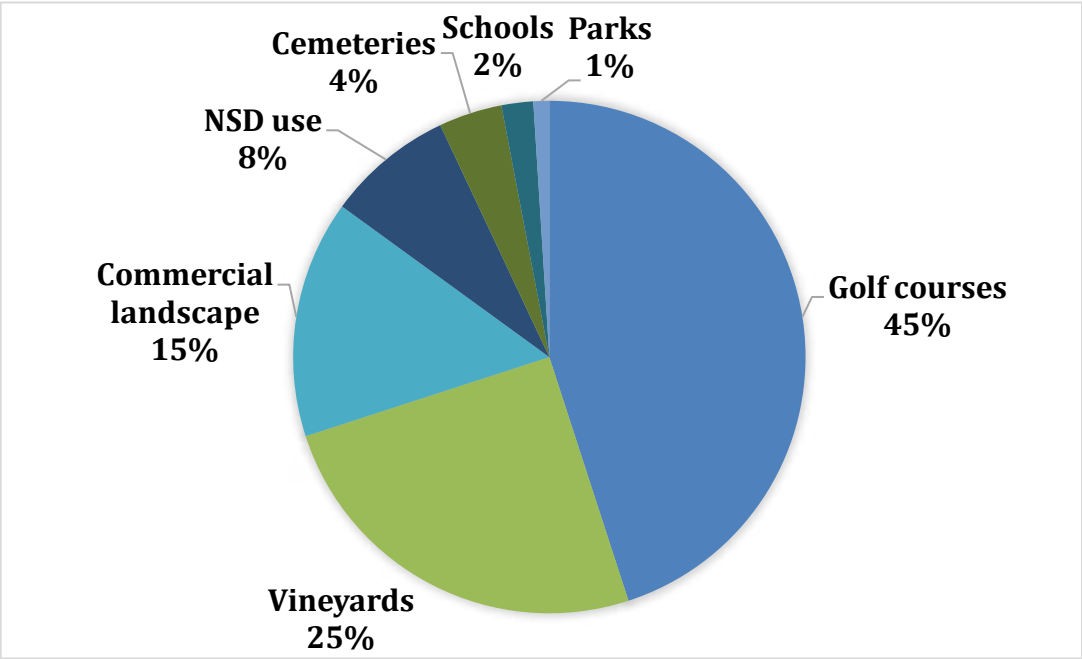
Figure 16-6: Recycled Water Sales (2014-2018)

Demand for Recycled Water (acre-feet)						
User Type	**Level of Treatment**	**2014**	**2015**	**2016**	**2017**	**2018**
Landscape and Ag Irrigation	Recycled Water	1,337	1,422	1,603	1,799	2,035
Source: NapaSan, Budget FY 19-20, p. 131						

Sales do not account for all recycled water uses in the District's system, as a portion is applied on District-owned property to grow crops where biosolids have been applied or for disposal, and thus was non-billable.

The recycled water is used entirely for irrigation of landscape and agriculture by several different land use types. Figure 16-7 breaks down the water use by connection type in 2018. As shown, golf courses constituted NapaSan's largest recycled water user, while vineyards made use of the second largest volume.

Figure 16-7: Recycled Water Use by Type (2018)[965]

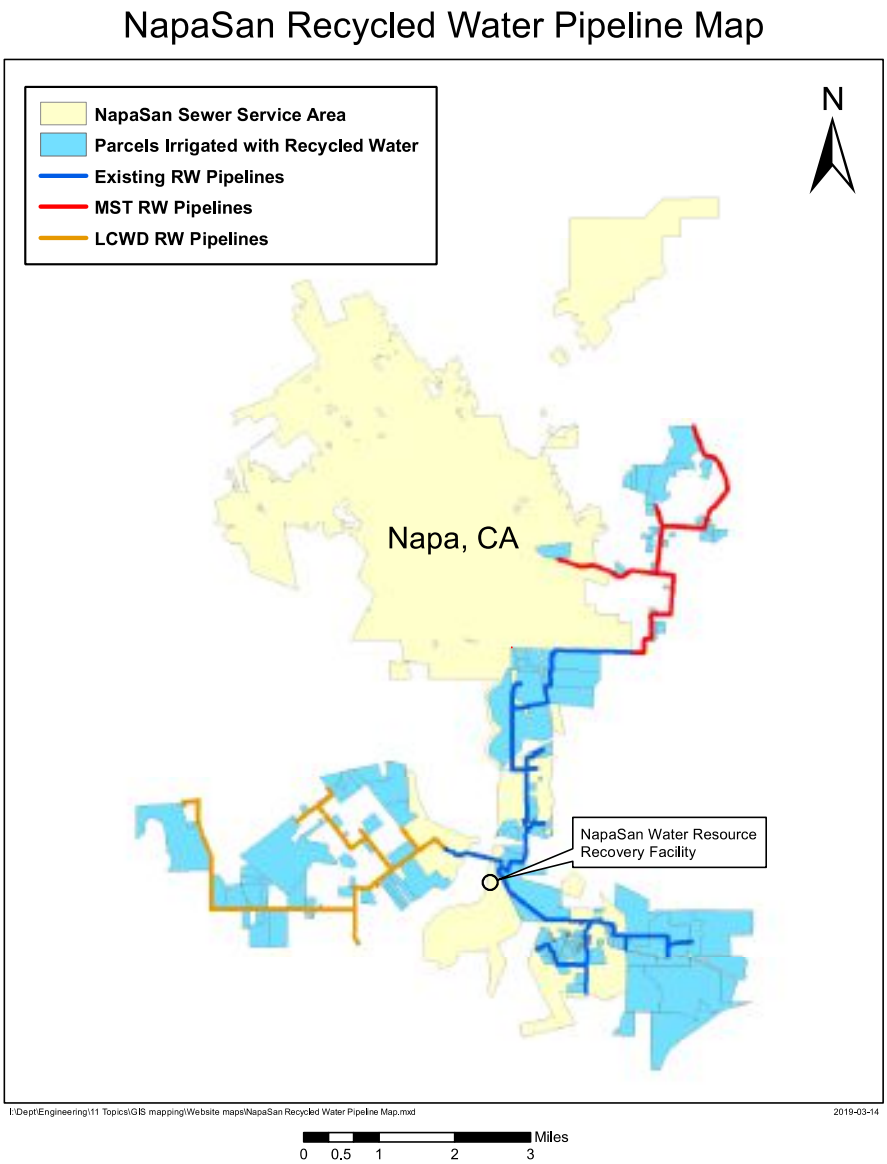


[965] NapaSan, 2018 Recycled Water Annual Report, p. 1

Recycled Water Infrastructure and Facilities

Recycled water is produced by the Napa Sanitation District at the Soscol Water Recycling Facility, located along the Napa River just south of the SR 29 bridge. Wastewater enters the facility and is treated to secondary levels and discharged to the Napa River or treated to tertiary levels and beneficially reused for irrigation. NapaSan is permitted to discharge to the Napa River from November 1 through April 30 (the wet season period). From May 1 through October 31 (the dry season period) discharge to the Napa River is prohibited and the wastewater is either stored in stabilization ponds or treated to the tertiary level and distributed within the recycled water system. At present, the recycled water system consists of 27 miles of pipeline composed of PVC and ductile iron pipe. Figure 16-8 illustrates NapaSan's recycled water distribution system.

Figure 16-8: Recycled Water Distribution Pipelines



At the treatment plant, major investments were made to expand the treatment process to accommodate increased recycled water demand and distribution in southern Napa County. The sand filter system was expanded, and an equalization basin was constructed to provide a constant flow of water to the filters and increase filter efficiency.

The recycled water pump station was expanded and enhanced to provide different pressures in the system and increase distribution capacity. A dissolved air flotation (DAF) clarifier was built to increase treatment capacity. Together, these projects allowed NapaSan to increase recycled water production from 2,000 acre-feet to 3,700 acre-feet per year.

Construction of the five-mile MST recycled water pipeline was completed at the end of 2015 in partnership with NapaSan, Napa County and local landowners. The MST pipeline was built to deliver 2,000 acre-feet per year and up to 700 acre-feet of water per year in the near term. The nine-mile LCWD pipeline was also completed at the end of 2015 in partnership with the LCWD. It was built to deliver 1,600 acre-feet per year and up to 450 acre-feet of water in the near term.

At present, demand for recycled water is well within capacity of the treatment plant. In 2018, 2,222 acre-feet of recycled water was produced, which constitutes 60 percent of the plant's maximum production capacity of 3,700 acre-feet. Demand for recycled water is anticipated to continue to rise in the coming years, as demonstrated in Figure 16-9. The District has made projections for recycled water needs in the Recycled Water Strategic Plan (2005) and the Recycled Water Cost of Service and Rate Study Report (2012); however, conditions have since changed, and these projections are outdated.

Figure 16-9: Recycled Water Forecasted Production (2020-2040)

Recycled Water Production Projections (acre-feet)						
Use Type	**2018**	**2020**	**2025**	**2030**	**2035**	**2040**
Irrigation/Landscape	2,222	2,400	2,800	3,700	3,700	3,700
Source: NapaSan, Request for Information, 9/23/19						

The pipelines and distribution system were designed to accommodate the area to be served; consequently, capacity is not presently nor is it anticipated to be a concern in the near term.

The recycled water distribution system was constructed relatively recently. While NapaSan has been using reclaimed water for spraying on district-owned property since the 70s, the first paying customer for recycled water was connected to the new Kirkland Pipeline in 1998. The older portion of the system is considered to be in generally good condition; although the age and material of the pipeline indicate a need to confirm condition through an assessment which is scheduled to occur this year. There were no leaks in the system in 2018. The Kirkland Pipeline is scheduled for rehabilitation in FY 20-21, should the condition be worse than expected. In 2015, the District installed both the MST and Los Carneros pipelines, which are considered to be in excellent condition.

Shared Facilities

While the District does not practice facility sharing with other agencies, it collaborates with other agencies on joint projects and initiatives as previously described. The District did not identify any potential for future facility sharing with regard to recycled water services.

Infrastructure Needs

Since the District's Recycled Water Master Plan was compiled in 2005, conditions have changed, and the plan has become outdated. The plan proposed extending service to the Silverado area as Phase 3 of the expansion of the system; however, it has since become apparent that extension to that area is challenging. Future expansion strategies will need to be outlined in a new plan.

Overall, the District anticipates the potential for small expansions to the system, but nothing significant, at least not in the short term. NapaSan identified a need for storage of recycled winter water for use during summer months.[966] Additionally, the District is considering the potential for potable reuse; however, the State is still developing a framework for regulation.

NapaSan's 10-year CIP plans for capital projects to the recycled water system. These capital projects are also accounted for in the District's annual budget. Projects in FY 19-20 include the completion of the Coombsville Recycled Water Truck Fill Station, rehabilitation of the Kirkland Pipeline, and continued environmental plan development and grant applications with the North Bay Water Reuse Authority. Additionally, the District has planned for replacement of the Badger meters and replacement of tractor attachments used in biosolids application. These projects combined are allocated $619,700 in FY 19-20.

Over the next 10 years through FY 27-28, planned major capital improvements include the Kirkland Recycled Water Pipeline Rehabilitation, the North Bay Water Reuse Project, a third water reservoir, Phase 2 expansion of the recycled water system, and an upgrade of a Soscol pump station. These projects have been allocated $9.7 million over the time frame.[967]

Recycled Water Quality

Water recyclers are required to meet State quality standards for beneficial reuse. Title 22 of California's Water Recycling Criteria refers to California state guidelines for how treated and recycled water is discharged and used. Title 22 requires the California Department of Public Health (CDPH) to develop bacteriological and treatment standards for each level of treated water that is recycled or reused. The regional water boards issue permits for individual water recycling projects in accordance with statewide criteria established by CDPH. Revisions to Title 22 were adopted and published in December 2000. The revamped Title 22 lists 40 specific uses allowed with disinfected tertiary recycled water (such as irrigating parks), 24 specific uses allowed with disinfected secondary recycled water (such as irrigating animal feed and other unprocessed crops), and seven specific uses allowed with undisinfected secondary recycled water (such industrial uses).

[966] Interview with NapaSan staff, April 4, 2019.
[967] NapaSan, FY 18-19 Budget, p. 87.

NapaSan treats recycled water for reuse to tertiary standards, meaning the reclaimed water can be made available for the widest variety of uses. The District met the treatment standards established by CDPH every day in 2018.

The District has struggled in the past with high chloride levels and continues to monitor chloride levels. During the fall of 2014, NapaSan staff noticed an increase in chloride concentrations in wastewater influent flow and recycled water produced at the treatment plant. Since wine grape vineyards have a low tolerance for chloride in irrigation water, NapaSan staff monitored the chloride levels. When chloride concentrations continued to increase during the fall of 2015, NapaSan began investigating commercial and industrial wastewater sources and exploring what could be happening in the collection system that could contribute to higher chloride concentrations. Collection system videos of the sewer pipelines in areas of high chloride concentration identified two locations of substantial groundwater infiltration. Spot repairs to these damaged areas resulted in a 20 percent reduction in chloride concentration in wastewater influent flow and recycled water produced by NapaSan. Additional sewer collection system rehabilitation was performed to reduce saline groundwater infiltration and adjustments were made at the treatment plant to reduce chloride concentrations. Because of the collection system fixes and operational changes at the treatment plant, peak chloride levels in 2017 were approximately 30 percent lower than in 2016 and 40 percent lower than 2015.

NapaSan continues to monitor chloride levels in influent and recycled water. Because of collection system fixes and operational changes at the treatment plant, chloride levels in 2018 remained low. NapaSan will continue to monitor chlorides and keep recycled water users informed of current chloride levels. [968]

[968] NapaSan, 2018 Recycled Water Annual Report, p. 1

WASTEWATER SERVICES

The District provides sewage collection, treatment and disposal services to its service population through approximately 37,535 connections (as of 2018)[969] and 270 miles of collection system pipelines. Upgraded treatment facilities have a dry weather treatment design capacity of 15.4 million gallons per day (mgd).

Type and Extent of Services

Services Provided

NapaSan provides collection, treatment and disposal of wastewater via its Soscol Water Recycling Facility.

Service Area

All developed parcels within NapaSan's boundaries are connected to the District's system, meaning there are no developed properties that rely on septic systems.

NapaSan serves four connections outside of its boundaries—four residences (two served by one connection) and the Napa State Hospital.[970] The location of the out of area service connections are shown in Figure 16-10. Government Code §56133 mandates that a city or district may only provide new or extended services by contract or agreement outside its jurisdictional boundary if it first requests and receives written approval from LAFCO with certain exceptions. This requirement went into effect as of January 1, 2001; therefore, any connections that occurred prior to that date are considered in essence "grandfathered in." Of NapaSan's out of area connections, two occurred prior to the State mandated date; the Napa State Hospital connected sometime in the 1950s and the residential connection on El Centro[971] occurred in approximately 1977. The other two residential connections were appropriately approved by application to LAFCO in 2013[972] and in 2015.[973] NapaSan does not have policies specific to the extension of services outside of its boundaries or sphere of influence.

NapaSan's service area is further defined in a JPA dissolution agreement with the City of American Canyon. NapaSan owns and operates the sewer collection system and recycled water distribution system in the unincorporated areas (business/industrial parks) in the areas north of Fagan Creek. The City of American canyon is responsible for areas south of Fagan Creek. There are a few properties that are exceptions (Chardonnay/Eagle Vines Golf Course and the Napa County Airport) that are south of Fagan Creek, but sewer/recycled water service is provided by NapaSan.

Services to Other Agencies

NapaSan does not provide wastewater services to other agencies.

[969] NapaSan, Budget FY 19-20, p. 125.
[970] APNs 038-110-035, 039-310-017, 052-080-026, 046-450-020-000 (primary APN for Napa State Hospital, however the facility extends to multiple APNs)
[971] APN 038-110-035
[972] LAFCO Resolution No. 2013-09.
[973] LAFCO Resolution No. 2015-08.

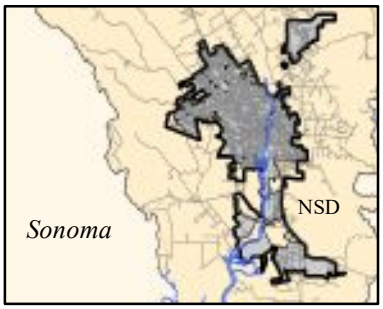
Figure 16-10

Napa Sanitation District (NSD)

29
Big Ranch Road
Dry Creek Road
Silverado Trail
Monticello Road
Redwood Road
Trancas Street
California Boulevard
Jefferson Street
Browns Valley Road
Soscol Avenue
Coombsville Road
Old Sonoma Road
Imola Avenue
12
Stanly Lane
221
29
Airport Boulevard
12

Legend

- NSD Jurisdictional Boundary
- NSD Sphere of Influence
- NSD Outside Sewer Connections



N
0 0.5 1 Miles

December 30, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
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Contracts for Services

The County provides IT, accounting, treasury, and assessor services to NapaSan by contract.

Overlapping Service Providers

While NapaSan largely overlaps the City of Napa, the two agencies provide two distinct services—wastewater and water utilities—and there are no known concerns of overlapping or duplicative service deliveries. The two agencies appear to capitalize on collaborative efforts (as described below) and a close communicative relationship, which minimizes the potential for duplication of services.

Collaboration

NapaSan and the City of Napa collaborate on various aspects of service provision to improve efficiency and effectiveness. NapaSan partners with the City to run a large recycling program for oils (Recycle More Program), which directly benefits NapaSan by minimizing the cooking oils that are entering the wastewater system. The two agencies also benefit from a joint water conservation program and collaboration on pipeline projects where the City can plan to make street improvements in tandem with NapaSan pipeline renewal/construction projects

In the past, NapaSan was part of a joint-powers agreement with the American Canyon County Water District, which was known as the Napa-American Canyon Wastewater Management Authority ("Authority") in 1975. The Authority, which paralleled an existing service arrangement between the two affected parties in which NapaSan was already providing treatment through a common force main located near the Napa County Airport, facilitated the construction of the Soscol WRF in 1978 to supplement ongoing operations at the Imola WTP.[974] The Authority was dissolved in 1994 following the incorporation of American Canyon and subsequent dissolution of the water district; however, NapaSan continues to provide services to the Napa County Airport via an agreement with the City of American Canyon.

Staffing

In total, NapaSan has 53 positions to manage and operate all services provided by the District—one in the General Manager's Office, seven in Administrative Services, 33 in Operations Services, and 12 in Technical Services. Of the Operations Services staff, 29 full-time equivalents are dedicated to operation and maintenance of the wastewater collection, treatment and disposal system. The 53 positions here include the three positions also contributing to the recycled water distribution previously mentioned.

Wastewater Flow

Wastewater is collected throughout NapaSan's service area from 37,535 connections (23,849 single family, 8,393 multi-family, and 5,293 commercial/industrial) and transmitted to the Soscol Water Recycling Facility. The District operates under Order No. R2-2016-0035

[974] Napa LAFCO, Central County MSR, 2014, p. 66.

(NPDES No. CA0037575) issued by the Regional Water Quality Control Board (RWQCB). The permit limits influent flow into the plant to an average dry weather flow no greater than 15.4 mgd.[975]

The average dry weather flow (May-October) of wastewater into the treatment facility was approximately 6.2 mgd, while the average wastewater flow for the entire year was approximately 7.4 mgd in calendar year 2018.

Figure 16-11: NapaSan Average Annual Wastewater Influent Flows (2014-2018)

Napa Sanitation District Average Annual Influent Flows (mgd)				
2014	2015	2016	2017	2018
7.6	7.7	8.1	10.6	7.4
Source: NapaSan, Budget FY 19-20, p. 124				

While the number of connections served by NapaSan has risen over the last five years, the District has experienced generally declining wastewater flows due to drought and resulting conservations measures, with 2017 being the exception given that it was the third wettest winter in recorded history for the area. Figure 16-12 shows average dry weather flows for the same time period, which are generally not impacted by wet weather. The Districts dry weather flow has been relatively constant over the five-year period.

Figure 16-12: NapaSan Average Dry Weather Wastewater Influent Flows (2014-2018)

Napa Sanitation District Average Dry Weather Influent Flows (mgd)				
2014	2015	2016	2017	2018
6.5	5.9	6.4	6.6	6.2
Source: NapaSan, Request for Information Flow Data, January 20, 2019				

Wastewater collection systems can be impacted by significant wet weather events due to infiltration and inflow (I/I). All wastewater providers experience I/I to some degree, which results in higher flows at the treatment facilities. During these events, NapaSan's wet weather flow is directed in part through the open 340-acre Oxidation Pond system. The Oxidation ponds provide treatment, allow flow equalization and flow management of the hydraulic load through the facility. On average, NapaSan discharges approximately 13.7 million gallons per day of treated wastewater to the Napa River during the wet season. During 2017, NapaSan experienced a peak wet weather discharge of 29.5.

[975] RWQCB Order No. R2-2016-0035 (NPDES No. CA0037575).

Figure 16-13: NapaSan Peak Wet Weather Discharge (2014-2018)

Napa Sanitation District Peak Wet Weather Discharge (mgd)				
2014	2015	2016	2017	2018
20.6	20.1	20.5	29.5	19.7
Source: NapaSan, Response to Request for Information, 9/23/19.				

Wastewater Infrastructure and Facilities

Wastewater Treatment Plant

NapaSan owns and operates the Soscol Water Recycling Facility (SWRF), which was built in 1978 (upgraded in the 1990's and again in 2015), and its associated collection system. The SWRF is a secondary and tertiary biological physical-chemical treatment facility that treats a mixture of domestic and industrial wastewater. NapaSan wastewater processes include primary treatment, activated sludge facilities, four oxidation ponds, clarifiers, sludge digestion and solids de-watering facilities.

As previously noted, NapaSan's permit for the treatment facility limits influent flow into the plant to an average dry weather influent flow no greater than 15.4 million gallons per day. Additionally, treatment capacity is further constrained by permitted discharge limits. NapaSan is permitted to discharge to the Napa River from November 1 through April 30 (the wet season period). The District provides full secondary treatment at its wastewater facility whenever discharging to the Napa River. From May 1 through October 31 (the dry season period) discharge to the Napa River is prohibited and wastewater is either stored in stabilization ponds or treated to the tertiary level and beneficially reused for irrigation of landscaping, industrial parks, golf courses, pastures, feed and fodder crops, cemeteries, Napa Valley College ball fields, a recreational park, and vineyards. At present, the District has the capacity to treat and distribute up to 3,700 acre-feet of recycled water during the irrigation season.

During the reclamation season, influent wastewater is treated in the same manner as during the wet season; however, after secondary treatment, oxidation pond system effluent is commingled with activated sludge effluent and then sent for coagulation, filtration, and chlorination before reclamation. Flows not used for reclamation remain in the oxidation ponds and do not undergo clarification until the wet season begins and discharge to the Napa River is allowed. Reclamation is regulated under Regional Water Board Order No. 96-011 (General Water Reuse Order).

The District created a Wastewater Treatment Master Plan in 2011 to prioritize improvements and expansion projects through 2030. The Plan found that over the next 20 years, the District needs to expand the influent pump station, add activated sludge treatment capacity, expand recycled water production facilities, and complete the second egg-shaped

digester to accommodate more biosolids.[976] While the influent pump station (2016) was replaced and the recycled water capacity has been expanded (2015), the construction of the second digester and third aeration basin start dates were pushed back to FY 24-25 based on the current and projected flow and loading numbers. The completed improvements expanded capacity at the treatment plant and increased capacity to reclaim water. The District reported that it plans to continue expansion efforts; however, given the updates to the treatment system and the changes in conditions since the Master Plan was compiled, the District recognizes the need to update the master plan within the next two years.

In addition, the District has had to address unplanned capital projects due to the South Napa Earthquake in August 2014, which damaged several parts of the treatment plant, including the digester tower. NapaSan was able to complete these repairs in FY 2017/18, with financial assistance from the Federal Emergency Management Agency and the California Office of Emergency Services.

The District has made significant strides towards improving efficiency of its system and making use of alternative energy sources. In FY 17-18, the District was able to power the treatment facility with 53 percent of self-generated energy. The District 1) optimized controls to minimize energy use, 2) installed jockeys at pump station to only used what is needed, 3) changed overhead lighting to lower use, 4) accepts high-strength fats, oil, and grease (FOG) into the anaerobic digester for increased methane production; 5) burns methane from the anaerobic digester in a cogeneration engine to produce electricity; 6) invited review by PG&E to make recommendations on how to reduce energy use, 7) installed solar, and 8) stores excess energy in Tesla batteries for when needed.

Collection System

NapaSan owns and maintains its sewer collection system, which includes gravity sewer mains, street service laterals, and pump stations. The majority of the collection system was constructed between 1942 and 2006 but some pipes are over 100 years old. The system includes approximately 270 miles of sewer pipelines, 33,000 street service laterals, approximately 5,565 sanitary sewer manholes and an estimated 50 to 75 flush holes. Gravity sewer pipe sizes range from 4- to 66-inch diameter and are constructed of vitrify clay pipe (VCP), polyvinyl chloride (PVC), reinforced concrete (RCP), and asbestos cement (ACP). Figure 4-1 shows the type of pipe comprising the collection system by age and by size. The majority of the pipe is ACP with diameters of 12-inch or smaller.[977]

NapaSan regularly cleans and inspects a substantial portion of its collection system every year. In 2017, NapaSan cleaned 115 miles of sewer mains, which is 42.5 percent of the system. Crews also video inspected over 25 miles of pipeline to assess its condition.[978] In 2018, NapaSan cleaned 156 miles of sewer main (58 percent of the system) and video inspected over 45 miles of pipeline (17 percent of the system).

The District's 2007 Collection System Master Plan reported that the District's collection system was composed of many older sewers that were installed prior to the Clean Water Act, when I/I flows were not a concern and pipeline construction methods did not achieve watertight joints. The District completed wet weather flow monitoring studies, which

[976] NapaSan, Wastewater Treatment Master Plan, 2011, FAQ-2.
[977] NapaSan Collection System Master Plan, 2007, p. 4-1.
[978] NapaSan, PAFR FY 17-18, p. 8.

confirmed that the District's collection system had high I/I flows, but otherwise had been maintained in good condition for its age. In 2017, the third wettest year on record, the District's system experienced a peaking factor (peak wet weather flow/average dry weather flow) of approximately eight, which is indicative of a high level of I/I. The level of I/I in the collection system is the primary capacity constraint for NapaSan.

NapaSan is aware of the I/I and has initiated a long-term targeted program to address problem areas. As a part of the plan, the District aims to replace approximately two percent of its system annually. The District is on track to meet this target. In FY 17-18, NapaSan repaired or replaced 5.8 miles of aging sewer pipeline, which represent 2.1 percent of the entire system. NapaSan also repaired or replaced 578 laterals throughout the system in the same year.[979] The District conducts flow monitoring prior to the start of a project and following completion to quantify the impact of the capital improvement. Between 2011 and 2018, collection system rehabilitation projects resulted in a reduction of peak flow of 16.4 mgd. Locations that have had overflow problems in the past have been corrected. However, the District foresees that projects and improvements will be ongoing in order to fully address the issue.

To provide more details regarding the integrity of the District's sewer system and adequacy of its services this report includes analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year. Over the last five complete years (2014-2018) there were 436 SSO events including all categories. A breakdown by year is shown in Figure 16-14. Averaged over the five-year period, the District's SSO category 1 mainline spill rate was about 4.13 spills per 100 miles of mains. By comparison, other wastewater agencies in California average 4.69 category 1 mainline SSOs per 100 miles per year.[980]

Figure 16-14: NapaSan Sanitary Sewer Overflows (2014-2018)

	Sanitary Sewer Overflows (spills/100mi/yr)					5-Year Average		
Category	2014	2015	2016	2017	2018	NapaSan	State	Region
1-Mainlines	4.79	0.0	1.47	13.64	0.74	4.13	4.69	6.27
1-Laterals	1.36	1.60	2.72	0.0	1.36	1.41	20.06	1.87
2-Mainlines	0.0	0.0	0.0	0.0	0.0	0.0	2.86	2.62
2-Laterals	0.0	0.0	0.68	0.0	0.0	0.14	8.22	12.94
3-Mainlines	4.42	2.58	1.47	2.58	1.47	2.50	7.37	10.49

[979] NapaSan, PAFR FY 17-18, p. 8.
[980] CIWQS Reporting System, 8/14/2019.

	Sanitary Sewer Overflows (spills/100mi/yr)					5-Year Average		
Category	2014	2015	2016	2017	2018	NapaSan	State	Region
3-Laterals	68.21	49.8	37.41	41.61	39.56	47.32	24.81	22.41
NapaSan Total	78.78	53.98	43.75	57.83	43.13	55.49		
State Total	126.46	57.49	81.68	41.44	83.23		78.06	
Region Total	60.53	47.97	129.53	42.66	43.59			64.86
Source: CIWQS Reporting System, 3/27/19								

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The District has both a permit for treatment and discharge at the treatment facility (NPDES Permit No. CA0037575) and a general permit for its collection system.

The District received one violation for its collection system in 2016 for failing to timely certify an SSO. In 2017, the District had three violations due to flows exceeding collection system capacity during storm events, which resulted in SSOs. The District received two Notices of Violation and a Staff Enforcement Letter as a result of these events.[981]

Infrastructure Needs

At present the District's Collection and Treatment Master Plans are both out of date. The District is in the process of updating its Collection System Master Plan and plans to update the Treatment Master Plan in the next two years. These plans are essential for appropriately planning for long-term capital needs. In lieu of up to date master planning documents, NapaSan has continued to plan financially for rehabilitation and expansion projects in its 10-year CIP.

The budget for FY 19-20 allocates $4,305,000 towards treatment plant capital projects, including dredging solids from Pond 1, the completion of the 2019 Treatment Plant Improvement Project and the beginning of the 2020 Treatment Plant Improvement Project. These funds will also cover the beginning of the Treatment Plant Master Plan Update.

Treatment equipment replacements include projects to replace equipment in the Headworks building, repairing and coating equipment in the primary clarifier and DAF clarifier, conducting elevator control updates, and replacing the telehandler. The total FY 19-20 allocation is $2,872,300.

Collection system capital projects represent significant and routine replacement or rehabilitation of existing pipeline or equipment. These projects are designed to replace or

[981] SWRCB, California Integrated Water Quality System report, 3/27/19.

improve assets to extend their useful lives and to reduce I/I entering the collection system. Major projects beginning or continuing this year include the Browns Valley Trunk project, the Summer 2019 Sewer Rehabilitation project, the Summer 2020 Sewer Rehabilitation project, and the 66-inch trunk rehabilitation project. This budget item also includes the development of the Collection System Master Plan update. Collection system projects for the fiscal year total $20,201,500. Additionally, in FY 19-20, the West Napa Pump Station replacement project will begin. Lift Station capital projects for the year total $5,500,000.

Over the 10-year period of the CIP, $70,785,300 is allocated to treatment projects and equipment and $162,720,150 is allocated to collection system projects, equipment, and lift stations. The most significant treatment plant projects are the installation of the second digester ($19.1 million) and the expansion of the aeration basin ($7 million), both of which are scheduled to start in FY 24-25. The most significant collection system projects are the Brown Valley Trunk ($28 million), 66-inch trunk rehabilitation ($18 million), and the West Napa pump station replacement ($11 million).

Shared Facilities

While the District does not practice facility sharing with other agencies, it collaborates with other agencies on joint projects and initiatives as previously described. The District did not identify any potential for future facility sharing with regard to wastewater services.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several NapaSan governance structure options were identified with respect to NapaSan, including possible service structure modifications, territorial changes, governance alterations, and reorganizations with other agencies. The feasibility of each of these options is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Merger with the City of Napa

There have been at least three separate reviews over the last 25 years regarding the merits of reorganizing NapaSan. The first formal review was initiated by NapaSan in 1995 in response to a grand jury report. The review considered–among other items–two alternatives: 1) reorganizing the District as an independent special district with a directly elected board or 2) merging with the City of Napa. This review–prepared by a NapaSan subcommittee in consultation with LAFCO, the City of Napa, and the County–produced a recommendation that was ultimately enacted through special legislation to increase the number of appointed board members of the existing sanitation district from three to five with the two new seats belonging to members of the public—one new seat appointed by the City and the other new seat by the County.

The second review was performed directly by the Commission as part of its inaugural municipal service review of NapaSan. This review determined that the current governance structure appropriately balances the interests of both the City and the County while allowing NapaSan to remain independent in matters affecting local land use decisions.

The third review was performed as part of the 2014 Central County Region MSR. The review considered transition to an independent sanitary district, functional consolidation with the City of Napa through contract, becoming a subsidiary district of or merger with the City of Napa, and transition into a County-dependent county service area. The study ultimately found that there was debate about the potential for greater accountability with an independent district, unclear benefits to a functional consolidation with the City, and no cost savings were associated with becoming another form of a dependent district. The study did not find significant advantages to reorganization of NapaSan in terms of cost efficiency, accountability, or governance.

The current MSR assessment concurs with the previous analyses and adds that, in addition to a lack of identifiable benefits to a reorganization of NapaSan, there is also a lack of impetus for change. NapaSan is a well-managed agency that provides a high level of services as indicated in the MSR review and determinations for NapaSan. NapaSan is financially stable and continuously makes efforts to innovate and to improve efficiency. Additionally, there is no duplication of services, deficiency in service levels, nor inefficiency in the existing structure that requires repair. It is recommended that the district type, service structure, and governance structure remain unchanged.

Annexation of Los Carneros Water District

Given that NapaSan provides almost all services to the customers within LCWD's boundaries, which in essence is a "functional consolidation," there is potential to streamline the service structure by eliminating a level of administration through a "full consolidation" of the two agencies. While there is no duplication of services, there is certainly potential for greater efficiency of service structure and elimination of duplicative overhead costs, as two separate agencies are not needed to offer the current level of services. It was recommended in LCWD's 2016 MSR that the potential for reorganization of LCWD with NSD be assessed prior to 2023.

At present, NapaSan is responsible for all aspects of treatment, distribution, and delivery of the reclaimed water to LCWD customers. NapaSan provides 100 percent of the water distributed within LCWD, owns and maintains the distribution system to the customer connections, acts as Water Manager, and bills the customers directly.

LCWD was instrumental in getting the Carneros Pipeline completed by coordinating the funding and spearheading the existing assessment district. LCWD's primary responsibility is repaying the loan, which partially funded the new infrastructure. Assessments to fund the pipeline and new infrastructure extended to LCWD are collected through the County Auditor's office and used to repay the loan, which is to be paid off by 2028. LCWD is currently all volunteer; it has no employees. LCWD reported that it acts as a liaison between NapaSan and LCWD customers, disseminates information regarding rules of water use to customers, and fields all questions regarding the assessment district. At present, LCWD does not have a plan to extend or expand services offered.

Given that NapaSan is providing all core services within LCWD and owns and operates the infrastructure, dissolution of LCWD and annexation of the territory by NapaSan would be relatively straightforward. The Assessment District would remain intact and the property owners would continue to be responsible for and secure the loan with the property assessment, while the manner of collection and payment on the loan would continue to be conducted by the County Auditor. While it does not appear that this would have adverse financial impacts, NapaSan has indicated concerns regarding the possibility of unintended consequences—for example on NapaSan's current and future debt issuances. This reorganization option would require further analysis to assess impacts on existing debt indentures, consistency with bond council opinion and direction, reporting requirements to various State agencies, and GASB reporting guidelines or standards.

As part of this process for this scenario, all financial and physical assets of LCWD would likely be transferred to NapaSan. LCWD does not have any equipment or infrastructure in its name. Financial assets of LCWD consist of a Restricted Debt Service Fund with a balance of $794,890 at the end of FY19[982] and General Fund balance of approximately $55,000. Should NapaSan become the fiscal agent for the loan associated with LCWD's assessment district as part of the reorganization, then the debt service fund requirements would transfer as well along with the entirety of the debt service fund balance.

The quantifiable benefits of this reorganization would be a savings of approximately $20,000 to $30,000 each year, which is presently allocated to LCWD administrative costs,

[982] LCWD Basic Financial Statements for the Fiscal Year Ended June 30, 2019, Governmental Funds Balance Sheet, pg. 5.

including board expenses, legal and financial services. These services could likely be covered at little or no additional expense to NapaSan.

Beyond cost savings, other potential benefits of a reorganization consist of 1) streamlining and improving clarity of service structure for customers, 2) elimination of duplicative administration and governance services, and 3) provision of all services by a well-managed professional agency with full-time staff and extensive expertise and resources.

There are drawbacks to the potential reorganization of NapaSan and LCWD, including 1) elimination of a governing body with entirely local trustees that represent the interests of the landowners within LCWD and 2) limiting future water services offered in the area to the distribution of reclaimed water or other services which NapaSan is empowered to provide; although no service expansion has been nor is under consideration.

Should LCWD not be interested in expanding its role in water provision in the area, then it would be appropriate to consider dissolution and annexation by NapaSan to realize cost savings and the other benefits of annexation. It is recommended that NapaSan and LCWD begin discussions regarding the possibility of moving forward with reorganization.

Expansion of Services to other Agencies

There are several small wastewater systems in Napa County which struggle to provide an adequate level of services. Smaller service providers in rural areas often must focus on day-to-day operations and do not have the staff capacity to conduct pre-planning and highly technical services. These agencies have expressed interest in either receiving support services or being fully taken over by a larger service provider.

One such option is for NapaSan to take on the role of a regional sanitation provider by providing contract services to these small systems outside of its boundaries. Alternatively, NapaSan could expand its boundaries and annex the interested agencies; however, there are certain limitations to this option as a majority of the wastewater providers also provide potable water services. Smaller water service providers are facing challenges similar to the wastewater service providers; however, NapaSan could only take on wastewater services for the multi-service agencies, as sanitation districts are not empowered to provide potable water services. Separating the water and wastewater utility operations that are already offered together may result in a loss of efficiencies. Therefore, providing contract services is the preferred option.

Contracting out services to agencies, or what also might be referred to as "functional consolidation," allows for flexibility of service structure and, if successful, may be a step towards eventual "full consolidation" that would consist of annexation of the subject territory and dissolution of the agency or divestiture of wastewater powers (multi-service agencies) through LAFCO action. Although a long-term goal may well be a "full consolidation," a "functional consolidation" may be better suited as an initial step in the process. The benefits of NapaSan providing its services by contract to interested agencies includes the following:

1. The provision of contract support services would allow for flexibility in the manner and nature of services to be provided to allow for tailoring to the needs of the

contracting agency, which could include provision of specific or limited services or consist of all administration and operations.

2. Contracting to agencies for services outside of the boundaries of NapaSan does not require LAFCO approval.
3. A contract would allow NapaSan and the contracting agency to test out the alternative service structure without making a long-term commitment.
4. The contracting agency would continue to exist and maintain local control.
5. "Functional consolidation" would allow each agency to retain its identity while at the same time combining resources or specialty assets and improving efficiencies.
6. Contracting could result in a reduction in equipment needs and duplication of efforts.
7. Contracting for services would not face the labor concerns that may result from a "full consolidation."
8. Customers of the contracting agency would receive a high level of services and broader expertise from a larger, professionally operated service provider.

While certainly beneficial to the contract agencies, this structure would only allow NapaSan to take on sewer services at multi-service agencies that may also desire water delivery support services. Another option identified during this review is the potential for a countywide county water district that could provide support or take on both water and wastewater services for interested agencies. This governance structure option is discussed in more detail in the *Overview* chapter of this report.

Expansion of Services to Monticello Park

The Monticello Park subdivision is located outside of NapaSan's boundaries to the north. The subdivision is comprised of 131 developed parcels with single-family residences, all of which rely on septic systems. Some of the septic systems have started to fail, and replacements are cost prohibitive. Residents of Monticello Park have indicated an interest in receiving services from NapaSan in lieu of replacement of the failed septic systems.

Expansion of NapaSan's SOI to include the Monticello Road area was reviewed during the last SOI update in 2015 and was deemed not timely or feasible. Extension of needed services to the already developed area through provisions in Government Code §56133.5 is an option that would allow for needed services to the defined developed area. Any extension of wastewater service under Government Code §56133.5 would need to be authorized by the Commission as a separate action in response to a formal request in accordance with the Section.

NapaSan has indicated that it is willing to extend services to the area, if residents expressed interest and submitted a request for services. However, given that the pipeline to the area is reportedly undersized to serve the additional demand from the Monticello Park community, extension of services to the area would require an engineering study to plan for a parallel pipeline or to resize the existing pipeline and to identify financing for the project, such as an assessment district.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to NapaSan regarding its wastewater and recycled water service delivery.

1. It is recommended that NapaSan and LCWD begin discussions about the possibility of moving forward with reorganization.
2. Given NapaSan's level of services and expertise, it is recommended that NapaSan make technical support services available by contract to interested agencies.
3. NapaSan does not have policies specific to the extension of services outside of its boundaries or sphere of influence. It is recommended that NapaSan consider defining where outside services will be considered to prevent conflict with land use authority growth policies.
4. It is recommended that NapSan's district type, service structure, and governance structure remain unchanged.
5. It is recommended that NapaSan consider defining where outside services will be considered.

NAPA SANITATION DISTRICT DETERMINATIONS

Growth and Population Projections

- Napa Sanitation District's population, as of 2019, was approximately 83,061.
- NapaSan's population increased by 0.57 percent annually between 2012 and 2017.
- NapaSan plans to serve three new developments and has provided Will Serve letters for all three—Stanly Ranch, Montalcino Napa Valley, and the Napa Pipe Project. Combined these projects would add two resorts, 1,015 housing units, a winery, and commercial/retail space.
- LAFCO anticipates continued growth within NapaSan similar to the most recent five-year trend of 0.57 percent annually, with an anticipated population of 88,128 by 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- At present, demand for recycled water is well within capacity of the treatment plant. In 2018, 2,222 acre-feet of recycled water was produced, which constitutes 60 percent of the plant's maximum production capacity of 3,700 acre-feet during irrigation season. Demand for recycled water is anticipated to continue to rise in the coming years, reaching the maximum supply capacity of 3,700 acre-feet by 2030.
- The level of recycled water services offered by NapaSan were found to be more than adequate based on integrity of the recycled water distribution system and compliance with water treatment requirements. The integrity of NapaSan's distribution system is excellent as measured by the degree of annual water loss and the rate of main breaks and leaks per 100 miles of main. The District met the treatment standards established by CDPH every day in 2018.
- NapaSan appropriately plans for its recycled water infrastructure needs in a 10-year Capital Improvement Plan. Over the next 10 years through FY 27-28, planned major capital improvements include the Kirkland Recycled Water Pipeline Rehabilitation, the North Bay Water Reuse Project, a third water reservoir, Phase 2 expansion of the recycled water system, and an upgrade of a Soscol pump station.
- NapaSan has more than adequate capacity to accommodate existing and projected demand at its wastewater treatment plant. In 2018, NapaSan made use of 40 percent of the available treatment capacity at its plant.

- In 2017, the third wettest year on record, the District's system experienced a peaking factor of approximately eight, which is indicative of a high level of infiltration and inflow (I/I). The District exceeded the wet weather capacity of its collection system at that time. The level of I/I in the collection system is the primary capacity constraint for NapaSan. NapaSan is aware of the I/I and has initiated a long-term targeted program to address problem areas.
- The level of wastewater services offered by NapaSan were found to be adequate based on integrity of the wastewater collection system and regulatory compliance. Addressing the I/I issues will improve the level of service offered by the District.

Financial Ability of Agencies to Provide Services

- NapaSan has the ability to continue providing wastewater services. Revenues exceed expenditures (including debt) by about $10 million, or almost 50 percent of expenditures. q
- The District allocates net revenues to reserves, which exceed minimum targets, and to capital improvements. Ending fund balances, net position and liquidity measures are all positive and indicate a stable position.
- NapaSan established a five-year schedule of rate increases through FY21. Current rates are well below maximum burdens given median household incomes in the District.
- The District's increase in net capital assets in FY18 exceeded depreciation. The District maintains and regularly updates its 10-year capital improvement plan that includes anticipates costs and available funding. The District generally has funded the Plan each year consistent with the needs identified in the Plan.

Status of, and Opportunities for, Shared Facilities

- While the District does not practice facility sharing with regard to wastewater and recycled water infrastructure with other agencies, it collaborates with other agencies on joint projects and initiatives.
- NapaSan partners with the City of Napa to run a large recycling program for oils (Recycle More Program). The two agencies also benefit from a joint water conservation program and collaboration on pipeline projects. Also, NapaSan, the City of Napa, and Napa Recycling coordinate scheduled tours of the wastewater treatment plant, water treatment plant, and recycling facility for Napa area students.
- The recently completed Coombsville recycled water truck filling station in the MST area is a joint project with the County and funding coming from the MST CFD and the State.
- No further opportunities for facility sharing were identified.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District Board holds regular appropriately noticed meetings.
- The District primarily conducts outreach via its website, which makes available comprehensive information and documents to the public and solicits input from customers. The website complies with SB 929 and AB 2257 requirements.
- The District has made significant strides towards improving efficiency of its system and making use of alternative energy sources. In FY 17-18, the District was able to power the treatment facility with 53 percent of self-generated energy through efforts to reduce energy usage and increase energy production and storage.

Relationship with Regional Growth Goals and Policies

- NapaSan is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- NapaSan provides outside wastewater services to four connections outside of its boundaries—four residences (two served by one connection) and the Napa State Hospital. Two connections were established prior to G.C. §56133 and are specifically exempt given that the service was extended prior to January 1, 2001. For the other two connections, LAFCO approval was appropriately sought. NapaSan does not have policies specific to the extension of services outside of its boundaries or sphere of influence. It is recommended that NapaSan consider defining where outside services will be considered.
- A majority of the NapaSan's recycled water service area lies outside of its boundaries to the northeast, southeast, and west. Recycled water services are exempt from requiring LAFCO approval prior to extension of services beyond an agency's boundaries under Government Code §56133.
- NapaSan makes its recycled water available for trucking through two filling stations. The District has appropriately adopted limitations on the location and type of uses for trucked water, to which users are required to sign agreement.
- The Monticello Park community is experiencing failing septic systems, and replacement is cost prohibitive. There is a need for wastewater services in the area that could be provided by NapaSan. Extension of needed services to the already developed area through provisions in Government Code §56133.5 is an option that would allow for needed services to the defined developed area.

17. SPANISH FLAT WATER DISTRICT

AGENCY OVERVIEW

SFWD Profile			
Contact Information			
Contact:	Paul Quarneri, District Manager		
Address:	4340 Spanish Flat Loop Road, Napa CA 94558	*Website:*	http://spanishflat.specialdistrict.org
Phone:	707-966-1607	*Email:*	spanishflatwd@gmail.com
Formation Information			
Date of Formation:	1963	*District type:*	Independent
Governing Body			
Governing Body:	Board of Directors	*Members:*	5 landowners or their legal representatives
Manner of Selection:	Landowner-voter system	*Length of term:*	4 years
Meetings Location:	District office: 4340 Spanish Flat Loop Road	*Meeting date:*	Second Thursday of every month.
Mapping and Population			
GIS Date:	December 2019	*Population (2019):*	413
Purpose			
Enabling Legislation:	California Water Code 34000-38501	*Empowered Services:*	Water, wastewater, hydroelectric power
Municipal Services Provided (directly or by contract)	Water, wastewater		
Area Served			
Size:	1.9 square miles or 1.185 acres	*Location:*	Lake Berryessa Region
Current SOI:	2.1 square miles or 1,339 acres	*Most recent SOI update:*	2013
Municipal Service Reviews			
Past MSRs:	2011 Lake Berryessa Region MSR 2005 Comprehensive Sanitation and Wastewater Treatment Study 2004 Comprehensive Water Service Study		

Boundaries

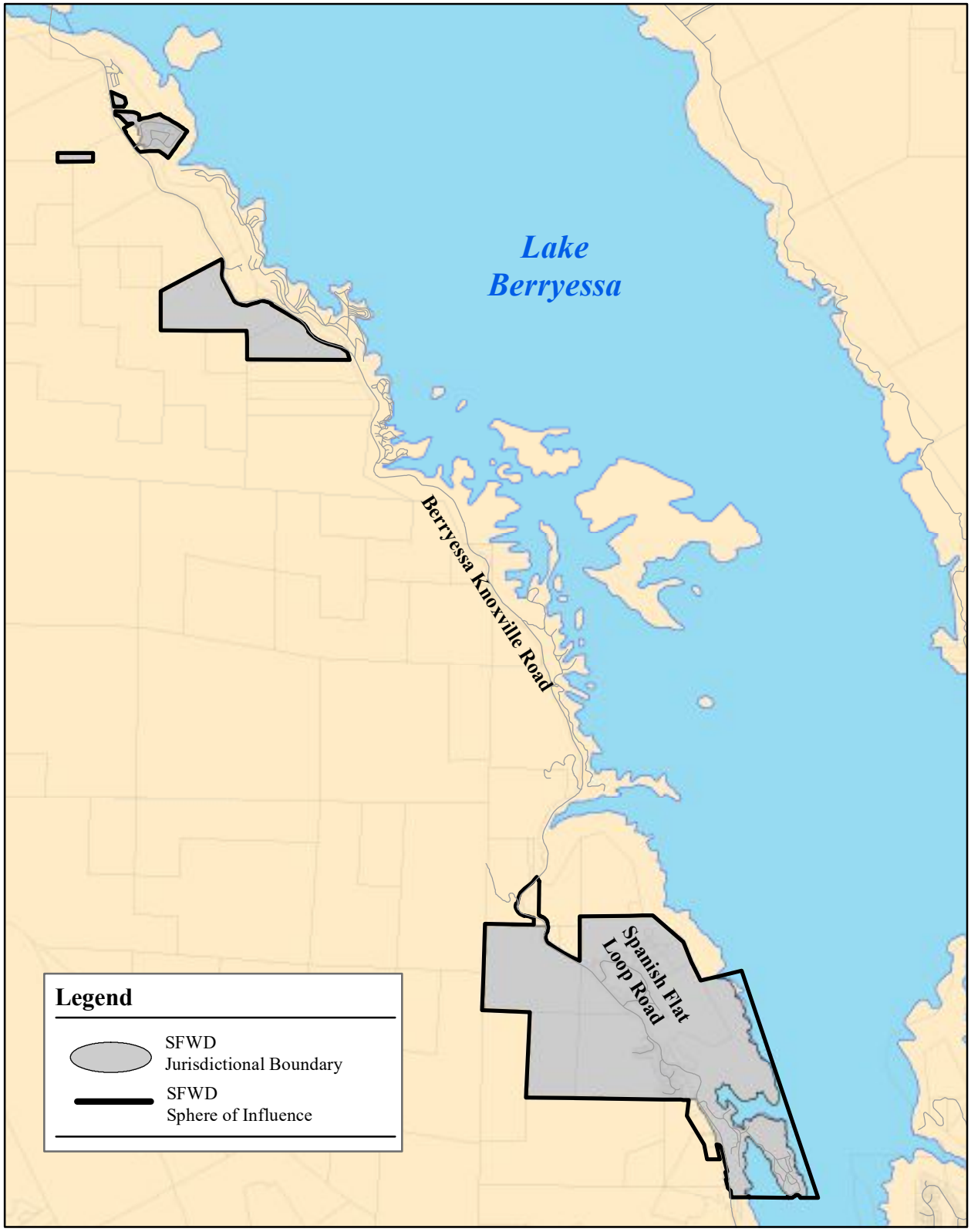
Spanish Flat Water District (SFWD) is located in the eastern portion of Napa County along Lake Berryessa and includes four non-contiguous areas with the two distinct communities of Spanish Flat and Berryessa Pines, as shown in Figure 17-1. The District's boundary area consists of approximately 1.9 square miles.[983] There have been no boundary reorganizations since at least 2010. The District reported that it considers the current boundaries appropriate.

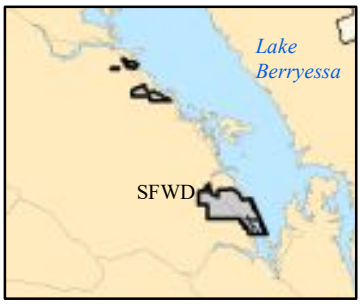
Sphere of Influence

The District's current SOI consists of about 1,339 acres or 2.1 square miles. SFWD's sphere of influence (SOI) was last updated in 2013 when it was expanded by 5.3 acres or 0.01 square miles to include two non-contiguous lots immediately adjacent to the Berryessa Pines subdivision and separated from each other by a 60-foot panhandle section of SFWD boundary area. At the time of the SOI amendment, these two lots had been already receiving domestic water and wastewater services from SFWD through out-of-area service agreements.[984] Another area that is currently out of the District's boundaries but within its SOI is a recreational storage facility north of Berryessa Pines along Berryessa-Knoxville Road.[985] The District Board has reportedly voted to annex this area but has not yet submitted an application to LAFCO.

[983] 2011 Lake Berryessa Region MSR.
[984] LAFCO Resolution No. 2013-08.
[985] Spanish Flat Water District SOI Update 2007.

Figure 17-1 Spanish Flat Water District (SFWD)





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0 0.325 0.65 Miles

December 11, 2019
Prepared by LAFCO Staff

LAFCO of Napa County
1030 Seminary Street, Suite B
Napa, California 94559
http://www.napa.lafco.ca.gov

ACCOUNTABILITY AND GOVERNANCE

SFWD is governed by a five-member Board of Directors elected to four-year staggered terms. Directors must be landowners within SFWD or their legal representatives. Voters also have to be landowners; each landowner has one vote for each dollar that his or her property is assessed. Because of the lack of contested elections, the Board of Supervisors has been consistently appointing directors to the District's Board. There are currently no vacancies on the District's Board of Directors.

The Board meets on the second Thursday of each month at the District's office at 4340 Spanish Flat Loop Road. Agendas are posted on two bulletin boards—one located by the mail boxed at Spanish store area and at the entrance to the Pines subdivision.

SFWD has published a website, but it does not yet meet all legal requirements. The Special District Transparency Act (SB 929) signed into law in 2018 requires special districts in California to have websites be set up by January 1st, 2020 and holds special districts accountable to the Brown Act, which mandates transparency. The website is mandated to clearly list the district's contact information in addition to the recommended agendas and minutes, budgets and financial statements, compensation reports, and other relevant public information and documents. A district may be exempt from the law by a resolution adopted by a majority vote of its governing body declaring detailed findings regarding a hardship that prevents the district from establishing or maintaining a website. Such resolution must be adopted annually as long as the hardship exists.[986] It is recommended that SFWD take prompt steps to establish a website that complies with the Special District Transparency Act. In October 2018, Napa LAFCO sent out a letter to all independent districts in Napa County informing them about the SB 929 requirements and the related districts' obligations. SFWD is in the process of constructing a new website and has recently published it but is still compiling information on the site. The website meets the requirements of SB 929. While constructing the website, SFWD should ensure that it is also meeting the agenda posting requirements in AB 2257.

SFWD demonstrated marginal accountability and transparency in its disclosure of information and cooperation with Napa LAFCO. The District cooperated with some of the requests for information; however, the District's limited cooperation required numerous follow-up attempts.

GROWTH AND POPULATION PROJECTIONS

Based on the number of households in the District and an average number of persons per household, SFWD has an estimated population of 413.[987] Residential uses comprise the majority of development within SFWD's two service areas. Spanish Flat is the slightly larger of the two service areas. Besides single-family homes, it contains a mobile home park. Berryessa Pines is entirely comprised of single-family residences.[988]

The buildout population within SFWD is expected to total 560. This projection assumes the development of all 62 existing undeveloped lots presently within SFWD. Although the

[986] California Government Code, §6270.6 and 53087.8
[987] Napa County Planning Department.
[988] Napa LAFCO, Lake Berryessa Region Municipal Service Review, 2011.

undeveloped lots gradually get developed, some do not connect to the District's utility systems. The District expects slow growth in the next five to 10 years.[989]

Current non-residential uses within SFWD are limited to the Spanish Flat service area. Future non-residential uses in SFWD are expected to increase as a result of the planned and pending redevelopment of the Spanish Flat Resort site, which closed in 2008.

The area is now known as the Foothill Pines Resort but is not developed and is operated as a campground and for recreational vehicle uses by the U.S Bureau of Reclamation. The campground is connected to the SFWD water system but has its own private septic system. Plans for the area included the addition of 130 guest cabins sometime between 2016 and 2020; however, as of the drafting of this report, these plans have not come to fruition.

Aside from the planned development of the Foothill Pines Resort, the potential for other non-residential uses in and around SFWD's two service areas is limited, due to County zoning regulations.

The Association of Bay Area Governments (ABAG) projects that the population of unincorporated Napa County and the entire County as a whole will grow by about six percent from 2020 to 2030. The California Department of Finance (DOF) has similar projections for Napa County. Thus, the average annual population growth in the unincorporated areas as well as Napa County as a whole is anticipated to be approximately 0.6 percent. Based on these projections, the District's population would increase from 413 in 2019 to 438 in 2030.

Napa LAFCO has developed its own population projections. To project future growth, LAFCO calculated the annual percentage change between 2012 and 2017, based on DOF population estimates for these years.[990] Population growth was projected in five-year increments through 2030. According to the LAFCO's projections, the population of unincorporated Napa County is expected to grow by about 0.21 percent a year. LAFCO projects that SFWD will grow from 413 people in 2019 to 418 residents in 2025 and to 423 people in 2030.

SFWD is not a land use authority; the District's boundary area is entirely unincorporated and subject to the land use policies and regulations of Napa County with the exception of the 241-acres of shoreline owned by the Bureau of Reclamation. The District's two distinct communities of Spanish Flat and Berryessa Pines are both identified under the County General Plan as two of the 17 unincorporated communities in Napa County.[991]

DISADVANTAGED UNINCORPORATED COMMUNITIES

LAFCO is required to evaluate disadvantaged unincorporated communities as part of this service review, including the location and characteristics of any such communities.

According to Napa LAFCO's definition of DUCs, there are currently no disadvantaged unincorporated communities in Napa County. Based on the adopted policy, the Commission

[989] Interview with Spanish Flat Water District, Paul Quarneri, August 6, 2019.
[990] The change in population, especially unincorporated area, between 2017-2018 was significant due to the wildfires and loss of homes. Therefore, LAFCO used the timeframe from 2012 to 2017.
[991] 2013 SOI Report.

annually reviews Census Bureau American Community Survey data to determine if local and/or statewide median household income levels have changed.[992]

FINANCIAL ABILITY TO PROVIDE SERVICES

The Spanish Flat Water District provides water and wastewater services to the communities of Spanish Flat and Berryessa Pines. The District funds operations, maintenance and capital improvements for water treatment and distribution facilities, and wastewater collection, treatment and disposal.

Figure 17-2: Summary of Selected Financial Information, Spanish Flats Water District Water and Wastewater Operations

Spanish Flat Water District - Water & Wastewater Operations	
FY18-19 Water Budget Net	**$18,000**
Revenues	$303,000
Expenditures (inc. debt)	$285,000
Ending Fund Balance as % of Operating Revenues	**64%**
Ending Fund Balance	$194,000
Debt Service as a % of Operating Revenues	**5.3%**
Total Debt Outstanding	$144,000
Monthly Rates as a % of Household Income	**2.0%**
Typical Monthly Water and Wastewater Rates	$130
Median Household Income (County, 2017)	$79,600
Pension+OPEB Total Payments % of Revenues	**no obligations**

2019-09-15

Balanced Budget

A Balanced Budget requires that an agency have sufficient funds to pay for its expenditures. The District's projected FY19 operating revenues (excluding hook-up fees) exceed expenditures (including debt) by $18,100, or about 6%.[993]

Fund Balances, Reserves and Liquidity

Fund balances and reserves should include adequate funds for cash flow and liquidity, in addition to funds to address longer-term needs.

Current Cash Assets at the end of FY18 of $194,400 indicate adequate current liquidity by comparison to Current Liabilities of $34,200.[994] The cash represents about 8 months of expenditures (including debt service).

[992] Napa Local Agency Formation Commission, Policy on Disadvantaged Unincorporated Communities, 2018.
[993] Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Management Discussion Highlights, pg. 2. Note: Revenue total shown in Discussion do not match the sum of individual revenue items. Expenditures shown exclude depreciation.
[994] Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Statement of Financial Position, pg. 5.

The District's financial statements report approximately $83,000 of its Net Position is designated for debt service and capital replacement without a separate breakdown of each designation.

Net Position

The District's has a positive total Net Position, and a positive Unrestricted Net Position of $116,000 indicating that net assets, other than capital assets, exceed total liabilities. The Unrestricted Net Position represents about 41% of annual expenditures (including debt service).

The District's Net Position declined about $90,000 in FY18, largely due to depreciation that was not offset by revenues or other increases in net value.

Rates and Charges

Water and wastewater operations are primarily funded by service charges. Enterprises are allowed to establish charges sufficient to fund their cost of service. SFWD's combined rates are about 2 percent of median household incomes.[995] Rates typically are expected to not exceed 2-2.5 percent of household income, for each utility, or 4-5 percent for water and wastewater combined.[996]

In FY18, $24,000 of revenues derive from an "energy surcharge" of approximately 24% in addition to basic water rates.[997] Other than changes in the energy surcharge, water and sewer rates have not been changed since 2009.[998]

Long-term Debt

The District reports two outstanding loans for its two water treatment plants that were put into service in 2008; outstanding principal at the end of FY18 totals $144,300.[999]

Annual payments for debt service total approximately $13,600 and increase slightly (less than 1 percent) each year. The District maintains required debt service reserves, and debt service coverage appears to exceed 2.0 which is sufficient. Debt service is approximately 6 percent of the annual budget. The District's FY18 budget reports $18,100 in "revenues for debt service" but does not indicate the source and does not show debt service as a line item in its budget.[1000]

The District's FY18 budget projects $18,113 of "revenues for loan repayments". Loan payments, and funding (e.g., the $18,113) are not reported in the FY18 budget, nor the basis

[995] Based on median household income of $79,637 for the County of Napa, according to the American Community Survey 2017, DP03, 5-Year estimates. Income data is unavailable for the District. See appendix for detailed estimate of typical household charges.
[996] Teodoro, et al, (2018) cite USEPA's *Financial Capability Guidebook* (USEPA 1984) as original source for the use of personal income as a measure, although it was not applied to rates in the 1984 document.
[997] Spanish Flat Water District FY18 Budget (file: "BUDGET 2018.xls" received from District 8/21/19).
[998] The rate schedule provided by the District (8/21/19) lists rates effective June 10, 2009, and indicate that "An energy surcharge calculated each year by the Board of Directors will be assessed. The surcharge is currently [2009] set at 15% of the water bill costs for each user."
[999] Spanish Flat Water District Financial Statements, Year Ended June 30, 2018, Note 5-6, pg. 9.
[1000] Spanish Flat Water District FY18 Budget.

for their allocation and collection. The FY18 Financial Statements do not appear to report these revenues.[1001]

The District's financial statements report a schedule of future principal payments but do not show future interest obligations, and do not show individual debt issuance schedules for each of the two outstanding debts. The final year and final payments are not shown.[1002]

Pension and OPEB Liabilities

The District offers no pension or OPEB benefits and has no corresponding liabilities.

Capital Assets

Capital assets must be adequately maintained and replaced over time and expanded as needed to accommodate future demand and respond to regulatory and technical changes.

The value of the District's depreciable structures and improvements declined by $126,000 of depreciation; the District's financial reports do not show changes in capital assets in its notes as is typically done in financial statements. The depreciated value is about 50 percent of total value.

Financial Planning and Reporting

Achieving transparency and public accountability standards dictates that cities and agencies provide easily accessible and clear documentation of their activities, including financial information.

Website – The District has developed a website, however it does not yet meet AB 2257 requirements.

Financial Policies – No financial policies were included in the District's financial reports, budget, or separately included with requested financial studies.

Annual Financial Report – The District prepares an annual audited financial report. However, the report does not provide important information typically found in a financial report (e.g., the debt service schedule does not detail debt issuances or include interest payments; changes in capital assets are not detailed in notes; no comparison to prior year is provided).

Capital Improvement Program (CIP) – The District has no CIP.

Cost of Service/Rate Study – The District has not revised its rates since 2009. The District adds energy surcharges, however, no documentation of annual adjustments or their basis was provided by the District.

[1001] The FY18 Financial Report (Management Discussion, pg. 2) includes a "Misc. Income" item of $41,100 but does not indicate any further detail.
[1002] Spanish Flat Water District Financial Statements, Year Ended June 30, 2018, Note 6, pg. 9.

WATER SERVICES

Well-operated public agencies conduct long-term planning activities for the services they provide. SFWD reportedly does not adopt any planning documents. Infrastructure improvement needs are not documented in a capital improvement plan and are performed on an as-needed basis.

Some planning for the area of Spanish Flat Water District related to water services is performed by Napa County in its General Plan and the Environmental Impact Report, updated in 2008. Additionally, the area was included in the planning efforts conducted as part of the 2050 Napa Valley Water Resources Study in 2005.

Type and Extent of Services

Services Provided

SFWD provides potable water services in the form of treatment and distribution to its customers. The District has a water conservation program. Recycled water is not available within the District's boundaries.

Service Area

The District's service area is primarily low-density residential, characterized by estate homes on minimum one-acre lots. There are also some institutional uses, including Foothill College. The District's infrastructure is extended to all developed lots within its bounds. There are approximately three parcels that are operating off of private wells, where the landowners have chosen not to connect to the District's system; however, the District reported that these properties could easily connect to the system if they desired. There are also approximately 300 private wells scattered throughout the District that supplement each property's water supply.

SFWD does not provide services outside of its bounds. The District reported that there are no out of boundary areas where SFWD could potentially provide services.

The District is divided into two separate services areas consisting of the Spanish Flat and Berryessa Pines service areas. These two areas are served by two separate water and wastewater systems.

Services to Other Agencies

The District does not provide services to other agencies under contract.

Contracts for Services

The District contracts with Napa County Flood Control and Water Conservation District (NCFCWCD) for its water supply. The contractual arrangements are described in more detail in the *Water Supply* section.

Overlapping Service Providers

There are no overlapping providers within the District's boundary area. There are, however, some properties in SFWD that use private wells for their water supply, as previously described in the *Service Area* section.

Collaboration

SFWD collaborates with Circle Oaks Water District by sharing a general manager.

Staffing

SFWD's administration and operation is the collective responsibility of 2.5 full-time equivalent employees. A plant operator and a maintenance worker manage the water and sewer systems. A part-time office manager responds to constituent inquiries and performs billing and payroll services. There is also a contract Manager that oversees all operations and performs required admirative duties.

Water Supply

SFWD's water supply is drawn from Lake Berryessa. The District's right to draw water from Lake Berryessa is secured through a 1999 agreement with the Napa County Flood Control and Water Conservation District (NCFCWCD). NCFCWCD presently administers an agreement with the United States Department of the Interior, Bureau of Reclamation, for an annual water entitlement of 1,500 acre-feet from Lake Berryessa. In turn, NCFCWCD subcontracts this entitlement to several property owners in the Lake Berryessa area along with three special districts, including SFWD. As a subcontractor to NCFCWD, the District is annually entitled to 200 acre-feet of water from Lake Berryessa through 2024. This entitlement serves the District's two service areas: Spanish Flat and Berryessa Pines.[1003] Pursuant to the Agreement with NCFCWCD, the District may request an increase to its annual entitlement of up to 20 percent or 40 afy. The District has not experienced reductions or limitations in this water supply in drought years. The District anticipates that the same contract will be extended in 2024.

The District's water sources with the allotted amounts are shown in Figure 17-3.

Figure 17-3: SFWD Water Sources (acre-feet per year)

Potable Water Supply by Source		
Source	**Normal Year Supply**	**Dry Year Supply**
Lake Berryessa	200	200
TOTAL	**200**	**200**

Source: County of Napa, *General Plan Draft Environmental Impact Report, Public Services and Utilities*, 2007, p. 4.13-32.
Note: Pursuant to the Agreement with NCFCWCD, the District may request an increase to its annual entitlement of up to 20 percent or 40 afy.

The full delivery of SFWD's entitlement is considered reliable given the current and historical storage levels at Lake Berryessa relative to the location of the intake systems. The supply entitlement also appears sufficient to accommodate current as well as projected demands.

[1003] County of Napa, General Plan Draft Environmental Impact Report, Public Services and Utilities, 2007, p. 4.13-32.

Emergency Preparedness

The District has not identified any specific water supply hazards. Emergency water supply is provided through the current contract with NCFCWCD. SFWD may request an increase to its annual entitlement of up to 20 percent, or 40 af.

Water Demand

SFWD provides water services to 97 (87 residential and 10 commercial) connections in Spanish Flat service area and 78 connections in Berryessa Pines service area. Spanish Flat water system serves the Spanish Flat Shopping Center and Spanish Flat Recreation Area. Non-residential uses may increase should the redevelopment of the Foothill Pines Resort come to fruition. All of the connections within Berryessa Pines are residential.

Water demand for the years 2014 through 2018 is shown in Figure 17-4. In 2018, the demand for potable water in both service areas amounted to 10.6 million gallons (mg) or 62.98 acre-feet.

Figure 17-4: Demand for Potable Water by Service Area (acre-feet)

Demand for Potable Water					
User Type	**2014**	**2015**	**2016**	**2017**	**2018**
Spanish Flat	40.35	40.05	31.41	41.80	44.38
Berryessa Pines	25.55	21.24	16.26	17.47	18.60
TOTAL DEMAND	**65.9**	**61.29**	**47.67**	**59.27**	**62.98**
Source: Spanish Flat Water District MSR Request for Information.					

Spanish Flat

SFWD's total water demand within its Spanish Flat service area in 2018 equaled approximately 44.38 acre-feet. This amount represents an average daily demand of nearly 39,210 gallons. The peak day water demand in 2018 totaled 67,286 gallons and was about 1.7 times the daily average.[1004]

The District is expecting no or slow residential growth in the next five to 10 years, as was already mentioned in the *Growth and Population* section. Growth in demand, however, may come from the development of the Foothill Pines Resort should it be completed.

Spanish Flat service area has 39 undeveloped lots which if developed would potentially connect to the District's water system. The water demand projected at buildout is expected to total 67.6 acre-feet. This projected buildout demand within Spanish Flat coupled with the projected buildout demand in Berryessa Pines can be adequately accommodated by the current supply given the combined buildout amount of 94.5 acre-feet between the two service areas would only represent 47 percent of the available supply.

Berryessa Pines

SFWD's total water demand within the Berryessa Pines service area in 2018 equaled approximately 18.6 acre-feet. This amount represents an average daily demand of nearly

[1004] County of Napa, Spanish Flat Water System Inspection Report, 2019.

16,560 gallons. The peak day water demand in 2018 totaled 48,804 gallons and was about three times the daily average.[1005]

The buildout of the Berryessa Pines service area would involve the development of an additional 23 lots. Assuming all the remaining lots are connected, the annual water demand at buildout would total 26.9 acre-feet.

Water Infrastructure and Facilities

Two separate water systems serve the District's Spanish Flat and Berryessa Pines service areas. Raw water from Lake Berryessa is captured from separate stationary intake systems serving each service area. Both intake systems are powered by dual pump systems with daily conveyance capacities of 0.5 acre-feet at Berryessa Pines and 1.1 acre-feet at Spanish Flat.

The District's overall distribution system is in good condition. The distribution system's integrity is indicated by the District's rate of distribution loss and number of breaks and leaks in 2018. The District estimates that there is less than five percent unaccounted for distribution loss from the point of treatment to the delivery point to each of the connections. The District did not provide the number of main breaks and leaks in 2018.

The District reported that there is sufficient capacity in both water systems for existing and projected demand.

Spanish Flat Service Area

Water Treatment Plant

Spanish Flat Water Treatment Plant (WTP) serves the Spanish Flat service area by filtering raw water from Lake Berryessa. Filtered water is conveyed to an onsite 5,200-gallon clearwell tank for disinfection where it is stored until storage levels in the distribution system require recharge.

The plant has an alternative filtration, contact clarification filtration system. Treatment includes polymer (coagulant) addition, inline static mixer, flocculation in contact filters, multi-media pressure filtration and calcium hypochlorite injection for disinfection. The system runs between six and 20 hours per day.[1006]

The Spanish Flat WTP has a rated treatment capacity of 152 gallons per minute.[1007] However, the actual treatment capacity is about 120 gallons per minute, resulting in a daily capacity of 172,800 gallons or 0.53 acre-feet. The current peak day demand was not provided by the District. The projected peak day demand at buildout is expected to increase to 0.52 acre-feet. This amount includes the development of Foothill Pines Resort and would equal 98 percent of the facility's daily capacity; however, development of the Resort does not appear likely to occur in the near term.

Distribution and Storage System

The distribution system serving the Spanish Flat service area comprises three independent pressure zones that are each maintained by six storage tanks. All six storage

[1005] County of Napa, Berryessa Pines Water System Inspection Report, 2019.
[1006] County of Napa, Spanish Flat Water System Inspection Report, 2019.
[1007] County of Napa, General Plan Draft Environmental Impact Report, Public Services and Utilities, 2007, p. 4.13-33.

tanks work in conjunction with one another to maintain adequate pressure in the system by using gravity. The distribution system operates on a supply and demand basis and responds to storage levels at the Spanish Flat service area's main pressure zone.

The distribution system includes a network of six- and eight-inch water lines. Due to the service area's topography, a pump station is required to lift potable water from the Spanish Flat WTP's clearwell tank into the distribution system. The service area's distribution system is in fair to good condition.[1008]

The District's storage facilities in the Spanish Flat service area are shown in Figure 17-5.

Figure 17-5: Spanish Flat Storage Facilities

Storage	Capacity	Material	Condition
Contact Tank 1	25,000 gallons	Steel	Good
Contact Tank 2	24,000 gallons	Concrete	Good
Contact Tank 3	44,000 gallons	Steel	Good
Storage Tank 1	24,000 gallons	Concrete	Good
Storage Tank 2	24,000 gallons	Concrete	Good
Storage Tank 3	6,000 gallons	Polyethylene	Good
Total	147,000 gallons*		

Source: WTP Inspection Report, 2019.
*Note: does not include storage capacity at the clearwell tank.

The 2011 MSR identified that there is a distribution system capacity issue associated with deficient storage within the initial pressure zone. This issue has not been addressed to date.

The District noted that when the fires occurred in 2018, that there was not sufficient water storage to weather the outage. In response, the District is working to purchase generators to continue water production during electrical outages.

Berryessa Pines Service Area

Water Treatment Plant

Berryessa Pines Water Treatment Plant treats raw water conveyed from Lake Berryessa and serves the Berryessa Pines service area. While rated treatment capacity is unknown, the WTP is currently able to process up to 100 gallons per minute resulting in a daily capacity of 144,000 gallons or 0.44 acre-feet. The District reported that currently about 60 gallons a minute are pumped from Berryessa Lake, which translates into 84,400 gallons per day or 0.27 acre-feet per day.

The plant has an alternative filtration, contact clarification filtration system. Treatment includes polymer (coagulant) addition, inline static mixer, flocculation in contact filters, multi-media pressure filtration and calcium hypochlorite injection for disinfection. The system runs between six and 20 hours per day.[1009]

The current peak day demand was not provided by the District; therefore, the portion of the treatment plant's capacity in use is not calculable. The projected peak day demand at

[1008] County of Napa, Spanish Flat Water System Inspection Report, 2019.
[1009] County of Napa, Berryessa Pines Water System Inspection Report, 2019.

buildout is expected to total 0.22 acre-feet and can be accommodated by the facility's existing daily capacity without any further expansions.

Treated water is conveyed to an onsite 1,800-gallon clearwell tank where the disinfection takes place. Treated water remains in the tank until storage levels in the distribution system require recharge.

Distribution and Storage System

The distribution system in Berryessa Pines includes a network of six, eight, ten, and 12-inch water lines. The distribution system comprises one contiguous pressure zone serving all users within the Berryessa Pines service area. Topography requires finished water in the treatment facility's adjacent 1,800-gallon clearwell tank be lifted through a single electric pump to recharge the distribution system when levels within the pressure zone's 100,000 gallon or 0.31-acre-foot storage tank fall below a designated operating level. The tank was reported to be in good condition. The service area's distribution system is reportedly in fair to good condition.[1010]

The District's storage facilities in the Berryessa Pines service area are shown in Figure 17-6.

Figure 17-6: Berryessa Pines Storage Facilities

Storage	Capacity	Material	Condition
Contact Tank	24,000 gallons	Steel	Good
Storage Tank	100,000 gallons	Concrete	Good
Total	124,000 gallons		

Source: County of Napa, *Berryessa Pines Water System Inspection Report*, 2019.

Similar to the Spanish Flat service area, there is not sufficient water storage to weather an extended outage. The District is working to purchase generators to continue water production during electrical outages.

Shared Facilities

The District practices resource sharing with other agencies by sharing a general manager with Circle Oaks Water District.

There are no facility sharing practices.

Infrastructure Needs

The District does not adopt a Capital Improvement Plan. All capital improvements are performed as needed.

The District reported that its primary need was backup generators for both water systems.

[1010] County of Napa, Berryessa Pines Water System Inspection Report, 2019.

Water Quality

The State Water Resources Control Board Division of Drinking Water (DDW) implements the Safe Drinking Water Act in California. DDW requires public water systems to perform routine monitoring for regulated contaminants. To meet water quality standards and comply with regulations, a water system with a contaminant exceeding a maximum contaminant limit (MCL) must notify the public and remove the source from service or initiate a process and schedule to install treatment for removing the contaminant. Health violations occur when the contaminant amount exceeds the safety standard (MCL) or when water is not treated properly. In California, compliance is usually determined at the wellhead or the surface water intake. Monitoring violations involve failure to conduct or to report in a timely fashion the results of required monitoring.

As a small water system, the SFWD system is under the purview of the County of Napa Planning, Building, & Environmental Services Department. SFWD submits regular reports to the Department, and the Department conducts regular inspections of SFWD's facilities.

Source Water

Lake Berryessa is most vulnerable to contamination from boats, personal watercraft, confirmed leaking underground fuel storage tanks, known contaminant plumes, historic gas stations, active gas stations, wastewater treatment plants, historic mining operations, active mining operations, and animal feeding operations. The known contaminant plumes were associated with gas stations. Methyl tertiary butyl ether (MTBE) has been detected in Lake Berryessa. Boats and personal watercraft are possible sources of MTBE, if they use fuel that contains MTBE. Other possible MTBE sources at Lake Berryessa include confirmed leaking underground fuel storage tanks, known contaminant plumes, historic gas stations, and active gas stations.

Treated Water

Quality of treated water can be evaluated according to several measures. For the purposes of this report, the following indicators are used: the number of violations as reported by the EPA since 2008 and the number of days in full compliance with Primary Drinking Water Regulations in 2018.

The District experienced one health violation since 2008 related to its Berryessa Pines water system. The health violation occurred in 2011 and was regarding a positive coliform test. The EPA did not report any monitoring violations in the 10-year time frame.

In 2018, the District was in compliance with drinking water regulations 100 percent of the time, with no violations. By comparison, the industry standard for compliance with Primary Drinking Water Regulations is 99 percent (361 days) of the year.

WASTEWATER SERVICES

Similar to water services, the District does not adopt any planning documents for its wastewater services. Infrastructure improvement needs are not documented in a capital improvement plan and are performed on an as-needed basis. It is generally recommended that public agencies conduct long-term planning for the services they provide.

The County conducts some long-term planning for the area within Spanish Flat Water District related to wastewater in its General Plan and the Environmental Impact Report last updated in 2008.

Type and Extent of Services

Services Provided

SFWD provides collection and secondary level of treatment to raw sewage within its boundary area.

Service Area

The District does not provide wastewater services outside of its boundaries.

Services to Other Agencies

No wastewater related services are provided to other agencies.

Contracts for Services

The District does not have any contracts related to wastewater services.

Overlapping Service Providers

There are an unknown number of residences within SFWD that are not connected to the District's sewer system and are served by private septic tanks.

Collaboration

SFWD collaborates with Circle Oaks Water District by sharing a general manager.

Staffing

SFWD's administration and operation is the collective responsibility of 2.5 full-time equivalent employees. A plant operator and a maintenance worker manage water and sewer systems. A part-time office manager responds to constituent inquiries and performs billing and payroll services. There is also a contract Manager that oversees all operations and performs required admirative duties.

Wastewater Flow

The District did not provide the number sewer connections served in the Spanish Flat and Berryessa Pine service areas. Additionally, the District did not provide average dry weather flow and peak wet weather flow for the two systems.

Figure 17-7: ADWF Wastewater Flows 2014-2018 and Buildout Conditions, million gallons

SFWD ADWF Sewer Flows						
Year	**2014**	**2015**	**2016**	**2017**	**2018**	**Buildout**
Spanish Flat (mgd)	NP	NP	NP	NP	NP	NP
Berryessa Pines (mgd)	NP	NP	NP	NP	NP	NP

Source: Spanish Flat Water District MSR Request for Information.
NP = Not provided

Because the District did not provide ADWF and peak wet weather flow for the two systems, the degree of infiltration and inflow is unable to be determined.

Wastewater Infrastructure and Facilities

As with the District's water services, there are two wastewater systems serving Spanish Flat and Berryessa Pines service areas.

Spanish Flat Service Area

Wastewater Treatment Plant

The WWTP consists of an extended aeration package treatment plant with an aeration tank, a clarifier, and a chlorine contact chamber. Wastewater is stored and disposed of in an unlined 13 acre-foot percolation/evaporation pond. During the summer, wastewater is also spray-irrigated on a 2.5-acre disposal field managed by the District, or at the 3.7-acre Monticello Cemetery.

The SWRCB has assigned Spanish Flat WWTP a cap of a maximum daily discharge of 0.53 mgd and average monthly dry weather discharge flow of 0.025 mgd. This capacity appears to sufficiently accommodate current flows; however, without flow information the portion of capacity that is in use could not be calculated.

Buildout of the Spanish Flat service area is expected to involve the development of the remaining 39 lots. Connection to Foothill Pines Resort is not expected based on past practices of the site's concessionaire to operate a private septic system. If the remaining lots develop and all new development connects with usage similar to current demands, the daily average dry-weather and wet-weather flows would increase to 20,300 and 56,000 gallons, respectively. These projected demands could be accommodated based on existing design capacities. The expected peak day wet-weather flow—in the absence of significant improvements to the collection system—nonetheless would increase to 122,000 gallons and exceed existing capacity.

However, it should be noted that the District does not have any records identifying the actual design capacities for either sewer system. This prevents the District from accurately estimating its capacity to service new growth for either of its two service communities.

To provide more details regarding the integrity of the District's sewer system and adequacy of its services this report includes analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows

reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

Over the last six years (2014-2019) there were no reported SSO events within Spanish Flat service area, which means that the average SSO rate is 0 per 100 miles of sewer mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[1011]

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The District has both a permit for treatment and discharge at the WWTP and a general permit for its collection system in Spanish Flat service area.

For its Spanish Flat collection system, the District encountered one regulatory measure in 2006. The District had no violations or enforcement actions related to the collection system.

With regard to the Spanish Flat WWTP, there was a total of 34 violations at the Spanish Flat WWTP, from 2009 to 2019. The most recent five violations were for violations of order conditions, the remaining violations were for late or deficient reporting. During that same time period, the District encountered three enforcement actions in relation to the Spanish Flat WWTP, all of which were notices of violation.

Collection System

Sewage from Spanish Flat is conveyed through a series of gravity lines, force mains, and a pump station into the Spanish Flat Wastewater Treatment Plant located off Spanish Flat Loop Road and near the Spanish Flat Mobile Villa Park.

SFWD's Spanish Flat collection system consists of approximately 16 miles of sewer lines and one pump station. The majority of the sewer lines comprise clay pipe and are over 40 years of age.

Berryessa Pines Service Area

Wastewater Treatment Plant

Spanish Flat Water District owns and operates a wastewater treatment plant, which serves the Berryessa Pines service area. Napa County owns the land on which the treatment plant and main storage/disposal pond have been constructed.

The SWRCB has assigned a cap for the monthly average dry weather discharge flow of 0.14 mgd for the Berryessa Pines WWTP. The facility has a design daily dry-weather capacity of 14,000 gallons. This capacity appears to sufficiently accommodate current flows; however, without flow information the portion of capacity that is in use could not be

[1011] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

calculated. The daily wet-weather capacity is unknown. The District reported, however, that peak wet weather flows are sufficiently accommodated by the plant.

The buildout of the Berryessa Pines service area is expected to involve the development of the remaining 23 lots. If this assumption proves accurate, and all new development connects with usage similar to current demands, the daily average dry-weather and wet-weather flows would increase to 3,800 and 15,400 gallons, respectively. These projected demands could be accommodated based on the existing design capacities. The expected peak day wet-weather flow would increase to 28,100 gallons, which is an amount uncertain to be adequately accommodated given the uncertainty regarding the facility's design capacity.

To provide more details regarding the integrity of the City's sewer system and adequacy of its services this report includes analysis of sanitary sewer overflow information and regulatory compliance data.

All wastewater agencies are required to report sanitary sewer overflows (SSOs) to SWRCB. Sewer overflows are discharges from sewer pipes, pumps and manholes. Overflows reflect the capacity and condition of collection system piping and the effectiveness of routine maintenance. The sewer overflow rate is calculated as the number of overflows per 100 miles of collection piping per year.

Over the last six years (2014-2019) there were no SSO events in Berryessa Pines service area, which means that the average SSO rate is 0 per 100 miles of sewer mains. By comparison, other wastewater agencies in California average 4.73 SSOs per 100 miles per year.[1012]

RWQCB enforces the Clean Water Act, permit conditions and other requirements of wastewater providers. Violations of State requirements for wastewater providers and treatment facilities are recorded by SWRCB. The Board may levy fines or order the provider to take specific actions to comply with water quality regulations. The District has both a permit for treatment and discharge at the WWTP and a general permit for its collection system.

For its collection system in Berryessa Pines the District encountered no regulatory measures. There were no violations or enforcement actions related to the collection system.

With regard to the Berryessa Pines WWTP, there were 13 violations at the Berryessa Pines WWTP, during the period 2009-2019. One of the violations in 2019 was related to vegetation in the evaporation pond, while the rest were due to late reporting. The Berryessa Pines WWTP encountered one enforcement action in 2012.

Collection System

Sewage from Berryessa Pines is conveyed through gravity lines and a pump station into the Berryessa Pines Wastewater Treatment Plant located at the eastern end of the subdivision.

SFWD's Berryessa Pines collection system consists of approximately 10 miles of sewer lines and one pump station. The majority of the sewer lines comprise clay pipe and are over 40 years old.

[1012] SWRCB, Sanitary Sewer Overflow Reduction Program Annual Compliance Report, March 26, 2015, p 16.

Infrastructure Needs

The District does not adopt a Capital Improvement Plan. All capital improvements are performed as needed. The District reported that there are currently no infrastructure needs related to the wastewater systems. According to the District, the systems are in good condition and have sufficient capacity.

Shared Facilities

The District practices resource sharing with other agencies by sharing a general manager with Circle Oaks Water District.

There are no facility sharing practices.

GOVERNANCE STRUCTURE OPTIONS

Over the course of this review, several governance structure options were identified with respect to SFWD, including possible service structure alteration and reorganization with other agencies. The feasibility of these options is generally assessed here; however, more in-depth review would be required to refine specifics of process and structure should the affected agencies or LAFCO choose to move forward.

Contracting for Services

SFWD may wish to consider contracting for services from a larger agency such as City of Napa or Napa Sanitation District (NapaSan) for a portion or all operational services. At present, both City of Napa and NapaSan provide contract services to other agencies and have been found to provide professional and well-managed services. Given that City of Napa provides only water services and NapaSan provides wastewater and recycled water services, contracting out to these agencies would require separate agreements with each agency for the specific service.

In addition to SFWD, there are other small water and wastewater systems in Napa County which struggle to provide an adequate level of services. Smaller service providers in rural areas often must focus on day-to-day operations and do not have the staff capacity to conduct pre-planning and highly technical services. These agencies have expressed interest in either receiving support services or being fully taken over by a larger service provider. Should multiple agencies choose to contract with City of Napa and/or NapaSan, there is the potential for greater economies of scale and efficiency of services, which could result in cost savings.

Contracting out services to agencies, or what also might be referred to as "functional consolidation," allows for flexibility of service structure. SFWD could choose what degree of contract support is necessary ranging from occasional technical support to full-service provision.

The benefits of these agencies providing services by contract to interested agencies includes the following:

1. The provision of contract support services would allow for flexibility in the manner and nature of services to be provided to allow for tailoring to the needs of the contracting agency, which could include provision of specific or limited services or consist of all administration and operations.
2. Contracting to agencies for services outside of the boundaries of the respective agency does not require LAFCO approval.
3. A contract would allow service provider and the contracting agency to test out the alternative service structure without making a long-term commitment.
4. The contracting agency would continue to exist and maintain local control.
5. "Functional consolidation" would allow each agency to retain its identity while at the same time combining resources or specialty assets and improving efficiencies.
6. Contracting could result in a reduction in equipment needs and duplication of efforts.

7. Contracting for services would not face the labor concerns that may result from a "full consolidation."
8. Customers of the contracting agency would receive a high level of services and broader expertise from a larger, professionally operated service provider.

Reorganization with a Countywide Water District

Another option identified during this review is the potential for a countywide county water district that could provide support or take on both water and wastewater services for interested agencies. This option would involve the formation of a countywide county water district to include SFWD and other small water and wastewater systems. The small agencies would either then contract with the countywide water district or dissolve and have the countywide agency be the successor agency and provide continued services to these areas.

As part of the Comprehensive Water Service Study, the Commission determined the need for a governance study to evaluate the options and merits of reorganizing the Spanish Flat Water District. This includes examining the merits of consolidating the District with the Lake Berryessa Resort Improvement District and the Napa-Berryessa Resort Improvement District to establish economies of scale and formalize service provision in the Lake Berryessa area. A countywide county water district is one manner in which these districts, as well as other interested districts, may capitalize on the benefits of consolidation.

This governance structure option is discussed in more detail in the *Overview* chapter (Chapter 3) of this report.

Transition into a County Service Area

Another option is the potential for SFWD to transition into a county service area (CSA), as is being considered for Lake Berryessa Resort Improvement District (LBRID) and Napa Berryessa Resort Improvement District (NBRID).

In the 2005 MSR on SFWD, consolidation or resource sharing in some manner with NBRID was analyzed. The MSR concluded that while the districts have separate systems and treatment plants, their close proximity, similar services, and shared interests regarding the Bureau's resort plans offer the potential for shared arrangements. However, obstacles to implementing shared arrangements were identified.

- Both districts have different authorizing legislation;
- SFWD is an independent district while NBRID is a dependent district;
- Many of NBRID's functions are provided via contract with Napa County; and
- Topography precludes the connection of the two district systems.

SFWD's 2011 MSR determined that reorganization of SFWD was not a priority given the constituents' apparent satisfaction of the District's governance and management. It was also determined that reorganization may be appropriate at a later time given the potential future need for additional public services that are outside SFWD's existing powers.

Since 2011, SFWD has continued to operate similar to other small utility systems—focusing on day-to-day operations with challenges in complying with regulatory reporting

requirements, appropriately planning for long-term capital needs, and comprehensively tracking demand statistics, amongst others. The District may be better served by a larger entity with greater scrutiny to enhance the level of services provided.

While reorganization with NBRID has been previously considered as an option, this review proposes the transition of NBRID to a county service area. Refer to the NBRID chapter (Chapter 13) for additional details. Rather than reorganization with NBRID, SFWD may reap similar benefits of cost sharing by becoming a dependent district of the County. As the County is already providing similar services to the neighboring NBRID, there is the potential for greater efficiency of services for both NBRID and SFWD should SFWD also be served by County personnel.

By transitioning to a county service area, the governing body of the District would be the County Board of Supervisors. The funds of the District would be accounted for separately and operational services would be provided by the County. The challenges to reorganization previously identified are not applicable to this governance structure option.

It is recommended that SFWD and the County begin discussions considering the potential for SFWD to transition into a county service area.

RECOMMENDATIONS

During the process of this review, the following recommendations are made to SFWD regarding its water and wastewater service delivery.

1) The SFWD 2005 MSR determined that the District requires comprehensive facilities plans for its sewer systems at Spanish Flat and Berryessa Pines and that these plans should evaluate the adequacy of existing facilities to meet present and future system demands, offer recommendations as part of long-term capital improvement programs, and evaluate funding requirements and opportunities. The District has not developed any such planning documents to date. It continues to be recommended that SFWD develop planning documents for the entirety of the two systems.
2) In 2005 it was found that SFWD should commit to monitoring and recording its daily sewer flow amounts in order to more effectively coordinate and plan system maintenance, repair, and improvement projects; however, over the course of this review it is apparent that the District does not monitor or keep detailed records on the flows in its systems. It continues to be recommended that SFWD monitor and record essential flow data for its systems.
3) While constructing its website, SFWD should ensure that it is also meeting the agenda posting requirements in AB 2257.
4) It is recommended that SFWD and the County begin discussions considering the potential for SFWD to transition into a county service area.

SPANISH FLAT WATER DISTRICT DETERMINATIONS

Growth and Population Projections

- Spanish Flat Water District's (SFWD) population, as of 2019, was approximately 413.
- The buildout population within SFWD is expected to total 560. This projection assumes the development of all 62 existing undeveloped lots presently within SFWD. Although the undeveloped lots gradually get developed, some do not connect to the District's utility systems. The District expects slow growth in the next five to 10 years.
- LAFCO anticipates growth within SFWD to be similar to the most recent five-year trend of all unincorporated areas of Napa of 0.21 percent annually, with an anticipated population of 423 by 2030.

The Location and Characteristics of Disadvantaged Unincorporated Communities Within or Contiguous to the Agency's SOI

- According to Napa LAFCO's definition of disadvantaged unincorporated communities (DUCs), there are currently no DUCs in Napa County.

Present and Planned Capacity of Public Facilities and Adequacy of Public Services, Including Infrastructure Needs and Deficiencies

- SFWD has ample supply entitlement and system capacity to accommodate current as well as projected demands. In 2018, the District made use of 31 percent of its water contract entitlement and at buildout is anticipated to use 47 percent of its entitlement.
- The full delivery of SFWD's entitlement is considered reliable given the current and historical storage levels at Lake Berryessa relative to the location of the intake systems.
- The level of water services offered by SFWD were found to be minimally adequate based on integrity of the water distribution system and compliance with drinking water requirements. The integrity of the District's water distribution system is sufficient given the estimated level of water loss. The District was in full compliance with Primary Drinking Water Regulations in 2018 and has had one violation reported by the EPA since 2008.
- The 2011 MSR identified that there is a distribution system capacity issue associated with deficient storage within the initial pressure zone. This issue has not been addressed to date.
- The District is working to purchase generators to continue water production during electrical outages.
- Based on current operations, the Spanish Flat Water District's sewer systems appear to have adequate collection, treatment, and discharge capacities to meet existing

service demands within its jurisdiction under normal conditions. However, the District does not have any records identifying the design capacities for either sewer system. This prevents the District from accurately estimating its capacity to service new growth for either of its two service communities.

- The level of wastewater services offered by SFWD were found to be minimally adequate based on integrity of the wastewater collection system and regulatory compliance. The District has had no sanitary sewer overflows in the last five years, but has had 31 violations, a majority of which were for deficient reporting. Significant improvement can be made to the District's reporting practices.
- SFWD does not adopt a Capital Improvement Plan. All capital improvements are performed as needed. The District reported that there are currently no infrastructure needs related to the wastewater systems.

Financial Ability of Agencies to Provide Services

- The Spanish Flat Water District has the ability to continue providing water and wastewater services. However, the value of its infrastructure is depreciating at a rate greater than can be covered by its budget surplus. The assets declined with no offsetting investment.
- The District appears to have adequate liquidity and operating reserves, although declining net asset value and net annual surpluses that are less than depreciation (see above) indicate a potential need for increased capital funding.
- The value of the District's depreciated infrastructure is less than 50 percent of initial value, indicating the potential need for capital improvements. The District has no capital improvement program, no cost of service or rate study, and no long-term projections to provide the basis for determining future operating and capital needs.

Status of, and Opportunities for, Shared Facilities

- SFWD practices resource sharing with other agencies by sharing a general manager and operator with Circle Oaks County Water District.
- An opportunity for facility sharing may be contracting with another agency for a portion or all operations, such as the City of Napa or Napa Sanitation District.
- Transitioning to a CSA would allow for sharing of County staff resources.

Accountability for Community Service Needs, Including Governmental Structure and Operational Efficiencies

- The District Board holds regular appropriately noticed meetings.
- The District struggled to respond to requests for information in a timely manner.
- SFWD recently developed a website to comply with SB 929. The District continues to organize and post documents and information to the website. SFWD should ensure that it is also meeting the agenda posting requirements in AB 2257.

- Governance structure alternatives include contracting with another agency for services, reorganization with a countywide county water district, and transitioning into a county service area.

Relationship with Regional Growth Goals and Policies

- SFWD is not a land use authority that takes part in regional planning efforts and therefore does not impact growth policy.
- LAFCO's adopted policies relating to special district spheres discourage any expansions of SFWD's existing sphere to promote urban development based on current land use designations of lands located within close proximity to the District.

APPENDIX A

Table A-4a
Summary Financial Profile
City of American Canyon - Water

Item	Amount
Operating Revenues (1)	
Water	6,349,300
Total Operating Revenues	6,349,300
Operating Expenditures (2)	
Water	
Salaries and Benefits	1,492,600
Services and Supplies	1,028,510
Water Purchases	2,538,500
Other Operating Expenditures	682,600
Total Water Operating Expenditures	5,742,210
NET OPERATING INCOME	
Water	607,090
Debt Service	
Water (3)	260,000
Total Debt Service	260,000
NET OPERATING INCOME AFTER DEBT	
Water	347,090
Non-Operating Revenues	
Water	
Total Non-Operating Revenues	0
NET AFTER NON-OPERATING REVENUES	
Water	347,090
OTHER	
Water	
Capital and Non-Recurring Revenues (contra acct) (4)	516,800
Capital and Non-Recurring Expenditures (5)	668,186
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Water	195,704
Ending Available Balance	
Water (6)	5,424,684

Notes: *2019-11-15*

(1) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Summary, pg. 220.
(2) ibid, FY19 Budget, pg. 220.
(3) ibid, FY19 Budget, pg. 220.
(4) ibid, FY19 Budget, pg. 220. Contra expense includes debt service principal ($233,200) and treatment plant capital outlay ($283,600) total $516,800.
(5) ibid, FY19 Budget, pg. 227. Transfers to capital fund.
(6) ibid, FY19 Budget, pg. 60.

Table A-4b
Summary Financial Measures and Indicators
City of American Canyon - Water

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	106%
	Operating Revenues	6,349,300
	Operating Expenditures (inc. debt)	6,002,210
	Net	347,090
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.85
	Operating Revenues	6,349,300
	Operating Expenses	5,742,210
	Debt Service	260,000
	Depreciation (18)	1,505,950
	TOTAL Expenses	7,508,160
1c	**Ending Fund Balance as % of Operating Revenues (2)**	85%
	Beginning Fund Balance	5,228,980
	Ending Fund Balance	5,424,684
	Change in Fund Balance	195,704
2a	**Net Position/Total Assets (3)**	0.8
	Net Position	32,238,695
	Unrestricted Net Position	102,209
	Total Assets	41,003,587
2b	**Current Ratio (Short-term Liquidity) (4)**	11.1
	Current Assets	7,701,588
	Current Liabilities	694,828
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	15
	Current Assets	7,701,588
	Operating Expenditures (inc. debt)	6,002,210
	per day	16,444
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-3.6%
	Net Capital Assets, FY17 (5)	27,866,538
	Net Capital Assets, FY18 (6)	26,874,403
	Total Capital Assets being Depreciated (FY18) (7)	44,610,558
4a	**Debt Service as % of Operating Revenues**	4.1%
	Debt Service (8)	260,000
	Operating Revenues	6,349,300
5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	2%
	Operating Reserves (9)	102,209
	Operating Expenditures (inc. debt)	6,002,210

Table A-4b (cont'd)

7	**Rates and Charges (% of median HH income)**	0.7%
	Monthly Service Charges (SFD) (10)	$55.38
	Median Household Income (2017) (11)	$91,705
8	**Pension Payments as % of Revenues**	2.5%
	Unfunded Pension Liability (12)	1,019,301
	% Pension Liability Funded (13)	75.8%
	Total Payments (normal cost + unfunded liabilities) (14)	157,100
8	**OPEB Liabilities**	
	Unfunded OPEB Liability (15)	410,943
	% OPEB Liability Funded (16)	53.0%
	Total OPEB Payments (17)	23,500

Notes: *2019-11-15*

(1) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations Summary, pg. 220.
(2) ibid, FY19 Budget, Water Operations Fund #510, pg. 106.
(3) City of American Canyon FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(4) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(5) City of American Canyon FY17 CAFR, Statement of Net Position Proprietary Funds, pg. 26.
(6) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(7) ibid, FY18 CAFR, Note F - Capital Assets, pg. 49.
(8) ibid, FY19 Budget, pg. 220.
(9) Unrestricted Net Position, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(10) See Appendix for detailed estimates of rates.
(11) American Community Survey 2017, DP03, 5-Year estimates.
(12) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(13) City of American Canyon Response to Request for Information, 2019-10-11, as of June 30, 2017.
(14) ibid, Budget FY19, Water Operations, pg. 223, 226, 231.
(15) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(16) City of American Canyon Response to Request for Information, 2019-10-11, as of June 30, 2017.
(17) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Water Operations, pg. 231.
(18) City of American Canyon FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 28.

Table A-4c
Summary Financial Profile
City of American Canyon - Wastewater

Item	Amount
Operating Revenues (1)	
Wastewater	4,564,500
Total Operating Revenues	4,564,500
Operating Expenditures (2)	
Wastewater	
Salaries and Benefits	1,826,000
Services and Supplies	1,475,060
Other Operating Expenditures (3)	-2,184,800
Total Wastewater Operating Expenditures	1,116,260
NET OPERATING INCOME	
Wastewater	3,448,240
Debt Service	
Wastewater (3)	766,000
Total Debt Service	766,000
NET OPERATING INCOME AFTER DEBT	
Wastewater	2,682,240
Non-Operating Revenues	
Wastewater	
Total Non-Operating Revenues	0
NET AFTER NON-OPERATING REVENUES	
Wastewater	2,682,240
OTHER	
Wastewater	
Capital and Non-Recurring Revenues	
Capital and Non-Recurring Expenditures (4)	2,941,600
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Wastewater	(259,360)
Ending Available Balance	
Wastewater (5)	5,393,822

Notes: *2019-11-15*

(1) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Operations Summary, pg. 236.
(2) ibid, FY19 Budget, pg. 236.
(3) ibid, FY19 Budget, Wastewater Operations Summary, pg. 236. Includes $35k capital outlay and $2,219,800 "Contra Expense."
(4) ibid, FY19 Budget, Wastewater Operations Summary, pg. 236; includes $1,802,000 to capital.
(5) ibid, FY19 Budget, Wastewater Operations Fund #540, pg. 108.

Table A-4d
Summary Financial Measures and Indicators
City of American Canyon - Wastewater

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	243%
	Operating Revenues	4,564,500
	Operating Expenditures (inc. debt)	1,882,260
	Net	2,682,240
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	1.70
	Operating Revenues	4,564,500
	Operating Expenses	1,116,260
	Debt Service	0
	Depreciation (18)	1,566,883
	TOTAL Expenses	2,683,143
1c	**Ending Fund Balance as % of Operating Revenues (2)**	118%
	Beginning Fund Balance	5,653,182
	Ending Fund Balance	5,393,822
	Change in Fund Balance	(259,360)
2a	**Net Position/Total Assets (3)**	0.8
	Net Position	34,429,066
	Unrestricted Net Position	11,530,660
	Total Assets	40,936,766
2b	**Current Ratio (Short-term Liquidity) (4)**	5.1
	Current Assets	7,301,370
	Current Liabilities	1,439,203
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	77
	Current Assets	7,301,370
	Operating Expenditures (inc. debt)	1,116,260
	per day	3,058
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-2.2%
	Net Capital Assets, FY17 (5)	25,358,723
	Net Capital Assets, FY18 (6)	24,809,204
	Total Capital Assets being Depreciated (FY18) (7)	34,282,557
4a	**Debt Service as % of Operating Revenues**	16.8%
	Debt Service (8)	766,000
	Operating Revenues	4,564,500
5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt) (13)**	169%
	Operating Reserves (9)	11,530,660
	Operating Expenditures (inc. debt)	1,882,260

Table A-4c (cont'd)

7	**Rates and Charges (% of median HH income)**	0.7%
	Monthly Service Charges (SFD) (10)	$54.75
	Median Household Income (2017) (11)	$91,705
8	**Pension Payments as % of Revenues**	4.4%
	Unfunded Pension Liability (12)	1,285,128
	% Pension Liability Funded (13)	75.8%
	Total Payments (normal cost + unfunded liabilities) (14)	200,400
9	**OPEB Liabilities**	
	Unfunded OPEB Liability (15)	550,234
	% OPEB Liability Funded (16)	53.0%
	Total OPEB Payments (17)	30,300

Notes: *2019-11-15*

(1) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Operations Summary, pg. 236.
(2) ibid, FY19 Budget, Wastewater Operations Fund #540, pg. 108.
(3) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(4) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(5) City of American Canyon FY17 CAFR, Statement of Net Position Proprietary
(6) City of American Canyon FY18 CAFR, Statement of Net Position Proprietary
(7) City of American Canyon FY18 CAFR, Note F - Capital Assets, pg. 49.
(8) City of American Canyon Annual Budget Fiscal Year 2018 – 2019,
(9) Unrestricted Net Position, FY18 CAFR, Statement of Net Position
(10) See Appendix for detailed estimates of rates.
(11) American Community Survey 2017, DP03, 5-Year estimates.
(12) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(13) City of American Canyon Response to Request for Information, 2019-10-11, as of June 30, 2017.
(14) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Operations, pg. 240, 243, 245, 247.
(15) ibid, FY18 CAFR, Statement of Net Position Proprietary Funds, pg. 27.
(16) City of American Canyon Response to Request for Information, 2019-10-11, as of June 30, 2017.
(17) City of American Canyon Annual Budget Fiscal Year 2018 – 2019, Wastewater Operations, pg. 247.
(18) City of American Canyon FY18 CAFR, Statement of Revenues, Expenses and Changes in Fund Net Position, pg. 28

Table A-5a
Summary Financial Profile
City of Calistoga - Water

Item	Amount
Operating Revenues (1)	
Water	4,004,467
Operating Expenditures (2)	
Water	
Salaries and Benefits	971,344
Services and Supplies	1,951,771
Water Purchases	
Other Operating Expenditures (3)	0
Total Water Operating Expenditures	2,923,115
NET OPERATING INCOME	
Water	1,081,352
Debt Service (4)	
Water	444,636
Total Water and Wastewater Debt Service	444,636
NET OPERATING INCOME AFTER DEBT	
Water	636,716
Non-Operating Revenues	
Water	
Other Non-Operating Revenues (5)	564
NET AFTER NON-OPERATING REVENUES	
Water	637,280
OTHER	
Water	
Capital and Non-Recurring Revenues (6)	20,000
Capital and Non-Recurring Expenditures (7)	333,513
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Water	323,767
Ending Available Balance (8)	
Water	1,050,864

Notes: *2019-10-01*
(1) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131.
(2) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 134-136.
(3) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 134-136 excludes depreciation; equipment included below as "non-recurring".
(4) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131.
(5) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131.
(6) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131; includes "General Fund Subsidy".
(7) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131; includes transfer to water CIP ($282,648) and equipment ($50,865).
(8) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131 "Ending Working Capital".

Table A-5b
Summary Financial Measures and Indicators
City of Calistoga - Water

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	119%
	Operating Revenues	4,004,467
	Operating Expenditures (inc. debt)	3,367,751
	Net	636,716
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	1.04
	Operating Revenues	4,004,467
	Operating Expenses	2,923,115
	Debt Service	444,636
	Depreciation	500,000
	TOTAL Expenses	3,867,751
1c	**Ending Fund Balance as % of Operating Revenues (2)**	26%
	Beginning Fund Balance	727,097
	Ending Fund Balance	1,050,864
2a	**Unrestricted Net Position/Operating Revenues (3)**	-22%
	Net Position	11,431,660
	Unrestricted Net Position	(877,527)
	Operating Revenues	4,004,467
2b	**Current Ratio (Short-term Liquidity) (3)**	0.7
	Current Assets	733,180
	Current Liabilities	1,019,687
2c	**Months Cash on Hand (crnt assets/expenses w/debt)**	3
	Current Assets (4)	733,180
	Operating Expenditures (inc. debt)	3,367,751
	per day	9,227
3a	**Change in Net Depreciable Capital Assets (FY17-FY18) (5)**	1.6%
	Net Capital Assets, FY17	13,710,682
	Net Capital Assets, FY18	13,923,500
	Total Capital Assets being Depreciated (FY18)	22,326,811
4a	**Debt Service as % of Operating Revenues**	11.1%
	Debt Service	444,636
	Operating Revenues	4,004,467
4b	**Debt Service Coverage Ratio**	143.2%
	Operating Revenues	4,004,467
	Operating Expenditures (inc. debt)	3,367,751
	Net	636,716
	Debt Service	444,636

Table A-5b (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	151%
	Operating Reserves (6)	1,050,864
	Operating Expenditures (inc. debt)	3,367,751
7	**Rates and Charges (% of median HH income)**	2.1%
	Monthly Service Charges (SFD) (7)	$102.30
	Median Household Income (2017) (8)	$58,533
8	**Pension Liabilities as % of Revenues**	3.4%
	Total Pension Liability	Not Reported
	Unfunded Pension Liability	1,357,454
	% Pension Liability Funded	Not Reported
	Total Payments (normal cost + unfunded liabilities) (9)	136,069
9	**OPEB Liability Payments as % of Revenues (10)**	na
	Unfunded OPEB Liability	Not Reported
	% OPEB Liability Funded	Not Reported

Notes: *2019-10-01*

(1) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131.
(2) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 131.
(3) City of Calistoga CAFR FY18, Statement of Net Position, pg. 20.
(4) Note: all current assets are reported as receivables; no cash shown.
(5) City of Calistoga CAFR FY18, Note D Capital Assets Business-Type Activity, pg.
(6) See Ending Fund Balance FY19.
(7) See Appendix for detailed estimates of rates.
(8) American Community Survey 2017, S2503, 5-Year estimates, City of Calistoga.
(9) City of Calistoga Budget Fiscal Year 2018-19 Distribution, Treatment & Conservation, pg. 134-136.
(10) FY18 CAFR reports net OPEB liability for city total $2,314,284; liability is not reported separately for enterprises.

Table A-5c
Summary Financial Profile
City of Calistoga - Wastewater Services

Item	Amount
Operating Revenues (1)	
Wastewater	2,824,747
Operating Expenditures (2)	
Wastewater	
Total Wastewater Operating Expenditures	2,436,793
NET OPERATING INCOME	
Wastewater	387,954
Debt Service (3)	
Wastewater	666,707
NET OPERATING INCOME AFTER DEBT	
Wastewater	(278,753)
OTHER	
Wastewater	
Capital and Non-Recurring Revenues	
Capital and Non-Recurring Expenditures (4)	197,213
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Wastewater	(475,966)
Ending Available Balance	
Wastewater	541,263

Notes: *2019-10-01*
(1) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143.
(2) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143; excludes depreciation.
(3) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143
(4) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143, equipment and transfers to CIP.
(5) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143, "Ending Working Capital" for Operations and CIP Funds.

Table A-5d
Summary Financial Measures and Indicators
City of Calistoga - Wastewater Services

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	116%
	Operating Revenues	2,824,747
	Operating Expenditures (inc. debt)	2,436,793
	Net	387,954
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.75
	Operating Revenues	2,824,747
	Operating Expenses	2,436,793
	Debt Service	666,707
	Depreciation	660,000
	TOTAL Expenses	3,763,500
1c	**Ending Fund Balance as % of Operating Revenues (2)**	19%
	Beginning Fund Balance	1,017,229
	Ending Fund Balance	541,263
2a	**Unrestricted Net Position/Operating Revenues (3)**	66%
	Net Position	8,021,913
	Unrestricted Net Position	1,855,631
	Operating Revenues	2,824,747
2b	**Current Ratio (Short-term Liquidity)**	4.3
	Current Assets	3,667,110
	Current Liabilities	847,088
2c	**Months Cash on Hand (crnt assets/expenses w/debt)**	18
	Current Assets (4)	3,667,110
	Operating Expenditures (inc. debt)	2,436,793
	per day	6,676
3a	**Change in Net Depreciable Capital Assets (FY17-FY18) (5)**	3.8%
	Net Capital Assets, FY17	12,048,533
	Net Capital Assets, FY18	12,505,535
	Total Capital Assets being Depreciated (FY18)	23,331,757
4a	**Debt Service as % of Operating Revenues**	23.6%
	Debt Service	666,707
	Operating Revenues	2,824,747
4b	**Debt Service Coverage Ratio**	58.2%
	Operating Revenues	2,824,747
	Operating Expenditures (exc. debt)	2,436,793
	Net	387,954
	Debt Service	666,707

Table A-5d (cont'd)

5	**Bond Ratings**	AA
6	**Total Reserves (% of op. expend. inc. debt) (13)**	122%
	Operating Expenditures (inc. debt)	3,103,500
7	**Rates and Charges (% of median HH income)**	2.7%
	Monthly Service Charges (SFD) (7)	$132.06
	Median Household Income (2017) (8)	$58,533
8	**Pension Liabilities as % of Revenues**	6.0%
	Total Pension Liability	Not Reported
	Unfunded Pension Liability	1,523,006
	% Pension Liability Funded	Not Reported
	Total Payments (normal cost + unfunded liabilities) (9)	169,749
9	**OPEB Liability Payments as % of Revenues (10)**	na
	Unfunded OPEB Liability	Not Reported
	% OPEB Liability Funded	Not Reported

Notes: *2019-10-01*

(1) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143.
(2) City of Calistoga Budget Fiscal Year 2018-19 Operating & Capital, pg. 143.
(3) City of Calistoga CAFR FY18, Statement of Net Position, pg. 20.
(4) City of Calistoga CAFR FY18, Statement of Net Position, pg. 20; includes $3.1 million of cash.
(5) City of Calistoga CAFR FY18, Note D Capital Assets Business-Type Activity, pg. 38.
(6) See Ending Fund Balance FY19.
(7) See Appendix for detailed estimates of rates.
(8) American Community Survey 2017, S2503, 5-Year estimates, City of Calistoga.
(9) City of Calistoga Budget Fiscal Year 2018-19 Treatment & Collection, pg. 146-147.
(10) FY18 CAFR reports net OPEB liability for city total $2,314,284.
(11) 2018 Water and Wastewater Revenue Bonds: AA (rated), A- (underlying).

Table A-6a
Summary Financial Profile
City of Napa - Water

Item	Amount
Operating Revenues (1)	
Water	30,426,400
Total Operating Revenues	30,426,400
Operating Expenditures	
Water	
Salaries and Benefits (2)	9,177,010
Services and Supplies (3)	15,130,694
Water Purchases	
Other Operating Expenditures (4)	(116,980)
Total Water Operating Expenditures (5)	24,190,724
NET OPERATING INCOME	
Water	6,235,676
Debt Service	
Water (2)	3,416,500
Total Water and Wastewater Debt Service	3,416,500
NET OPERATING INCOME AFTER DEBT	
Water	2,819,176
NET AFTER NON-OPERATING REVENUES	
Water	2,819,176
OTHER	
Water	
Capital and Non-Recurring Revenues (6)	1,303,000
Capital and Non-Recurring Expenditures (7)	5,394,800
Total Other	
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Water	(1,272,624)
Ending Available Balance	
Water (8)	12,488,434

Notes: 2019-11-20

(1) City of Napa FY19 Budget, pg. 192 plus FY19 mid-cycle adjustment $4,836,400 (pg. 14); increase based on new rates approved November, 2017.
(2) City of Napa FY19 Budget, pg. 192.
(3) City of Napa FY19 Budget, pg. 192, excludes debt
(4) City of Napa FY19 mid-cycle net adjustment (pg. 14) to
(5) City of Napa FY19 Budget, pg. 192; note: midcycle
(6) FY19 mid-cycle net adjustment (pg. 14) to Capital and Non-Recurring Revenues.
(7) FY19 mid-cycle net adjustment (pg. 14) to Capital and Non-Recurring Expenditures.
(8) FY19 mid-cycle net adjustment (pg. 14); FY19 adopted budget was $8.1 mill.

Table A-6b
Summary Financial Measures and Indicators
City of Napa - Water

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	110%
	Operating Revenues	30,426,400
	Operating Expenditures (inc. debt)	27,607,224
	Net	2,819,176
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec) (2)**	0.94
	Operating Revenues	30,426,400
	Operating Expenses	24,190,724
	Debt Service	3,416,500
	Depreciation (3)	4,726,859
	TOTAL Expenses	32,334,083
1c	**Ending Fund Balance as % of Operating Revenues (4)**	41%
	Beginning Fund Balance	13,662,638
	Ending Fund Balance	12,448,434
	Change in Fund Balance	(1,214,204)
	Change in Fund Balance as % of Beginning Balance	-8.9%
2a	**Unrestricted Net Position/Operating Revenues (5)**	2.5
	Net Position	75,553,560
	Unrestricted Net Position	21,533,728
	Operating Revenues	30,426,400
2b	**Current Ratio (Short-term Liquidity)**	5.3
	Current Assets (6)	29,810,545
	Current Liabilities (7)	5,662,880
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	15
	Current Cash Assets (8)	29,810,545
	Operating Expenditures (inc. debt) (9)	24,190,724
	per day	66,276
3a	**Change in Net Depreciable Capital Assets (FY17-FY18) (10)**	3.7%
	Net Capital Assets, FY17	46,193,741
	Net Capital Assets, FY18	47,892,357
	Total Capital Assets being Depreciated (FY18) (11)	97,728,042
4a	**Debt Service as % of Operating Revenues**	11.2%
	Debt Service	3,416,500
	Operating Revenues	30,426,400
	Total Debt (12)	42,196,409
5	**Bond Ratings**	AA
6	**Total Reserves (% of op. expend. inc. debt) (13)**	52%
	Operating Reserves	12,488,434
7	**Rates and Charges (% of median HH income)**	0.8%
	Monthly Service Charges (SFD)	$52.24
	Median Household Income (2017)	$82,361

Table A-6b (cont'd)

8	**Pension Payments as % of Revenues**	6.4%
	Unfunded Pension Liability (16)	14,554,528
	Total Payments (normal cost + unfunded liabilities) (17)	1,934,477
9	**OPEB Liability Payments as % of Revenues**	0.7%
	Unfunded OPEB Liability (18)	0
	% OPEB Liability Funded	100%
	Total OPEB Payments (19)	212,676

Notes: 2019-11-20

(1) FY19 operating expenditures including debt service (not including depreciation).
(2) FY19 Budget, pg. 192 plus FY19 mid-cycle adjustment $4,836,400 (pg. 14).
(3) City of Napa FY18 CAFR, Note 6b, pg. 71 allocated to water utility.
(4) City of Napa FY19 Budget, pg. 192 plus FY19 mid-cycle adjustment, pg. 14.
(5) City of Napa FY18 CAFR, Proprietary Funds, Statement of Net Position, pg. 41.
(6) Cash and Investments, FY18 CAFR, Proprietary Funds, Statement of Net Position, pg. 41.
(7) FY18 CAFR, Proprietary Funds, Statement of Net Position, pg. 41.
(8) Cash and Investments, FY18 CAFR, Proprietary Funds, Statement of Net Position, pg. 41
(9) FY19 Budget, pg. 192 plus FY19 mid-cycle adjustment (pg. 14).
(10) FY18 CAFR, Note 6, pg. 71, Transmission and Distribution.
(11) FY18 CAFR, Note 6, pg. 71, Transmission and Distribution.
(12) FY18 CAFR, Proprietary Funds Statement of Net Posittion, 2016 Water Revenue Refunding Bond, pg. 41.
(13) FY19 mid-cycle net adjustment (pg. 14); FY19 adopted budget was $8.1 mill.
(14) See Appendix for detailed estimates of rates.
(15) Financial Characteristics, City of Napa, 2017 ACS 1-Year Estimates, https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/
(16) FY18 CAFR, Proprietary Funds Statement of Net Position, pg. 41.
(17) FY18 CAFR, Proprietary Funds Statement of Cash Flows, pg. 43.
(18) FY18 CAFR, Proprietary Funds Statement of Net Position, pg. 41.
(19) Estimated based on City OPEB payments/employee costs (exc. benefits) for City All Funds.

Table A-7a
Summary Financial Profile
City of St. Helena - Water

Item	Amount
Operating Revenues (1)	
Water	6,093,314
Operating Expenditures (2)	
Water	
Salaries and Benefits	858,853
Services and Supplies	1,905,800
Water Purchases	0
Other Operating Expenditures (3)	2,084,049
Total Water Operating Expenditures	4,848,702
NET OPERATING INCOME	
Water	1,244,612
Debt Service (4)	
Water	1,008,973
NET OPERATING INCOME AFTER DEBT	
Water	1,244,612
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Water	1,244,612
Ending Available Balance	
Water (5)	3,597,273

Notes: *2019-09-10*

(1) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 156.
(2) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 157, 163, 167.
(3) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 157, 163, 167.
(4) Debt service of $1,008,973 in 'Other' detailed in Non-Dep'l Debt Service Fund in Budget (see pg. 80).
(5) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 156. Does not include balances in the CIP fund, impact fee fund, and bond proceeds shown in CAFR.

Table A-7b
Summary Financial Measures and Indicators
City of St. Helena - Water

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	126%
	Operating Revenues	6,093,314
	Operating Expenditures (inc. debt)	4,848,702
	Net	1,244,612
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec.)**	0.92
	Operating Revenues	6,093,314
	Operating Expenses	4,848,702
	Debt Service	1,008,973
	Depreciation	770,055
	TOTAL Expenses	6,627,730
1c	**Ending Fund Balance as % of Operating Revenues (2)**	59%
	Beginning Fund Balance	3,597,273
	Ending Fund Balance	3,597,273
	Change in Fund Balance	0
2a	**Unrestricted Net Position/Operating Revenues (3)**	118%
	Net Position	10,439,684
	Unrestricted Net Position	7,211,573
	Operating Revenues	6,093,314
2b	**Current Ratio (Short-term Liquidity) (4)**	6.7
	Current Assets	8,657,207
	Current Liabilities	1,283,500
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	21
	Current Cash Assets (4)	8,657,207
	Operating Expenditures (inc. debt)	4,848,702
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-5.2%
	Net Capital Assets, FY17 (5)	7,056,072
	Net Capital Assets, FY18 (5)	6,689,865
	Total Capital Assets being Depreciated (FY18) (6)	not reported
	Depreciation (7)	770,055
4a	**Debt Service as % of Operating Revenues**	16.6%
	Debt Service	1,008,973
	Operating Revenues	6,093,314
	Total Debt	10,594,000

Table A-7b (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	74%
	Operating Reserves (8)	3,597,273
	Operating Expenditures (inc. debt)	5,857,675
7	**Rates and Charges (% of median HH income)**	1.4%
	Monthly Service Charges (SFD) (9)	$102.92
	Median Household Income (2017) (10)	$85,663
8	**Pension Payments as % of Revenues**	2.3%
	Unfunded Pension Liability (11)	1,692,509
	% Pension Liability Funded	not reported
	Total Payments (normal cost + unfunded liabilities) (12)	143,000
9	**OPEB Liability Payments as % of Revenues**	na
	Total OPEB Payments (13)	na

Notes: *2019-09-10*

(1) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 156.
(2) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 156. Does not include balances in the CIP fund, impact fee fund, and bond proceeds shown in CAFR.
(3) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
(4) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
(5) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
(6) Total assets (before depreciation) not reported by utility.
(7) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 22.
(8) See Fund Balance 1c above.
(9) See Appendix for detailed estimates of rates.
(10) American Community Survey 2017, S2503, 5-Year estimates, City of St. Helena.
(11) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.
(12) City of St. Helena Operations & Capital Budget FY 2018/19 FY19 Budget, Water Enterprise Fund, pg. 158, 168.
(13) Liability is pre-funded.

Table A-7c
Summary Financial Profile
City of St. Helena - Wastewater

Item	Amount
Operating Revenues (1)	
Wastewater	3,155,179
Total Operating Revenues	3,155,179
Operating Expenditures (2)	
Wastewater	
Salaries and Benefits	539,588
Services and Supplies	364,750
Other Operating Expenditures (3)	1,396,466
Total Wastewater Operating Expenditures	2,300,804
NET OPERATING INCOME	
Wastewater	854,375
Debt Service (4)	
Wastewater	256,030
NET OPERATING INCOME AFTER DEBT	
Wastewater	854,375
NET AFTER NON-OPERATING REVENUES	
Wastewater	854,375
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Wastewater	854,375
Ending Available Balance	
Wastewater (5)	728,074

2019-09-10

(1) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Wastewater Enterprise Fund, pg. 176.
(2) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Wastewater Enterprise Fund, pg. 177, 181.
(3) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted
(4) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Non-Dept'l - 4000 571 Wastewater Debt Service (4045), pg. 177, 181.
(5) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Wastewater Enterprise Fund, pg. 176. Does not include balances in the CIP fund, impact fee fund, and bond proceeds shown in CAFR.

Table A-7d
Summary Financial Measures and Indicators
City of St. Helena - Wastewater

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	137%
	Operating Revenues	3,155,179
	Operating Expenditures (inc. debt)	2,300,804
	Net	854,375
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	1.11
	Operating Revenues	3,155,179
	Operating Expenses	2,300,804
	Debt Service	0
	Depreciation	530,489
	TOTAL Expenses	2,831,293
1c	**Ending Fund Balance as % of Operating Revenues (2)**	23%
	Beginning Fund Balance	488,074
	Ending Fund Balance	728,074
	Change in Fund Balance	240,000
	Change in Fund Balance as % of Beginning Balance	
2a	**Unrestricted Net Position/Operating Revenues (3)**	91%
	Net Position	7,063,134
	Unrestricted Net Position	2,859,083
	Operating Revenues	3,155,179
2b	**Current Ratio (Short-term Liquidity) (4)**	11.5
	Current Assets	3,908,351
	Current Liabilities	339,467
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	20
	Current Cash Assets (4)	3,908,351
	Operating Expenditures (inc. debt)	2,300,804
	per day	6,304
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-13.5%
	Net Capital Assets, FY17 (5)	3,578,029
	Net Capital Assets, FY18 (5)	3,095,395
	Total Capital Assets being Depreciated (FY18) (6)	not reported
	Depreciation (7)	530,489
4a	**Debt Service as % of Operating Revenues**	8.1%
	Debt Service	256,030
	Operating Revenues	3,155,179

Table A-7d (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	32%
	Operating Reserves (8)	728,074
	Operating Expenditures (inc. debt)	2,556,834
7	**Rates and Charges (% of median HH income)**	1.3%
	Monthly Service Charges (SFD) (9)	$91.22
	Median Household Income (2017) (10)	$85,663
8	**Pension Payments as % of Revenues**	2.5%
	Total Pension Liability	not reported
	Unfunded Pension Liability (11)	1,187,504
	% Pension Liability Funded	not reported
	Total Payments (normal cost + unfunded liabilities) (12)	78,000
9	**OPEB Liability Payments as % of Revenues**	na
	Total OPEB Payments (13)	

Notes: *2019-09-10*

(1) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Wastewater Enterprise Fund, pg. 176.

(2) City of St. Helena Operations & Capital Budget FY 2018/19, FY19 Adopted Budget, Wastewater Enterprise Fund, pg. 176. Does not include balances in the CIP fund, impact fee fund, and bond proceeds shown in CAFR.

(3) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.

(4) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.

(5) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.

(6) Total assets (before depreciation) not reported by utility.

(7) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 22.

(8) See Fund Balance 1c above.

(9) See Appendix for detailed estimates of rates.

(10) American Community Survey 2017, S2503, 5-Year estimates, City of St. Helena

(11) City of St. Helena FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 21.

(12) Correspondence with City of St. Helena, 1/22/2020.

(13) Liability is pre-funded.

Table A-8a
Summary Financial Profile
City of Yountville - Water

Item	Amount
Operating Revenues (1)	
Water	1,330,902
Total Operating Revenues	1,330,902
Operating Expenditures (2)	
Water	
Salaries and Benefits	474,785
Services and Supplies	152,760
Water Purchases	642,000
Other Operating Expenditures (3)	5,000
Total Water Operating Expenditures	1,274,545
NET OPERATING INCOME	
Water	56,357
Debt Service	
Water	0
NET OPERATING INCOME AFTER DEBT	
Water	56,357
Non-Operating Revenues	
Water	
Property Tax	
Other Non-Operating Revenues (4)	9,250
Total Non-Operating Revenues	9,250
NET AFTER NON-OPERATING REVENUES	
Water	65,607
OTHER	
Water	
Capital and Non-Recurring Revenues	
Capital and Non-Recurring Expenditures (5)	200,000
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Water	(134,393)
Ending Available Balance	
Water (6)	365,135

Notes: *2019-08-30*

(1) Town of Yountville, FY19 Budget, Water Funds Summary, pg. 243 (minus interest and system replacement fees).
(2) Town of Yountville, FY19 Budget, Water Expenditure Summary by Category, pg. 243.
(3) Capital outlay
(4) Town of Yountville, FY19 Budget, Water Funds Summary, pg. 243, low income subsidy (01) plus interest earnings.
(5) Town of Yountville, FY19 Budget, Water Expenditure Summary by Category, pg. 244, Transfers Out.

Table A-8b
Summary Financial Measures and Indicators
City of Yountville - Water

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt)**	104%
	Operating Revenues (1)	1,330,902
	Operating Expenditures (inc. debt) (2)	1,274,545
	Net	56,357
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.99
	Operating Revenues	1,330,902
	Operating Expenses	1,274,545
	Debt Service	0
	Depreciation	63,872
	TOTAL Expenses	1,338,417
1c	**Ending Fund Balance as % of Operating Revenues**	27%
	Beginning Fund Balance (3)	572,128
	Ending Fund Balance (3)	365,135
	Change in Fund Balance	(206,993)
2a	**Unrestricted Net Position/Operating Revenues**	246%
	Net Position (4)	5,114,199
	Unrestricted Net Position (4)	3,279,519
	Operating Revenues	1,330,902
2b	**Current Ratio (Short-term Liquidity)**	104.4
	Current Assets (5)	3,654,742
	Current Liabilities (5)	35,019
2c	**Months Cash on Hand (current cash assets/expenses inc. debt)**	33
	Current Cash Assets (5)	3,519,022
	Operating Expenditures (inc. debt)	1,274,545
	per day	3,492
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-2.1%
	Net Capital Assets, FY17 (6)	1,874,439
	Net Capital Assets, FY18 (6)	1,834,680
	Total Capital Assets being Depreciated (FY18)	not reported
	Depreciation (7)	63,872
4a	**Debt Service as % of Operating Revenues**	0.0%
	Debt Service	0
	Operating Revenues	1,330,902
4b	**Debt Service Coverage Ratio**	na
	Operating Revenues	1,330,902
	Operating Expenditures (exc. debt)	1,274,545
	Net	56,357
	Debt Service	0

Table A-8b (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt) (8)**	357%
	Operating Reserves	3,279,519
	Operating Expenditures (inc. debt)	1,274,545
7	**Rates and Charges (% of median HH income)**	1.7%
	Monthly Service Charges (SFD) (9)	$101.98
	Median Household Income (2017) (10)	$70,938
8	**Pension Liabilities as % of Revenues**	4.0%
	Total Pension Liability	not reported
	Unfunded Pension Liability (11)	284,581
	Total Payments (normal cost + unfunded liabilities) (12)	53,044
9	**OPEB Liability Payments as % of Revenues**	2.4%
	Unfunded OPEB Liability (13)	137,987
	Total OPEB Payments (14)	31,597

Notes: *2019-09-10*

(1) Town of Yountville, FY19 Budget, Water Funds Summary, pg. 243 (minus interest and system replacement fees).
(2) FY19 operating expenditures including debt service (not including depreciation).
(3) FY19 Budget, Water Utility Operating Fund Summary, pg. 245.
(4) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(5) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(6) FY17 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(7) FY18 CAFR, Statement of Revenues, Expenses and Changes in Net Position, Proprietary Funds, pg. 35
(8) No reserves specific to utilities. The Town has Emergency Reserves (20% of GF expenditures) and Rev. Stabilization (29% of projected TOT); also $240,000 for budget
(9) See Appendix for detailed estimates of rates.
(10) American Community Survey 2017, S2503, 5-Year estimates
(11) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34 (total liability not reported).
(12) FY19 Budget, Water Expenditure Summary by Category, pg. 244 *Includes adjustment for GASB 68 .
(13) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(14) FY19 Budget, Water Utility, Op./Dist. pg. 249., Treatment pg. 273.

Table A-8c
Summary Financial Profile
City of Yountville - Wastewater

Item	Amount
Operating Revenues (1)	
Wastewater	1,895,370
Total Operating Revenues	1,895,370
Operating Expenditures (2)	
Wastewater	
Salaries and Benefits	944,937
Services and Supplies	599,980
Other Operating Expenditures (3)	8,000
Total Wastewater Operating Expenditures	1,552,917
NET OPERATING INCOME	
Wastewater	342,453
Debt Service	
Wastewater	12,525
NET OPERATING INCOME AFTER DEBT	
Wastewater	329,928
Non-Operating Revenues	
Wastewater	
Property Tax	
Other Non-Operating Revenues (4)	9,000
Total Non-Operating Revenues	9,000
NET AFTER NON-OPERATING REVENUES	
Wastewater	338,928
OTHER	
Wastewater	
Capital and Non-Recurring Revenues	
Capital and Non-Recurring Expenditures (5)	300,000
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Wastewater	38,928
Ending Available Balance	
Wastewater	298,696

Notes: *2019-08-30*

(1) Town of Yountville, FY19 Budget, Wastewater Funds Summary, pg. 263 (minus interest, system replacement fees, impact fees, and capital recover Veterans
(2) Town of Yountville, FY19 Budget, Wastewater Funds Summary, pg. 263.
(3) Capital outlay.
(4) Town of Yountville, FY19 Budget, Wastewater Funds Summary, pg. 265, low income subsidy (01) plus interest earnings.
(5) Town of Yountville, FY19 Budget, Wastewater Funds Summary, pg. 263, capital projects.

Table A-8d
Summary Financial Measures and Indicators
City of Yountville - Wastewater

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt)**	122%
	Operating Revenues (1)	1,895,370
	Operating Expenditures (inc. debt) (2)	1,552,917
	Net	342,453
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	1.02
	Operating Revenues	1,895,370
	Operating Expenses	1,552,917
	Debt Service	0
	Depreciation	313,414
	TOTAL Expenses	1,866,331
1c	**Ending Fund Balance as % of Operating Revenues**	16%
	Beginning Fund Balance (3)	592,123
	Ending Fund Balance (3)	298,696
	Change in Fund Balance	(293,427)
2a	**Unrestricted Net Position/Operating Revenues**	173%
	Net Position (4)	5,114,199
	Unrestricted Net Position (4)	3,279,519
	Operating Revenues	1,895,370
2b	**Current Ratio (Short-term Liquidity)**	16.5
	Current Assets (5)	4,366,596
	Current Liabilities (5)	263,963
2c	**Months Cash on Hand (current cash assets/expenses inc.**	31
	Current Cash Assets (5)	4,030,605
	Operating Expenditures (inc. debt)	1,552,917
	per day	4,255
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-3.0%
	Net Capital Assets, FY17 (6)	9,231,818
	Net Capital Assets, FY18 (6)	8,958,040
	Total Capital Assets being Depreciated (FY18)	not reported
	Depreciation (7)	313,414
4a	**Debt Service as % of Operating Revenues**	0.7%
	Debt Service	12,525
	Operating Revenues	1,895,370

Table A-8d (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt) (8)**	311%
	Operating Reserves	3,279,519
	Operating Expenditures (inc. debt)	1,565,442
7	**Rates and Charges (% of median HH income)**	1.0%
	Monthly Service Charges (SFD) (9)	$56.22
	Median Household Income (2017) (10)	$70,938
8	**Pension Liabilities as % of Revenues**	5.6%
	Total Pension Liability	not reported
	Unfunded Pension Liability (11)	691,832
	Total Payments (normal cost + unfunded liabilities) (12)	106,164
9	**OPEB Liability Payments as % of Revenues**	4.1%
	Unfunded OPEB Liability (13)	336,221
	Total OPEB Payments (14)	76,988

2019-08-30

(1) Town of Yountville, FY19 Budget, Wastewater Funds Summary, pg. 263 (minus interest, system replacement fees, impact fees, and capital recover Veterans Home).
(2) FY19 operating expenditures including debt service (not including depreciation).
(3) FY19 Budget, Wastewater Utility Operating Fund Summary, pg. 265.
(4) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(5) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(6) FY17 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(7) FY18 CAFR, Statement of Revenues, Expenses and Changes in Net Position, Proprietary Funds, pg. 35
(8) No reserves specific to utilities. The Town has Emergency Reserves (20% of GF expenditures) and Rev. Stabilization (29% of projected TOT); also $240,000 for budget contingencies.
(9) See Appendix detailed estimates of rates.
(10) American Community Survey 2017, S2503, 5-Year estimates
(11) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(12) FY19 Budget, Wastewater Expenditure Summary by Category, pg. 264*
(13) FY18 CAFR, Statement of Net Position, Proprietary Funds, pg. 34
(14) FY19 Budget, Wastewater Utility, Collections pg. 269., Treatment pg. 273.

Table A-9a
Summary Financial Profile
Circle Oaks County Water District - Water and Wastewater Operations

Item	Amount
Operating Revenues	
Water (1)	234,000
Wastewater (2)	159,000
Other Operating Revenues (3)	5,000
Total Operating Revenues	398,000
Operating Expenditures	
Water	
Total Water Operating Expenditures (4)	45,000
Wastewater	
Total Wastewater Operating Expenditures (5)	42,000
Other Expenditures (6)	253,000
Total Expenditures	340,000
NET OPERATING INCOME	
Total	58,000
Debt Service	
Total Water and Wastewater Debt Service (7)	0
Non-Operating Revenues	
Property Tax (8)	50,000
Total Non-Operating Revenues	50,000
NET AFTER NON-OPERATING REVENUES	
Total (9)	108,000
Ending Available Balance	
Total (10)	377,676

Notes to Table A-9a: *2019-12-19*

(1) Circle Oaks Proposed Budget 2018-19, pg. 1; includes water service plus $75k water usage charges.
(2) Circle Oaks Proposed Budget 2018-19, pg. 1.
(3) Circle Oaks Proposed Budget 2018-19, pg. 1; includes "Late Charges".
(4) Circle Oaks Proposed Budget 2018-19, pg. 2 (water transmission).
(5) Circle Oaks Proposed Budget 2018-19, pg. 2.
(6) Includes utilities, admin, testing, insurance, Management Fees, etc.
(7) Excludes debt funded by assessments.
(8) Circle Oaks Proposed Budget 2018-19, pg. 1.
(9) Net annual balance before deducting depreciation.
(10) Estimated based on unrestricted position ending FY18 plus annual net balance from budget shown in Table A-9a above.

Table A-9b
Summary Financial Measures and Indicators
Circle Oaks County Water District - Water and Wastewater Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt)**	132%
	Revenues (inc. property tax) (1)	448,000
	Expenditures (2)	340,000
	Net	108,000
1b	**Operating Ratio (rev/exp inc. debt & deprec)**	0.86
	Operating Revenues	398,000
	Operating Expenses	340,000
	Debt Service (3)	0
	Depreciation (4)	125,000
	TOTAL Expenses	465,000
1c	**Ending Fund Balance as % of Revenues**	see 2a below
2a	**Unrestricted Net Position/Revenues (5)**	60%
	Net Position (5)	3,718,878
	Unrestricted Net Position	269,676
	Revenues	448,000
2b	**Current Ratio (Short-term Liquidity) (6)**	8.8
	Current Assets (exc. receivables)	246,569
	Current Liabilities	28,105
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt**	9
	Current Assets (exc. receivables) (6)	246,569
	Expenditures	340,000
3a	**Change in Net Depreciable Capital Assets (FY17-FY18) (7)**	-3.2%
	Net Capital Assets, FY17	3,534,586
	Net Capital Assets, FY18	3,421,097
	Total Capital Assets being Depreciated (FY18)	4,991,429
	Depreciation	124,919
4a	**Debt Service as % of Revenues**	na
	Debt Service (exc. assessment debt)	0
4b	**Debt Service Coverage Ratio**	na
5	**Bond Ratings**	na
6	**Total Reserves (% of op. expend. inc. debt)**	see 2a above
	Operating Expenditures (inc. debt)	
7	**Rates and Charges (% of median HH income)**	2.9%
	Monthly Service Charges (SFD) (8)	$190.83
	Water	$118.68
	Sewer	$72.15
	Median Household Income (2017) (9)	$79,637
8	**Pension Liabilities**	no obligations
9	**OPEB Liabilities**	no obligations

Notes to Table A-9b: *2019-12-19*

(1) Circle Oaks Proposed Budget 2018-19, pg. 1; includes water service plus $75k water usage charges.
(2) FY19 operating expenditures (not including depreciation).
(3) Excludes assessment debt.
(4) Circle Oaks Financial Statements FY18 Statement of Net Position, pg. 4.
(5) Circle Oaks Financial Statements FY18 Statement of Net Position, Unrestricted, pg. 4 (cont'd).
(6) Circle Oaks Financial Statements FY18 Statement of Net Position, Unrestricted, pg. 4.
(7) Circle Oaks Financial Statements FY18 Statement of Net Position, pg. 4.
(8) See Appendix for detailed estimates of rates.
(9) American Community Survey 2017, S2503, 5-Year estimates, Napa County Median.

Table A-10a
Summary Financial Profile
Congress Valley Water District - Water Operations

Item	Amount
Operating Revenues	
Total Operating Revenues (1)	0
Operating Expenditures	
Total Water Operating Expenditures (2)	133,600
NET OPERATING INCOME	
Total	(133,600)
Debt Service	
Total Debt Service	0
NET OPERATING INCOME AFTER DEBT	
Total NOI after Debt	(133,600)
Non-Operating Revenues (3)	
Property Tax	85,365
Other Non-Operating Revenues	9,700
Total Non-Operating Revenues	95,065
NET AFTER NON-OPERATING REVENUES	
Net after Non-Operating Revenues	(38,535)
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Total	(38,535)

Notes: *2019-09-17*
(1) No user fees (users billed directly by City of Napa); revenues derived from property taxes and misc. revenues (interest) only.
(2) Congress Valley WD Final 2018-19 Budget.
(3) Congress Valley WD Final 2018-19 Budget; includes interest earnings and misc.

Table A-10b
Summary Financial Profile
Congress Valley Water District - Water Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt)**	71%
	Revenues (inc. property tax, interest, misc.)	95,065
	Expenditures (inc. debt)	133,600
	Net	(38,535)
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.61
	Revenues (inc. property tax, interest, misc.)	95,065
	Expenditures (inc. debt)	133,600
	Debt Service	0
	Depreciation (1)	22,942
	TOTAL Expenses	156,542
1c	**Ending Fund Balance as % of Operating Revenues**	725%
	Beginning Fund Balance (unrestricted net position) (2)	727,855
	Ending Fund Balance (3)	689,320
	Change in Fund Balance (4)	(38,535)
2a	**Unrestricted Net Position/Operating Revenues**	766%
	Total Net Position (5)	1,099,790
	Unrestricted Net Position (5)	727,855
	Revenues (5)	95,065
2b	**Current Ratio (Short-term Liquidity) (6)**	4.1
	Current Assets	1,167,062
	Current Liabilities	281,626
2c	**Months Cash on Hand (crnt cash assets/expenses w/deb**	103
	Current Assets (6)	1,167,062
	Operating Expenditures (inc. debt)	133,600
3a	**Change in Net Depreciable Capital Assets (FY17-FY18) (7**	-9.2%
	Net Capital Assets, FY17	248,201
	Net Capital Assets, FY18	225,259
	Total Capital Assets being Depreciated (FY18)	971,055
	Depreciation	22,942
4a	**Debt Service as % of Operating Revenues**	0.0%
	Debt Service	0
4b	**Debt Service Coverage Ratio**	na

Table A-10b (cont'd)

5	**Bond Ratings**	na
6	**Total Reserves (% of op. expend. inc. debt)**	645%
	Reserves (Unrestricted Net Position) (8)	727,855
	Expenditures (inc. debt)	133,600
7	**Rates and Charges (% of median HH income)**	1.0%
	Monthly Service Charges (SFD)	
	Water	$67.78
	Median Household Income (2017) (9)	$79,637
8	**Pension Liabilities as % of Revenues**	na
	Total Pension Liability	0
9	**OPEB Liability Payments as % of Revenues**	na

Notes: *2019-09-17*

(1) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, pg. 8.

(2) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, FY18 Unrestricted Net Position (fund balance not reported),

(3) Beginning Balance minus Net Operating Revenues (fund balance not reported).

(4) FY19 budget net balance.

(5) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, pg. 4.

(6) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, pg. 4.

(7) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, Note 3, pg. 14.

(8) CVWD Basic Financial Statements for the Fiscal Years Ended June 30, 2018 and 2017, pg. 4.

(9) Napa County Median, American Community Survey 2017, S2503, 5-Year estimates.

Table A-13a
Summary Financial Profile
Napa Berryessa Resort Improvement District - Water and Wastewater Operation

Item	Amount
Operating Revenues	
Sewer/Water Usage Fees (1)	550,729
Other Operating Revenues (inc. Availability Chgs) (2)	121,200
Total Operating Revenues	671,929
Operating Expenditures	
Total Expenditures (3)	658,027
NET OPERATING INCOME	
Total Net Operating Income	13,902
Debt Service	
Total Water and Wastewater Debt Service (4)	
NET OPERATING INCOME AFTER DEBT	
Total	13,902
Non-Operating Revenues	
Property Tax (5)	58,302
Other Non-Operating Rev (exc.assessments) (6)	68,308
Total Non-Operating Revenues	126,610
Capital and Non-Recurring Revenues (7)	15,311
Capital and Non-Recurring Expenditures (to CIP) (7)	112,033
Net Capital and Non-Recurring Expenditures (Transfers)	(96,722)
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Total	43,790
Ending Available Balance	
Total (Operations) (9)	(1,044,969)

Notes: *2020-01-28*

(1) Operations, NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(2) ibid, NBRID (52400) Statement of Actual FY19.

(3) ibid, NBRID (52400) Statement of Actual FY19, Operations (inc. equipment).

(4) Exc. debt service. NBRID (52410) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(5) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(6) ibid, NBRID (52400) Statement of Actual FY19.

(7) ibid, NBRID (52400) Statement of Actual FY19 (Hook-up Fees & transfers in).

(9) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date. Note: Debt Service funding balance is $1.5 million; financial reports show a positive balance overall.

Table Table A-13b
Summary Financial Measures and Indicators
Napa Berryessa Resort Improvement District - Water and Wastewater Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	124%
	Total Revenues Operations Fund (inc. avail. Chgs)	813,850
	Expenditures (exc. debt; excludes transfers to CIP)	658,027
	Net	155,823
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.98
	Total Revenues (exc. hook-up fees)	813,850
	Total Expenses (exc. transfers to CIP)	658,027
	Debt Service (funded by assessments)	0
	Depreciation (2)	170,966
	TOTAL Expenses	828,993
1c	**Ending Fund Balance as % of Operating Fund Expenditures (3)**	115%
	Beginning Fund Balances (operations and debt)	
	Ending Fund Balance (cash and investments)	753,555
	Change in Fund Balance (operations and debt)	
2a	**Unrestricted Net Position/Operating Revenues (4)**	58%
	Net Position	73,371
	Unrestricted Net Position	472,090
	Operating Revenues	813,850
2b	**Current Ratio (Short-term Liquidity) (5)**	7.8
	Current Assets	2,952,479
	Current Liabilities	378,579
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	53
	Current Assets (Cash and Investments) (5)	2,952,479
	Operating Expenditures (inc. debt)	658,027
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-5.4%
	Total Capital Assets being Depreciated (FY18)	12,826,249
	Net Depreciable Capital Assets/Total (FY18)	71.9%
4a	**Debt Service as % of Total Revenues**	59.9%
	Debt Service	487,891
	Total Revenues (including property tax & assessments)	813,850
5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	115%
	Operating Expenditures (exc. debt)	658,027
7	**Rates and Charges (% of median HH income)**	4.3%
	Monthly Service Charges (SFD) (8)	
	Water	$84.94
	Sewer	$124.88
	Median Household Income (2017) (9)	$58,500

Table A-13b (cont'd)

8	**Pension Liabilities**	0
9	**OPEB Liabilities**	0

Notes: *2020-01-28*

(1) Inc. availability charges; not including hookup fees.
(2) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.
(3) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, "Cash and Investments", pg. 37.
(4) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
(5) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, ipg. 37, includes cash held for debt service.
(6) County of Napa CAFR for Fiscal Year ended June 30, 2017, Statement of Net Position Proprietary Funds, pg. 35.
(7) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
(8) See Appendix for detailed estimates of rates.
(9) NBRID interview, 12/4/19.

Table A-12a
Summary Financial Profile
Los Carneros Water District - Recycled Water Operations

Item	Amount
Operating Revenues	
Recycled Water	
Total Operating Revenues (see assessments below) (1)	0
Operating Expenditures	
Recycled Water (District administration) (2)	21,000
Total Operating Expenditures	21,000
Debt Service	
Recycled Water (3)	335,220
Total Debt Service	335,220
Non-Operating Revenues	
Recycled Water	
Assessments (4)	435,400
Other Non-Operating Revenues (5)	18,000
Total Non-Operating Revenues	453,400
NET AFTER NON-OPERATING REVENUES	
Total	97,180
Ending Available Balance	
Recycled Water (6)	337,799

Notes: *2019-12-24*

(1) NapaSan bills LCWD customers directly.
(2) LCWD 2018-19 Budget; administrative costs including insurance, audits and financial services.
(3) LCWD 2018-19 Budget: based on maximum debt payment (payments increase slightly every year) for purposes of coverage calculations. Actual payments towards debt ry depending on use of reserves, grants, etc.
(4) LCWD 2018-19 Budget.
(5) LCWD 2018-19 Budget; Includes interest and penalties.
(6) LCWD 2018-19 Budget; ending cash balance excludes $4,126 delinquent assessments.

Table A-12b
Summary Financial Measures and Indicators
Los Carneros Water District - Recycled Water Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	127%
	Revenues (inc. interest, and assessments)	453,400
	Expenditures (inc. debt)	356,220
	Net	97,180
1b	**Ending Fund Balance as % of Operating Revenues**	95%
	Ending Fund Balance (3)	337,799
2a	**Debt Service as % of Revenues**	73.9%
	Debt Service (4)	335,220
	Revenues (inc. interest, and assessments)	453,400
	Total Debt (5)	3,991,347

Notes: *2019-12-24*

(1) LCWD 2018-19 Budget; administrative costs including insurance, audits and financial services.

(2) Debt pmt based on maximum debt payment (payments increase slightly every year) for purposes of coverage calculations. Actual payments towards debt vary depending on use of reserves, grants, etc.

(3) Los Carneros Water District 2018-19 Budget.

(4) LCWD 2018-19 Budget: based on maximum debt payment (payments increase slightly every year) for purposes of coverage calculations. Actual payments towards debt ry depending on use of reserves, grants, etc.

(5) Correspondence from LCWD 1/09/2020.

Table A-13a
Summary Financial Profile
Napa Berryessa Resort Improvement District - Water and Wastewater Operation

Item	Amount
Operating Revenues	
Sewer/Water Usage Fees (1)	550,729
Other Operating Revenues (inc. Availability Chgs) (2)	121,200
Total Operating Revenues	671,929
Operating Expenditures	
Total Expenditures (3)	658,027
NET OPERATING INCOME	
Total Net Operating Income	13,902
Debt Service	
Total Water and Wastewater Debt Service (4)	
NET OPERATING INCOME AFTER DEBT	
Total	13,902
Non-Operating Revenues	
Property Tax (5)	58,302
Other Non-Operating Rev (exc.assessments) (6)	68,308
Total Non-Operating Revenues	126,610
Capital and Non-Recurring Revenues (7)	15,311
Capital and Non-Recurring Expenditures (to CIP) (7)	112,033
Net Capital and Non-Recurring Expenditures (Transfers)	(96,722)
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Total	43,790
Ending Available Balance	
Total (Operations) (9)	(1,044,969)

Notes: *2020-01-28*

(1) Operations, NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(2) ibid, NBRID (52400) Statement of Actual FY19.

(3) ibid, NBRID (52400) Statement of Actual FY19, Operations (inc. equipment).

(4) Exc. debt service. NBRID (52410) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(5) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.

(6) ibid, NBRID (52400) Statement of Actual FY19.

(7) ibid, NBRID (52400) Statement of Actual FY19 (Hook-up Fees & transfers in).

(9) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date. Note: Debt Service funding balance is $1.5 million; financial reports show a positive balance overall.

Table Table A-13b
Summary Financial Measures and Indicators
Napa Berryessa Resort Improvement District - Water and Wastewater Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	124%
	Total Revenues Operations Fund (inc. avail. Chgs)	813,850
	Expenditures (exc. debt; excludes transfers to CIP)	658,027
	Net	155,823
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.98
	Total Revenues (exc. hook-up fees)	813,850
	Total Expenses (exc. transfers to CIP)	658,027
	Debt Service (funded by assessments)	0
	Depreciation (2)	170,966
	TOTAL Expenses	828,993
1c	**Ending Fund Balance as % of Operating Fund Expenditures (3)**	115%
	Ending Fund Balance (cash and investments)	753,555
2a	**Unrestricted Net Position/Operating Revenues (4)**	58%
	Net Position	73,371
	Unrestricted Net Position	472,090
	Operating Revenues	813,850
2b	**Current Ratio (Short-term Liquidity) (5)**	7.8
	Current Assets	2,952,479
	Current Liabilities	378,579
2c	**Months Cash on Hand (crnt cash assets/expenses w/debt)**	53
	Current Assets (Cash and Investments) (5)	2,952,479
	Operating Expenditures (inc. debt)	658,027
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-5.4%
	Total Capital Assets being Depreciated (FY18)	12,826,249
	Net Depreciable Capital Assets/Total (FY18)	71.9%
4a	**Debt Service as % of Total Revenues**	59.9%
	Debt Service	487,891
	Total Revenues (including property tax & assessments)	813,850
5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	115%
	Operating Expenditures (exc. debt)	658,027
7	**Rates and Charges (% of median HH income)**	4.3%
	Monthly Service Charges (SFD) (8)	
	Water	$84.94
	Sewer	$124.88
	Median Household Income (2017) (9)	$58,500

Table A-13b (cont'd)

8	**Pension Liabilities**	0
9	**OPEB Liabilities**	0

Notes: *2020-01-28*

(1) Inc. availability charges; not including hookup fees.
(2) NBRID (52400) Statement of Revenues and Expenses Budget vs. Actual FY19, Actual Year to Date.
(3) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, "Cash and Investments", pg. 37.
(4) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
(5) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, ipg. 37, includes cash held for debt service.
(6) County of Napa CAFR for Fiscal Year ended June 30, 2017, Statement of Net Position Proprietary Funds, pg. 35.
(7) County of Napa CAFR for Fiscal Year ended June 30, 2018, Statement of Net Position Proprietary Funds, pg. 37.
(8) See Appendix for detailed estimates of rates.
(9) NBRID interview, 12/4/19.

Table A-14a
Summary Financial Profile (1)
Napa County Flood Control & Water Conservation District

Item	Amount
Countywide Watershed Mgmt (2)	
Revenues	2,758,100
Expenditures	2,758,100
Contribution to or (Use of) Fund Balance	0
NPDES Stormwater Mgmt (3)	
Revenues	524,100
Expenditures	524,100
Contribution to or (Use of) Fund Balance	0
Rutherford Maintenance (4)	
Revenues	99,700
Expenditures	98,200
Contribution to or (Use of) Fund Balance	1,500
Oakville to Oak Knoll Maintenance (5)	
Revenues	90,500
Expenditures	90,500
Contribution to or (Use of) Fund Balance	0
Flood Control Project (6)	
Revenues	4,000,000
Expenditures	21,035,700
Contribution to or (Use of) Fund Balance	(17,035,700)
Flood Authority Administration (7)	
Revenues	150,200
Expenditures	150,200
Contribution to or (Use of) Fund Balance	0
Napa FLD Project Measure A (8)	
Revenues	0
Expenditures	2,114,400
Contribution to or (Use of) Fund Balance	(2,114,400)
Napa FLD Proj Maint Measure A (9)	
Revenues	0
Expenditures	885,600
Contribution to or (Use of) Fund Balance	(885,600)

Table A-14a cont'd:

Water Supply Contracts (10)	
Revenues	13,452,300
Expenditures	12,952,300
Contribution to or (Use of) Fund Balance	500,000
Oakville CFD (11)	
Revenues	97,500
Expenditures	97,500
Contribution to or (Use of) Fund Balance	0
TOTAL	
Revenues	21,172,400
Expenditures	40,706,600
Contribution to or (Use of) Fund Balance	(19,534,200)
Ending Fund Balance (FY18) (12)	90,090,776
Total Debt Outstanding (12)	13,925,866

Notes: *2019-11-11*

(1) NCFCWCD Budget Summary, Proposed Revenue and Appropriations Budget 2018/2019.
(2) Flood and Watershed Management Division.
(3) Flood and Watershed Management Division coordinates activities of local NPDES permitted agencies.
(4) Flood and Watershed Management Division
(5) Flood and Watershed Management Division
(6) Flood and Watershed Management Division
(7) Flood and Watershed Management Division
(8) Non-operating special revenue fund holding remaining funds after disbursement to taxing entities, for future maintenance purposes.
(9) Non-operating special revenue fund holding remaining funds after disbursement to taxing entities, for future maintenance purposes.
(10) The District is the local contracting authority with the State and Federal governments for water from the State Water Project and Lake
(11) Oakville - Oak Knoll Community Facilities District
(12) NCFCWCD Financial Statements, Balance Sheet June 30, 2018, Ending Fund Balance (restricted and unrestricted), pg. 9.
(13) NCFCWCD Financial Statements, Statement of Net Position, June 30, 2018, pg. 7.

Table A-15a
Summary Financial Profile
Napa River Reclamation District - Wastewater Operations

Item	Amount
Operating Revenues	
Wastewater (1)	163,600
Total Operating Revenues	163,600
Operating Expenditures	
Wastewater	
Total Wastewater Operating Expenditures	171,950
NET OPERATING INCOME	
Wastewater	
Total	(8,350)
Debt Service	
Wastewater	
Total Wastewater Debt Service	0
NET OPERATING INCOME AFTER DEBT	
Wastewater	
Total	(8,350)
Non-Operating Revenues	
Wastewater	
Property Tax	23,950
Other Non-Operating Revenues	4,400
Total Non-Operating Revenues	28,350
NET AFTER NON-OPERATING REVENUES	
Total	20,000
OTHER CAPITAL AND NON-RECURRING	
Total Other Capital and Non-Recurring	0
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Wastewater	
Total	20,000
Ending Available Balance	
Wastewater	
Total (5)	722,393

Notes: *2019-11-05*

(1) Napa River Reclamation District Final Budget for FY2018/19.
(2) Napa River Reclamation District Final Budget for FY2018/19; excludes depreciation.
(3) Napa River Reclamation District Final Budget for FY2018/19.
(4) Includes interest, dividends.
(5) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets plus budget FY19 Net (exc. depreciation).

Table A-15b
Summary Financial Measures and Indicators
Napa River Reclamation District - Wastewater Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	112%
	Revenues (inc. property tax, interest, misc.)	191,950
	Expenditures (exc. depreciation)	171,950
	Net	20,000
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.80
	Revenues (inc. property tax)	191,950
	Expenditures (exc. depreciation)	171,950
	Debt Service	0
	Depreciation (2)	68,364
	TOTAL Expenses	240,314
1c	**Ending Fund Balance as % of Expenditures**	420%
	Beginning Fund Balance (FY18 ending) (3)	702,393
	Ending Fund Balance (FY19 estimated) (4)	722,393
	Change in Fund Balance (5)	20,000
2a	**Unrestricted Net Position/Operating Revenues (6)**	360%
	Net Position	1,026,758
	Unrestricted Net Position	690,627
	Revenues (inc. property tax)	191,950
2b	**Current Ratio (Short-term Liquidity) (7)**	132.8
	Current Assets	702,393
	Current Liabilities	5,290
2c	**Months Cash on Hand (current cash assets/expenses inc. debt**	48
	Current Assets	702,393
	Operating Expenditures (exc. depreciation)	171,950
	per day	471
3a	**Change in Net Depreciable Capital Assets (FY18-FY19) (8)**	-12.1%
	Net Capital Assets, FY18	345,074
	Net Capital Assets, FY19	303,311
	Total Capital Assets being Depreciated (FY19)	2,310,956
	Depreciation	68,364
4a	**Debt Service as % of Operating Revenues**	na
4b	**Debt Service Coverage Ratio**	na
5	**Bond Ratings**	na
6	**Total Reserves (% of op. expend. inc. debt) (13)**	420%
	Reserves	722,393
	Expenditures (exc. depreciation)	171,950
7	**Rates and Charges (% of median HH income)**	2.2%
	Monthly Service Charges	
	Sewer (10)	$148.33
	Median Household Income (2017) (11)	$79,637
8	**Pension Liabilities**	na
9	**OPEB Liabilities**	na

Notes to Table A-15b: *2019-11-05*

(1) Napa River Reclamation District Final Budget for FY2018/19.

(2) Note: FY19 budget allocates $20,000 towards depreciation. Napa River Reclamation District Basic Financial Statements, June 30, 2019 and 2018, pg. 5.

(3) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets.

(4) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets plus budget FY19 Net (exc. depreciation).

(5) See prior table - estimated FY19 surplus (excluding depreciation).

(6) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets.

(7) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets.

(8) Napa River Reclamation District Basic Financial Statements, June 30, 2019 and 2018, Note 3.

(9) NRRD Basic Financial Statements FY18 and FY19, Statement of Net Position, FY19 Current Assets plus budget FY19 Net (exc. depreciation).

(10) See Appendix detailed estimates of rates.

(11) American Community Survey 2017, S2503, 5-Year estimates, Napa County Median.

Table A-16a
Summary Financial Profile
Napa Sanitation District

Item	Amount
Operating Revenues (1)	
Wastewater	28,156,000
Recycled Water	1,042,000
Other Operating Revenues	1,472,800
Total Operating Revenues	30,670,800
Operating Expenditures	
Salaries and Benefits (2)	9,961,350
Services and Supplies (2)	6,003,100
Other Operating Expenditures (3)	29,150
Total Operating Expenditures	15,993,600
NET OPERATING INCOME	
Total	14,677,200
Debt Service	
Total	4,593,800
NET OPERATING INCOME AFTER DEBT	
Total	10,083,400
OTHER	
Total Other	
Capital and Non-Recurring Revenues (4)	14,094,600
Capital and Non-Recurring Expenditures (5)	26,385,700
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Total	(2,207,700)
Ending Available Balance	
Total (6)	18,908,900

Notes: *2019-04-01*

(1) FY19 Adopted Budget, pg. 33.
(2) FY19 Adopted Budget, pg. 35.
(3) FY19 Adopted Budget, pg. 35, taxes and assessments.
(4) FY19 Adopted Budget, pg. 33
(5) FY19 Adopted Budget, pg. 36.
(6) FY19 Adopted Budget, pg. 36.

Table A-16b
Summary Financial Measures and Indicators
Napa Sanitation District

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt)**	149%
	Total Operating Revenues (1)	30,670,800
	Total Operating Expenditures (inc. debt) (2)	20,587,400
	Net	10,083,400
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	1.05
	Operating Revenues (3)	30,670,800
	Operating Expenses	15,993,600
	Debt Service	4,593,800
	Depreciation	8,592,927
	TOTAL Expenses	29,180,327
1c	**Ending Fund Balance as % of Operating Revenues**	62%
	Beginning Fund Balance (4)	21,116,644
	Ending Fund Balance (4)	18,908,900
	Change in Fund Balance	(2,207,744)
2a	**Unrestricted Net Position/Operating Revenues**	38%
	Net Position	186,252,045
	Unrestricted Net Position (5)	11,650,292
	Operating Revenues	30,670,800
2b	**Current Ratio (Short-term Liquidity)**	2.9
	Current Assets (6)	24,161,371
	Current Liabilities (7)	8,367,871
2c	**Months Cash on Hand (current cash assets/expenses inc.**	14
	Current Assets	24,161,371
	Operating Expenditures (inc. debt)	20,587,400
	per day	56,404
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	7.5%
	Net Capital Assets, FY17 (8)	186,858,930
	Net Capital Assets, FY18 (8)	200,838,429
	Total Capital Assets being Depreciated (FY18)	333,234,351
	Depreciation (9)	8,592,927
4a	**Debt Service as % of Operating Revenues**	15.0%
	Debt Service (10)	4,593,800
	Operating Revenues (11)	30,670,800
	Total Debt (12)	43,620,000

	Table A-16b (cont'd)	
5	**Bond Ratings**	AA- to AA
6	**Total Reserves (% of op. expend. inc. debt) (13)**	92%
	Operating Reserves	6,000,000
	Operating Cash Flow Reserves	12,500,000
	Fund Equity Available	408,900
	Operating Expenditures (inc. debt)	20,587,400
7	**Rates and Charges (% of median HH income)**	0.8%
	Monthly Service Charges (SFD) (14)	$56.37
	Median Household Income (2017) (15)	$82,361
8	**Pension Liabilities (pmts as % of Operating Revenues)**	6.2%
	Total Pension Liability	42,651,221
	Unfunded Pension Liability (2018) (16)	14,047,419
	% Pension Liability Funded (2017)	69.3%
	Total Payments (normal + unfunded liabilities)(17)	1,912,239
9	**OPEB Liabilities**	
	Total OPEB Liability (18)	10,689,247
	Unfunded OPEB Liability (18)	6,550,671
	% OPEB Liability Funded (19)	38.72%
	Total OPEB Payments (20)	891,719

2020-01-07

(1) Not including capacity charges.
(2) FY19 operating expenditures including debt service (not inc. depreciation)
(3) FY19 Adopted Budget, pg. 35 (excludes capacity charges).
(4) NapaSan FY19 Adopted Budget, pg. 36.
(5) NapaSan FY18 CAFR, Statement of Net Position, pg. 8-9
(6) CAFR FY17 Statement of Net Position, pg. 8
(excluding inventory, prepaid items, and net OPEB
(7) CAFR FY17 Statement of Net Position, pg. 9
(8) FY18 CAFR Note 3, Net of Depreciation, pg. 19.
(9) FY18 CAFR Note 3, pg. 19 (includes offsetting retirements).
(10) FY19 Adopted Budget, pg. 35.
(11) FY19 Adopted Budget, pg. 33.
(12) Total debt as of 6/30/2019 per J.Tucker.
(13) FY19 Adopted Budget, pg. 36.
(14) FY19 Adopted Budget, pg. 31.
(15) Financial Characteristics, City of Napa, 2017 ACS 1-Year Estimates, https://www.census.gov/acs/www/data/data-tables-and-tools/american-factfinder/
(16) FY18 CAFR, Note 5C -- Pension Plans, pg. 22.
(17) OLD/WRONG:...FY18 CAFR, pg. 22 (includes employer share of employee
(18) FY18 CAFR, Note 6, B. Net OPEB Liability, pg. 28; see also GASB 75 Report, Oct. 20, 2017, pg. 3.

Table A-17a
Summary Financial Profile
Spanish Flat Water District - Water and Wastewater Operations

Item	Amount
Operating Revenues	
Water (1)	128,011
Wastewater (1)	133,829
Other Operating Revenues (2)	41,101
Total Operating Revenues	302,941
Operating Expenditures	
Total Expenditures (3)	268,818
NET OPERATING INCOME	
Total	34,123
Debt Service (4)	
Total Water and Wastewater Debt Service	16,041
NET OPERATING INCOME AFTER DEBT	
Total	18,082
OTHER	
Capital and Non-Recurring Revenues (5)	24,996
NET AFTER OTHER CAPITAL AND NON-RECURRING	
Total	43,078

Notes: *2019-09-15*

(1) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Management Discussion Highlights, pg. 2.
(2) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 2, Misc.
(3) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 6. Excludes depreciation.
(4) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 7.
(5) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 2. Includes hook-up fees.

Table A-17b
Summary Financial Measures and Indicators
Spanish Flat Water District - Water and Wastewater Operations

	Item	Amount
1a	**Balanced Budget (rev/exp inc. debt) (1)**	106%
	Operating Revenues	302,941
	Operating Expenditures (inc. debt)	284,859
	Net	18,082
1b	**Operating Ratio (op'ing rev/exp inc. debt & deprec)**	0.74
	Operating Revenues	302,941
	Operating Expenses	268,818
	Debt Service	16,041
	Depreciation (2)	125,789
	TOTAL Expenses	410,648
1c	**Ending Fund Balance as % of Operating Revenues**	64%
	Beginning Fund Balance	not reported
	Ending Fund Balance (3)	194,443
2a	**Unrestricted Net Position/Expenditures (inc. debt) (4)**	41%
	Net Position	2,200,653
	Unrestricted Net Position	115,978
	Operating Expenditures (inc. debt)	284,859
2b	**Current Ratio (Short-term Liquidity) (5)**	5.7
	Current Assets	194,443
	Current Liabilities	34,164
2c	**Months Cash on Hand (current cash assets/expenses inc**	8
	Current Cash Assets (5)	194,443
	Operating Expenditures (inc. debt)	284,859
	per day	780
3a	**Change in Net Depreciable Capital Assets (FY17-FY18)**	-5.5%
	Net Capital Assets, FY17 (6)	2,271,758
	Net Capital Assets, FY18 (7)	2,145,969
	Total Capital Assets being Depreciated (FY18)	4,599,491
4a	**Debt Service as % of Operating Revenues**	5.3%
	Debt Service (8)	16,041
	Operating Revenues	302,941
	Total Debt (8)	144,266
4b	**Debt Service Coverage Ratio**	2.1
	Operating Revenues	302,941
	Operating Expenditures (exc. debt)	268,818
	Net	34,123
	Debt Service	16,041

Table A-17b (cont'd)

5	**Bond Ratings**	not reported
6	**Total Reserves (% of op. expend. inc. debt)**	149%
	Operating Reserves (9)	115,978
	Operating Expenditures (inc. debt)	284,859
7	**Rates and Charges (% of median HH income)**	2.0%
	Monthly Service Charges (SFD) (10)	
	Water	$63.56
	Sewer	$66.85
	Median Household Income (2017) (11)	$79,637
8	**Pension Liabilities as % of Revenues**	0.0%
	Total Pension Liability (12)	na
9	**OPEB Liabilities**	
	Total OPEB Payments (11)	na

Notes: *2019-08-27*

(1) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Management Discussion Highlights, pg. 2.

(2) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Statement of Changes in Net Position, pg. 6.

(3) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Statement of Net Position, pg. 5.

(4) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 5.

(5) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 5.

(6) Based on FY18 minus depreciation; Financial Reports do not show change in assets (other than depreciation).

(7) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, pg. 6.

(8) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Statement of Cash Flows, pg. 7; debt issuances Note 6, pg. 9.

(9) Spanish Flat Water District Financial Statements, Year ended June 30, 2018, Net Unrestricted Position., pg. 5.

(10) See Appendix for detailed estimates of rates.

(11) Napa County Median, American Community Survey 2017, S2503, 5-Year estimates

(12) No pension or OPEB liabilities.

APPENDIX B

Table C-1 Monthly Water and Sewer Rates

Item	Circle Oaks Water District		Spanish Flats Water District		Lake Berryessa Resort ID		Napa Berryessa Resort ID	
Water Usage	District Use rates/1,000 gal.		District Use rates/1,000 gal.		District Use rates/1,000 gal.		District Use rates/1,000 gal.	
Units per month 31 days)	6.0	Units (1,000 gal.)	6.0	Units (1,000 gal.)	6.0	Units (1,000 gal.)	6.0	Units (1,000 gal.)
Household Size	4		8	CCF/month	8	CCF/month	8	CCF/month
WATER								
Water Service Charge (monthly equivalent)	$72.00	fixed charge	$55.30	fixed charge	$115.00	min. charge	$65.00	min. charge
Other Charge 1				"Availability"		1st 4,000 gal.		1st 1,000 gal.
Other Charge 2				Eff. June 10, 2009				
Water Use Charge	6.0		99.0		6.0		6.0	
Tier 1								
Units/month (Tier 1 max)	10	Max Units	6	Max Units	4	Max Units	1	Max Units
Units subject to Tier 1 Charge	6	Units	6	Units	4.0	Units	1.0	Units
Charge/Unit	$7.80	per CCF	$1.38	"per 1,000"		per unit		per unit
Total Tier 1 Charges	$46.68		$8.26	Eff. June 10, 2009	$0.00		$0.00	
Remaining CCF	0.00	CCF	0.00	CCF	2.0	Units	5.0	Units
Tier 2								
CCF/month (Tier 2 add'l max)		Max Add'l CCF		Max Add'l CCF		Max Add'l CCF		Max Add'l CCF
CCF subject to Tier 2 Charge	0	CCF	0	CCF	2.0	CCF	5.0	CCF
Charge/CCF		per CCF		per CCF	$3.85	per Unit>4	$4.00	per Unit>1
Total Tier 2 Charges	$0.00		$0.00		$7.64		$19.94	
Remaining CCF	0		0		0		0	
Total Water Use Charge	$46.68		$8.26		$7.64		$19.94	
TOTAL WATER CHARGES	**$118.68**		**$63.56**		**$122.64**		**$84.94**	
SEWER								
Sewer Service Charge	$72.15		$66.85	Eff. June 10, 2009	$172.00	min. charge	$85.00	min. charge
Other Charges						1st 4,000 gal.		1st 1,000 gal.
Sewer Variable Charge								
Max HH CCF					2.0	Units>4	5.0	Units>1
Charge per CCF					$5.50	per Unit>4	$8.00	per Unit>4
Total Variable Charge	$0.00		$0.00		$10.91		$39.88	
TOTAL SEWER CHARGES	**$72.15**		**$66.85**		**$182.91**		**$124.88**	
TOTAL WATER AND/OR SEWER	**$190.83**		**$130.41**		**$305.55**		**$209.81**	

Rates as of December 2018.

Table C-1 Monthly Water and Sewer Rates

Item	Napa River Reclamation Dist.		City of American Canyon		City of Napa		Congress Valley Water District	
Water Usage								
Units per month 31 days)		Units (1,000 gal.)	8	CCF (or "units")	8	CCF (or "units")	8	CCF (or "units")
Household Size		CCF/month	na		na		na	
WATER								
Water Service Charge (monthly equivalent)		min. charge	$6.82	1" (95% of res.)	$16.51	3/4" (10/1/2018)	$16.51	3/4" (10/1/2018)
Other Charge 1		1st 1,000 gal.				per CCF		per CCF
Other Charge 2								
Water Use Charge	0.0		8.00		8.00		8.00	
Tier 1								
Units/month (Tier 1 max)	1	Max Units	10	Max CCF	7	Max CCF	7	Max CCF
Units subject to Tier 1 Charge	0.0	Units	8	CCF	7	CCF	7	CCF
Charge/Unit		per unit	$6.07	per CCF	$4.23	per CCF	$6.08	per CCF
Total Tier 1 Charges	$0.00		$48.56		$29.61		$42.56	
Remaining CCF	0.0	Units	0.00	CCF	1.00	CCF	1.00	CCF
Tier 2								
CCF/month (Tier 2 add'l max)		Max Add'l CCF		Max Add'l CCF	1	Max Add'l CCF	1	Max Add'l CCF
CCF subject to Tier 2 Charge	0.0	CCF	0	CCF	1	CCF	1	CCF
Charge/CCF	$4.00	per Unit>1	$6.82	per CCF	$6.12	per CCF	$8.71	per CCF
Total Tier 2 Charges	$0.00		$0.00		$6.12		$8.71	
Remaining CCF	0		0		0		0	
Total Water Use Charge	$0.00		$48.56		$35.73		$51.27	
TOTAL WATER CHARGES	**$0.00**		**$55.38**		**$52.24**		**$67.78**	
SEWER								
Sewer Service Charge	$23.83	base charge	$54.75	Flat rate (avg. use)				
Other Charges	$124.50	per SFU						
Sewer Variable Charge								
Max HH CCF	0.0							
Charge per CCF								
Total Variable Charge	$0.00			na				
TOTAL SEWER CHARGES	**$148.33**		**$54.75**					
TOTAL WATER AND/OR SEWER	**$148.33**		**$110.13**		**$52.24**		**$67.78**	

Rates as of December 2018. *1/14/2019*

Table C-1 Monthly Water and Sewer Rates

Item	Town of Yountville		City of Calistoga		City of St. Helena	
Water Usage	District Use rates/1,000 gal.		Jan. 1, 2019		Nov. 8, 2018	
Units per month 31 days)	11.0	Units (1,000 gal.)	8	HCF (or "units")	8	HCF (or "units")
Household Size	"typical"				4	
WATER						
Water Service Charge (monthly equivalent)	$45.02	3/4"	$37.66	5/8" or 3/4"	$56.20	5/8", 3/4"
Other Charge 1	$7.17	Sys. Replacement				
Other Charge 2	$9.00	Fireline Charge				
Water Use Charge	11.00		8.00		8.00	
Tier 1						
Units/month (Tier 1 max)	4	Max Units		no Max HCF		no Max HCF
Units subject to Tier 1 Charge	4	Units	8	HCF	8	HCF
Charge/Unit	$3.39	per Unit	$8.08	per HCF	$5.84	per HCF
Total Tier 1 Charges	$13.56		$64.64		$46.72	
Remaining CCF	7.00	CCF	0.00	HCF	0.00	HCF
Tier 2						
CCF/month (Tier 2 add'l max)	20	Max Add'l Units		no Max HCF		Max Add'l CCF
CCF subject to Tier 2 Charge	7	CCF	0	HCF	0	CCF
Charge/CCF	$3.89	per CCF		per HCF		per CCF
Total Tier 2 Charges	$27.23		$0.00		$0.00	
Remaining CCF	0		0		0	
Total Water Use Charge	$40.79		$64.64		$46.72	
TOTAL WATER CHARGES	**$101.98**	**inc. Fireline Chg**	**$102.30**		**$102.92**	
SEWER						
Sewer Service Charge	$44.18	3/4"	$78.53	Service Charge	$56.50	
Other Charges	$12.04	Sys. Replacement	$53.53	Capacity Alloc.		
Sewer Variable Charge						
Max HH CCF					7.00	
Charge per CCF					$4.96	per HCF
Total Variable Charge		Res. NA	$0.00		$34.72	
TOTAL SEWER CHARGES	**$56.22**		**$132.06**		**$91.22**	
TOTAL WATER AND/OR SEWER	**$158.20**		**$234.36**		**$194.14**	

Rates as of December 2018.

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