

Napa Sanitation District Overview

Mission

It is the mission of the Napa Sanitation District to collect, treat, beneficially reuse, and dispose of wastewater in an effective and economical manner that respects the environment, maintains the public's health and meets or exceeds all local, state and federal regulations.

History

Napa Sanitation District, located in the Napa Valley in Northern California, has been serving the public since it was organized under the California Health and Safety Code in November 1945.



Soscol Water Recycling Facility

The District provides wastewater collection, treatment and disposal services to the residents and businesses in the City of Napa and surrounding unincorporated areas of Napa County. As a special district, the Napa Sanitation District is an independent local agency governed by a Board of Directors made up of three elected officials from the City and County and two public appointees.

Until 1998, wastewater was processed at both the Imola Treatment Plant located north of Imola Avenue and west of Soscol Avenue, and the Soscol Water Recycling Facility (SWRF) near Napa County Airport. In 1998, all wastewater treatment activities were shifted to the SWRF. The Imola Avenue treatment facility was demolished in 2002 after completion of the Napa County Flood Control District Project relocating the railroad tracks onto the District's Imola property. The District's Administration, Engineering and Collection System offices were relocated to the SWRF in 2013.

Public Services

There are approximately 36,800 connections within the District's service area of approximately 21 square miles of service area. Through a network of approximately 270 miles of underground sewer mains, assisted by a system of three lift stations, the sewage makes its way to the SWRF for treatment. (Additional demographics are available in Appendix B – Statistics and Economic Data.)

The SWRF is a secondary and tertiary biological physical-chemical treatment facility that treats a mixture of domestic and industrial wastewater. The District wastewater processes include primary treatment, activated sludge facilities, oxidation ponds, clarifiers, sludge digestion and solids de-watering facilities.

The SWRF has a dry weather treatment design capacity of 15.4 million gallons per day (MGD). The wastewater is treated and discharged in various manners, depending on the source of the wastewater and the time of year.

The District's regulating body, the Regional Water Quality Control Board, permits 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.



Soscol Water Recycling Facility at sunrise

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 and beneficially reused for landscape irrigation in industrial parks, golf courses, parks, pasturelands and vineyards. This high quality "Title 22 Unrestricted Use" recycled water is provided to all recycled water users.

The daily average flow of wastewater into the SWRF was approximately 7.7 MGD last year.

Performance Measurement

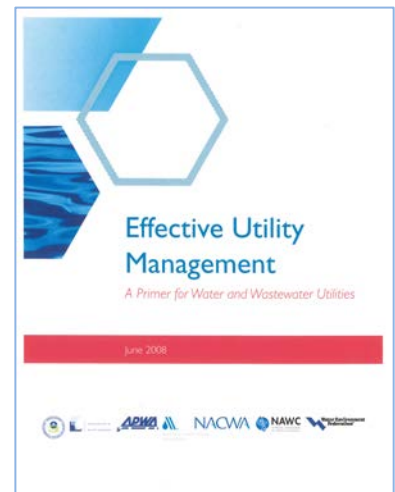
The District created and issued its Performance Measurement Report for Calendar Year 2015 in April 2016. The report identifies 63 performance measures that, when taken as a whole, should give the reader a sense of how well the utility is performing and being managed.

The report uses the Effective Utility Management (EUM) framework for presenting the performance information. EUM was developed in 2009 by six major water and wastewater associations and the United States Environmental Protection Agency to help utility managers make practical, systematic changes to achieve excellence in utility performance.

This framework is specific to water and wastewater utilities and provides for the possibility of comparing the District to other wastewater utilities once more providers begin using EUM for measuring and reporting on performance.

The performance measures are organized into EUM's Ten Attributes of Effectively Managed Water Sector Utilities:

1. Product Quality
2. Customer Service
3. Employee and Leadership Development
4. Operational Optimization
5. Financial Viability
6. Infrastructure Stability
7. Operational Resiliency
8. Community Sustainability
9. Water Resource Adequacy
10. Stakeholder Understanding & Support



The District rates “**satisfactory**” in 51 measures (81%). These measures include, among many others, meeting NPDES discharge limits for BOD and total suspended solids, having fewer sewer overflows than the state and regional average, lower than average worker injury rates, operational efficiencies, and proactive practices on preventive maintenance.

The District rates “**watch**” on seven measures (11%). A “watch” designation signifies that the District is in danger of not meeting its goals, that the trend is indeterminate, or that there is insufficient data to make an assessment. Measures in this category include asset inventory, service call response times, sewer main condition assessments, online safety training hours, long-term recycled water supply adequacy, rates based on life-cycle cost, and the comparative ranking of the District’s sewer service charge rate.

The District rates “**unsatisfactory**” on two measures (3%). “Unsatisfactory” signifies that the District has not met its goals or that the trend is negative. This rating was for the revenue-to-expenditure ratio and insurance claims.

Several of the performance measures have been identified as “Key Performance Indicators” (KPIs) for determining whether the District is meeting its Strategic Goals. Those KPIs have been identified below in the Strategic Planning Goals and Objectives section.

Most of the performance measures in the Performance Measure Report have also been included in the narratives of the “Expenditure by Department” section of this budget document.

A complete copy of the Performance Measurement Report for Calendar Year 2015 can be found in Appendix E of this budget.

Strategic Planning Goals and Objectives

In April 2015, the Board of Directors updated its Strategic Plan, articulating the long-term goals, objectives and priorities of the District. The following are excerpts from the Strategic Plan.

The Strategic Plan provides detail on these goals and specific objectives, a copy of which can be found in Appendix C of this document. On a quarterly basis, progress on these goals and objectives is reported to the Board of Directors and posted on the District's website.



Mission

The mission of the District is to collect, treat, beneficially reuse and dispose of wastewater in an effective and fiscally responsible manner that respects the environment, maintains the public's health and meets or exceeds all local, state and federal regulations.

Goal 1 - Infrastructure Reliability

The goal is to build, maintain and operate a cost-effective and reliable wastewater treatment system for the District's service area. Systematic replacement of the District's aging infrastructure is priority number one. A long term capital facilities plan is needed, drawing on accurate information about current facility conditions and projects of future service area needs: five, ten or more years from now. The District must ensure that treatment capacity will be in place to address current and projected future needs.

Key Performance Indicators

Indicator	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Target 2016	Target 2017	Target Met?
Renewal & Replacement of Assets	3.0%	2.6%	8.8%	10.2%	2% - 4%	2% - 4%	Yes
Sewer Main Renewal & Replacement	0.7%	0.0%	1.8%	2.6%	1%	1%	Yes
Public Sewer Lateral Renewal & Replacement	0.6%	0.2%	0.9%	2.2%	1%	1%	Yes
Collection System Failures	0	1	1	0	0	0	Yes
Plant Planned Maintenance Ratio (Hours)	64%	58%	66%	66%	> 60%	> 60%	Yes
Collections Planned Maintenance Ratio (hours)	90%	88%	88%	87%	> 85%	> 85%	Yes
Uptime for Cogeneration Engine	84%	96%	96%	98%	> 85%	> 95%	Yes
Uptime for Pumps at Influent Pump Station	81%	79%	99%	100%	> 98%	> 98%	Yes

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:

Completion:

1A:	Implement Treatment Plant Master Plan critical projects, including pond aeration, recycled water equalization and filters and DAF clarifier, and replacement of the influent pump station	March 2016
1B:	Complete cost/benefit analysis of wet weather inflow/infiltration	Dec. 2016
1C:	Determine target for renewal and replacement of sewers	June 2016
1D:	Develop an asset management program	June 2020
1E:	Design and construct the Browns Valley Road Interceptor	Dec. 2019
1F:	Amend the Collection System Master Plan	June 2017
1G:	Study whether to implement a Private Lateral Program	Dec. 2017

Related Department Objectives:

- Rehabilitate 60 public laterals annually (Collection System)
- Work to eliminate higher maintenance sewer mains by replacing or repairing them (Collection System)
- Enhance and organize inventory system to reduce down time (Plant Maintenance)
- Continue design of the Browns Valley Road Interceptor Project (Engineering)
- Begin implementation of a formal asset management plan (Engineering)
- Plan for and complete renewal & replacement capital projects (Capital Improvement Plan)
- Design and construction I/I pilot projects (Capital Improvement Plan)
- Evaluate the effectiveness of I&I projects
- Install new aerator diffusers and automation of air control (Capital Improvement Plan)
- Line recycled water reservoirs, increasing storage capacity (Capital Improvement Plan)

Goal 2: Financial Stability

The goal is to ensure adequate fiscal resources to fulfill the District's mission. The District Board has a fiduciary responsibility to ensure that adequate financial resources are in place to operate the District and carry out its mission.

Key Performance Indicators

Indicator	Actual FY 11/12	Actual FY 12/13	Actual FY 13/14	Actual FY 14/15	Estimate FY 15/16	Target FY 16/17	Target Met?
Bond Rating	AA-	AA-	AA-	AA-	AA-	AA-	Yes
Debt Service Coverage Ratio	325%	247%	276%	226%	195%	> 125%	Yes
Revenue-to-Expenditure Ratio	0.00	0.79	(0.24)	(0.35)	(0.35)	> 0	No
Sewer Bill Affordability	0.64%	0.66%	0.68%	0.66%	0.68%	< 1%	Yes

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:**Completion:**

2A:	Develop non-rate, revenue-generating opportunities that fit within the District's mission, either on its own or through private/public investment	Ongoing
2B:	Complete a study of plan check/inspection fees and methodology options for calculating and assessing capacity charges, and make recommendations	Sept. 2015
2C:	Conduct a Sewer Service Charge fee study prior to the next Proposition 218 hearing	March 2016
2D:	Develop financing plan for Browns Valley Road project, and implement	Dec. 2016

Related Department Objectives:

- Conduct a study to update the District's Capacity Charges (Administrative Services)
- Analyze assumptions in long-range plans for sensitivity to economic or regulatory changes (Administrative Services)



Stationary storage batteries used to store energy during the night for use during the day, decreasing energy demand charges

- Review cash flow and emergency reserves for adequacy (Administrative Services)
- Maintain and adjust ten-year plan for fleet sustainment, acquisition, rehabilitation and attrition (Safety, Training and Fleet Maintenance)
- Continue to implement an effective life cycle equipment replacement schedule for better budgetary expense projections (Plant Maintenance)
- Develop and utilize capital program management system to monitor and report progress of active capital projects (Engineering)

Goal 3: Operational Capability

The goal is to implement and maintain effective operational practices. The District Board wants to operate the District at or above best practices, utilizing proven technology. Customers, ratepayers and internal staff all deserve high quality service.

Key Performance Indicators

Indicator	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Target 2016	Target 2017	Target Met?
Compliance with NPDES Permit	100%	100%	100%	100%	100%	100%	Yes
Sanitary Sewer Overflows (Cat. 1) per 100 miles of main	1.11	0.0	4.81	0.0	0.0	0.0	Yes
Self-Generated Electricity	23.3%	33.7%	32.6%	38.4%	> 25%	> 25%	Yes
Electricity Consumption Efficiency (MWh per million gallons-summer)	4.9	5.7	5.9	6.3	< 7.0	< 7.0	Yes
Chemical Consumption (gallons hypochlorite per MG treated-summer)	155	207	204	211	< 225	< 225	Yes
Recycled Water Service Availability	100%	100%	100%	100%	100%	100%	Yes

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:

Completion:

3A:	Partner with winery industry to research and develop a mutually beneficial alternative to treating winery waste	June 2017
3B:	Negotiate a new 5-year NPDES permit	Dec. 2016

Related Department Objectives:

- Continue to respond to the needs of the community in a timely and professional manner within 30 minutes, while trying to reduce the number of emergency service calls (Collection System)
- Continue to maintain efficiency of preventive maintenance operations, cleaning at least 40% of the District sewer mains per year (Collection System)
- Video inspect 10% of the sewer mains in the District's system (Collection System)
- Root foam four miles of sewer main, including related laterals and manholes, to reduce the root intrusion into these facilities (Collection System)
- Continual process optimization of the plant control systems to achieve a reduction in chemical and energy costs (Plant Operations)
- Install additional online instrumentation, reducing the amount of chemicals needed for treatment and reducing on-call operator time (Plant Operations)
- Continue producing an effluent that meets the NPDES permit requirements (Plant Operations)
- Implement the new Environmental Laboratory Accreditation Program (ELAP) certification requirements (Plant Laboratory)
- Review and update operational data sampling and analysis management for an efficient process control operational strategy (Plant Laboratory)

Review and return development plans within 30 days of submittal to District (Engineering)

- Develop performance goals for increased and improved inspection of non-categorical dischargers (Pollution Prevention)
- Continue the conversion of facilities in the Gateway Business Park and Napa Airport Centre to recycled water (Water & Biosolids Reclamation)



Training on Arc Flash protective equipment

Goal 4: Employee Development

The goal is to maintain a dynamic and skilled workforce through employee engagement, professional development and opportunities for advancement. The District Board wants to create a positive and respectful working environment that encourages all employees to do the best job possible for the ratepayers of the District.

Key Performance Indicators

Indicator	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Target 2016	Target 2017	Target Met?
Safety Training Completed On-Time	79%	99%	99%	84%	> 98%	> 98%	No
Employee Survey: Supervisor supports career growth	na	na	3.95	na	> 3.0	> 3.0	Yes
Employee Survey: Adequate resources to do job	na	na	3.83	na	> 3.0	> 3.0	Yes
Employee Survey: Received training to work efficiently	na	na	3.74	na	> 3.0	> 3.0	Yes
Employee Survey: High job performance is rewarded	na	na	3.26	na	> 3.0	> 3.0	Yes

(Survey: 1=Unfavorable to 5=Very Favorable)

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:

Completion:

4A:	Promote NSD as a progressive, professional organization to foster a reputation regionally and state-wide as a great place to work	Ongoing
4B:	Conduct Employee Survey in Fall 2017	Feb. 2018
4C:	Implement Employee Master Plan recommendations	Dec. 2016
4D:	Participate in programs to develop qualified and trained operators	Ongoing

Related Department Objectives:

- Continue to provide direction to all departments, aligning efforts to promote and be consistent with the District's goals and policy directives (General Manager's Office)
- Complete an update of the District's Employee Job Descriptions (Administrative Services)
- Develop and implement periodic review plan for District safety policies and programs (Safety, Training and Fleet Maintenance)
- Complete and coordinate the safety review conducted by CSRMA, the District's worker's compensation insurance carrier (Safety, Training and Fleet Maintenance)
- Gather, store and disseminate asset and work information in an economical way with completeness and accuracy, including sharing with other departments in the District and others as needed (Collection System)
- Continue to develop and implement an analyst educational outreach training program (Plant Laboratory)

Goal 5: Community Outreach and Communication

The goal is to provide ratepayers with the information they need to understand the District's mission, operations, finances and rate structures. The District Board wants to ensure that the District operates in a transparent manner and serves as a resource to all ratepayers of the service area.

Key Performance Indicators

Indicator	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Target 2016	Target 2017	Target Met?
Media Coverage Quantity	22	31	31	33	> 20	> 20	Yes
Media Coverage Accuracy	86%	90%	97%	100%	> 85%	> 85%	Yes
Customer Satisfaction-Plug Ups (percent "good" or "excellent")	99.5%	100%	99.5%	99.1%	> 95%	> 95%	Yes
Customer Satisfaction-Cleanouts (percent "good" or "excellent")	94.3%	97.9%	100%	98.2%	> 95%	> 95%	Yes

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:**Completion:**

5A:	Be proactive in developing partnerships with local businesses and other public agencies to achieve common goals	Ongoing
5B:	Create a communications plan to address NSD outreach and public information needs	Sept. 2016

Related Department Objectives:

- Develop and implement a communications master plan (General Manager's Office and Pollution Prevention)
- Complete the District's seventh Performance Measurement Report (Administrative Services)
- Respond to requests for information from the general public and other local agencies within three working days of request (Engineering)
- Partner with local agencies for collection of unwanted medications from drop-off sites (Pollution Prevention)
- Conduct plant tours and make public presentations (Pollution Prevention)
- Promote and deliver classroom presentations targeting elementary school students (Pollution Prevention)
- Develop and disseminate to stakeholders pollution prevention BMPs as necessary (Pollution Prevention)
- Complete activities necessary to achieve "Fish Friendly Certification" at the reuse sites (Water & Biosolids Reclamation)

Goal 6: Resource Recovery

The goal is to implement policies and technologies to recover resources from wastewater for beneficial reuse. The District Board wants to recover resources for reuse when economically viable and a market exists for their beneficial reuse. The District must also use the resources available to ensure a reliable energy supply during emergency conditions as well as during normal times.

Key Performance Indicators

Indicator	Actual 2012	Actual 2013	Actual 2014	Actual 2015	Target 2016	Target 2017	Target Met?
Recycled Water Reused on Non-District Property	62%	72%	75%	78%	> 60%	> 90%	Yes
Biosolids Beneficially Reused	100%	100%	100%	100%	> 95%	> 95%	Yes
Digester Gas Beneficial Reuse	91%	98%	95%	96%	> 90%	> 90%	Yes

(Indicators are hyperlinked to Performance Measurement Report in Appendix E.)

Strategic Objectives:**Completion:**

6A:	Implement capital projects in partnership with local agencies for the distribution of recycled water	June 2016
6B:	Participate with local partners on long-term opportunities for water reuse	Dec. 2017
6C:	Study and develop pathway to become energy independent	Ongoing

Related Department Objectives:

- Work with private sector partners to develop partnerships for solar energy, energy storage and other technologies, lowering the District's electricity costs and providing non-rate revenues (Administrative Services)
- Continue to receive fats, oil and grease (FOG) collected from siphon to the FOG receiving station at SWRF (Plant Operations)
- Optimize production of biogas in digester resulting from FOG receiving program (Plant Operations)
- With the City of Napa, promote the Recycle More Program that provides curbside collection of used cooking oil for use as biofuel (Pollution Prevention)
- Put 100% of the biosolids applied to District land to beneficial reuse, through active agricultural practices on the land (growing crops, grazing sheep, etc.) (Water & Biosolids Reclamation)
- Continue planning efforts within the North Bay Water Reuse Project for future development of recycled water programs and EIR/EIS documentation (Capital Improvement Program)

Financial Policies Summary

The District maintains, and regularly reviews and revises, a comprehensive set of Financial Policies to govern the overall financial management and health of the District.

Policy areas include:

- Reserves
- Revenue
- Budgeting and Capital Asset Management
- Debt Issuance and Management
- Investments
- Financial Reporting
- Accounting

Several of the Financial Policies have direct impact on the construction of the budget:

- **Balanced Budget** – the District maintains a balanced budget and does not use long-term debt to fund short-term or operational expenses.
- **Operating Reserves** – the District maintains an operating reserve at least equal to 15% of budgeted annual operating expenses, excluding debt service and transfers.
- **Liquidity** – the District maintains a liquidity reserve to ensure adequate cash is on hand to cover expenses in those months where expenses outpace revenues. The majority of the District’s revenues are received in December and in April through property assessments.
- **Revenues** – the District estimates revenues conservatively and does not use one-time or unpredictable revenues to fund ongoing expenses.
- **Maintenance** – the District protects its investment in its capital assets by budgeting for their adequate maintenance as a priority.
- **Debt** – the District will not issue debt unless it can pay the debt service and still meet its other obligations from current revenues.

A complete copy of the Financial Policies can be found in Appendix D of this document.

Compliance with Financial Policies

The District is in full compliance with the Financial Policies adopted in May 2012, as described above and provided in their entirety in Appendix D.

Specifically, the District has taken the following actions to ensure compliance with the Financial Policies:

- The annual operational expenditures for the District, including debt service, are less than the annual operating revenue forecasted to be received, meeting the requirement for a balanced budget.
- The District has designated an Operating Reserve of 15% of budgeted operating revenues (\$2,243,000) and a Cash Flow/Liquidity Reserve of \$10,375,000. These reserves meet the minimum requirements established in the Financial Policies.
- The District has estimated revenues conservatively for the current fiscal year. Additionally, one-time revenue sources have not been used to balance the operating budget, and there are no “unpredictable” revenues forecast in the budget or used to balance the budget.
- The District has adequately budgeted to meet all of its debt service requirements, and has maintained its debt service coverage ratio at a level higher than is required by bond covenants.
- There are adequate revenues available to transfer to the Capital Projects Fund to meet the near-term needs in the Capital Improvement Plan.

Financial Policy Compliance		
NSD Policy	Target	FY 16/17
Balanced Budget	Operating revenues minus operating expenditures > \$0	\$9,657,520
Operating Reserve	15% of Operating Budget	15.0%
Cash Flow Reserve	As necessary	\$10,375,000
Debt Coverage Ratio	> 1.25x coverage	3.20x

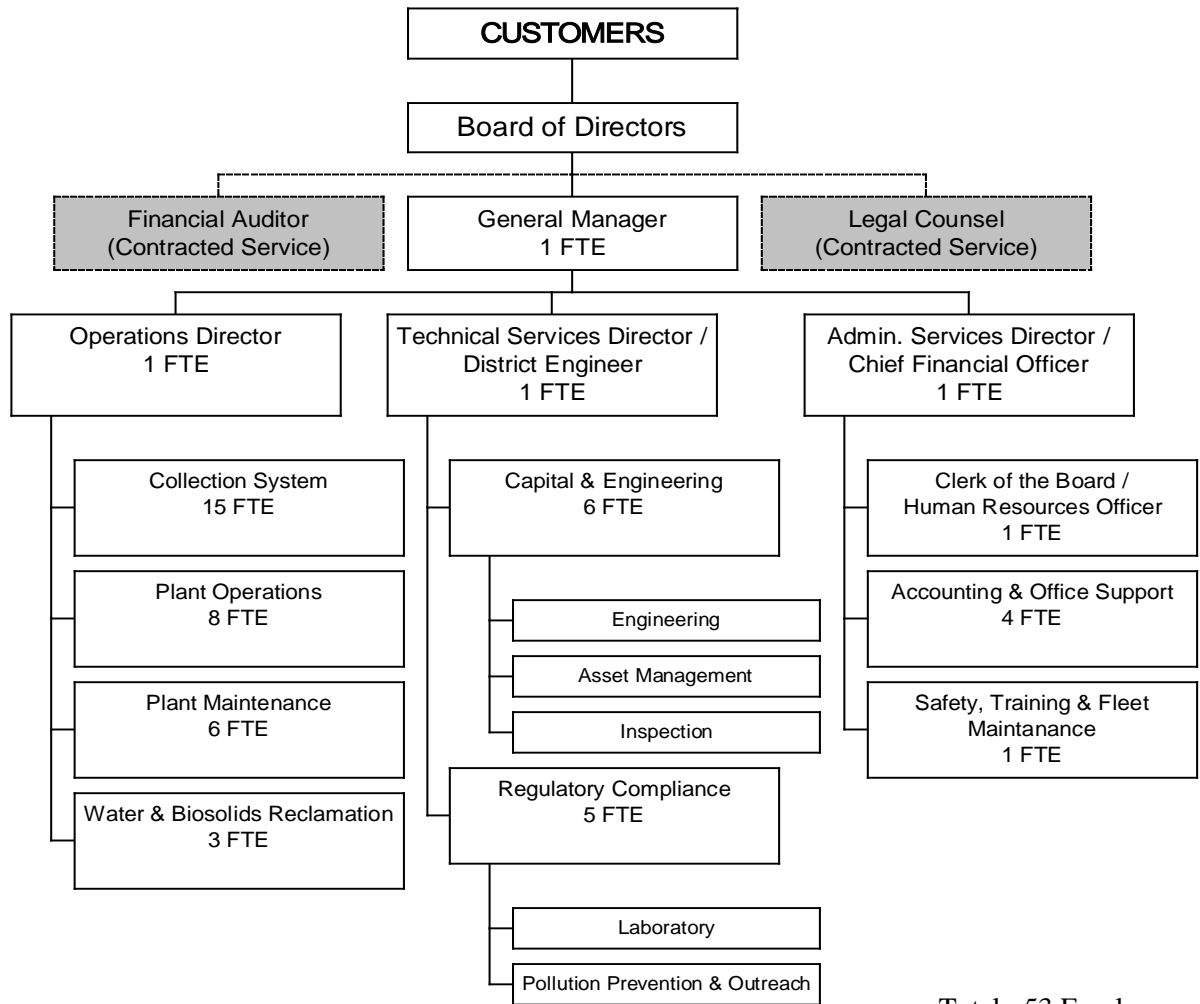
Organization

The Napa Sanitation District is governed by a Board of Directors. Two directors are members of the Napa City Council. One director is a member of the Napa County Board of Supervisors. Two directors are citizen appointees, one appointed by the City and one by the County. The District is managed by a General Manager.

The Financial Auditor and the Legal Counsel for the District are contracted services. These functions report directly to the Board. All other functions report to the General Manager. The District is organized into three departments, Operations Services, Technical Services and Administrative Services, each headed by a Director. Under each Director, there are several departments, as described below.

- **Operations Services** includes those divisions associated with operations and maintenance. They include the following functions:
 - **Collection System Maintenance:** includes preventive and corrective maintenance and operation of the sewer system. This Division includes “Collection System Maintenance” in the Expenditure Budgets by Division section of this budget document.
 - **Wastewater Treatment Plant Operations:** includes operation of the wastewater treatment plant and lift stations. This Department includes “Treatment Plant Operations,” in the Expenditure Budgets by Division section of this budget document.
 - **Wastewater Treatment Plant Maintenance:** includes mechanical and electrical maintenance of the wastewater treatment plant and lift stations. This Department includes “Treatment Plant Maintenance” in the Expenditure Budgets by Division section of this budget document.
 - **Water and Biosolids Reclamation:** includes recycled water system management and disposal of biosolids through land application. This Department includes “Water & Biosolids Reclamation” in the Expenditure Budgets by Division section of this budget document.
- **Technical Services** includes those divisions associated with planning and implementing capital projects and asset management, construction inspection and overseeing regulatory compliance functions. They include the following functions:
 - **Capital & Engineering:** includes development review, capital project management, project design/engineering and inspection. This Division includes “Engineering” in the Expenditure Budgets by Division section of this budget document.
 - **Regulatory Compliance:** includes all regulatory compliance and reporting functions, including the Laboratory, Pretreatment, Pollution Prevention, and Outreach activities. This Division includes “Treatment Plant Laboratory” and “Pollution Prevention” in the Expenditure Budgets by Division section of this budget document.
- **Administrative Services:** includes finance and accounting services, human resources, risk management, safety and training, fleet management, and general administrative services. This Department includes “Board of Directors,” “General Manager’s Office,” “Administrative Services,” “Safety, Training & Fleet Maintenance,” and “Non-Departmental Expenses” in the Expenditure Budgets by Division section of this budget document.

Organization Chart



Total: 53 Employees