AGENDA REPORT
April 13, 2017
Item No. 8 (Public Hearing)

April 6, 2017

TO: Marin Commissioners

FROM: Rachel Jones, Administrative Analyst

SUBJECT: **Central Marin Wastewater Study | Presentation of Draft Report with Determinations**

The Commission will receive a draft report on its scheduled Central Marin Wastewater Study. The draft report represents an independent assessment on the relationship between public wastewater demands and capacities relative to the Commission's regional growth management interests and duties. This includes preparing determinative statements addressing all of the factors required by the Legislature as part of the municipal service review mandate. The draft report is being presented for discussion with the recommendation the Commission authorize staff to proceed with a formal 45-day review period in anticipation of returning in June with final actions.

The Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 ("CKH") directs Local Agency Formation Commissions (LAFCOs) to regularly prepare municipal service reviews in conjunction with updating each local agency's sphere of influence. The legislative intent of the municipal service review and its five-year cycle requirement is to proactively inform LAFCOs and the general public therein with regard to the availability and sufficiency of governmental services relative to need. Municipal service reviews statutorily inform sphere of influence updates, and may also lead LAFCOs to take other actions, such as forming, consolidating, or dissolving one or more local agencies.

A. Background

Consistent with the adopted work plan for 2016-2017 staff is tasked with preparing a municipal service review on wastewater services in Central Marin. An associated scope of analysis also approved by the Commission guides the preparation with the ultimate goal of independently evaluating the availability, capacity, and performance of wastewater services in the approximate 60-square mile study area relative to Marin LAFCO's regional growth management responsibilities. This includes – and among other items – fulfilling the Legislature's direction to assess the effectiveness of the current governance relationships underlying wastewater services and to consider the merits of any potential alternatives. Sphere of influence establishments/updates will also immediately follow the completion of the study. A listing of the affected agencies included in the study follow.

Administrative Office
Keene Simonds, Executive Officer
1401 Los Gamos Drive, Suite 220
San Rafael, California 94903
T: 415-448-5877 E: staff@marinlafco.org
www.marinlafco.org

Central Marin Wastewater Study | Affected Agencies	
Central Marin Sanitation Agencies	Murray Park Sewer Maintenance District
County Sanitary District No. 1 (Ross Valley)	San Rafael Sanitation District
County Sanitary District No. 2 (Corte Madera)	San Quentin Village Sewer Maintenance District
Las Gallinas Valley Sanitary District	

B. Discussion

This item has been scheduled for the Commission to receive and discuss a draft report prepared by staff on the Central Marin Wastewater Study and to consider initiating a formal 45-day public review period in anticipation of presenting a final document in June and as part of its own hearing process. The draft report has been prepared consistent with the approved scope of work and follows earlier presentations of individual agency profiles in December 2016 and February 2017.

An Executive Summary (Chapter Two) anchors the draft report and outlines the key conclusions and findings generated to date. This includes addressing the mandatory factors required by the Legislature anytime the Commission performs a municipal service review. Examples include making independent statements on infrastructure needs and deficiencies, population projections, and opportunities and merits therein for reorganizations. Specific recommendations for action either by the Commission and or by one or more of the affected agencies are also enumerated in the Executive Summary.

C. Analysis

The draft report identifies 12 central themes underlying the availability, capacity, and performance of public wastewater services now and going forward in Central Marin relative to the Commission's regional growth responsibilities and interests. These central themes are detailed in the Executive Summary and listed in short-order below.

- Agencies' have a substantive influence on growth in Marin County.
- The agencies' service areas are nearing current residential buildout; growth in the region exceeding earlier estimates made by ABAG.
- The agencies' financial solvency in the long-term constrained by increasing diseconomies of scale.
- Variation in civic engagement; board type matters in Central Marin.
- Immediate merit to reorganize MPSMD and SQVSMD and consolidate into RVSD.
- An addendum is merited to fully explore notional assessment in study that regionalization in Ross Valley and San Rafael Creek Watersheds is appropriate relative to LAFCO interests.

- Wastewater demands in Central Marin have been deintensifying across-the-board during normal conditions.

- Wastewater demands in Central Marin have been intensifying across-the-board during peak-day periods; shows adverse and increasing impacts of inflow and infiltration.

- Collection system capacities in Central Marin are sufficient to accommodate demands now and projected over the next 10 years without external stress.

- Treatment system capacities are sufficient to accommodate demands now and projected over the next 10 years with some external stresses.

- Agencies' near-term finances in generally good shape and highlighted by good liquidity and capital over study period; margin levels more mixed.

- More climate change planning needed among the affected agencies.

As referenced a full accounting of all of the draft report's recommendations and determinative statements is provided beginning on page 2-11 of the Executive Summary.

D. Alternatives for Action

The following alternatives are available to the Commission:

Alternative One (recommended):

a) Receive and discuss the draft report and provide feedback as needed;

b) Authorize staff to proceed with the next phase of the study and initiate a formal 45-day public review and comment period and return in June with a final document and an accompanying resolution for formal consideration.

Alternative Two:
Continue the item and request additional information from staff as needed.

E. Recommendation

It is recommended the Commission proceed with Alternative One as outlined in the preceding section.

F. Procedures for Consideration

Staff has agendized this item for discussion as part of a voluntarily-noticed public hearing for purposes of informing future actions. The following procedures, accordingly, are recommended.

1) Receive staff presentation;
2) Open the public hearing and invite comments from the audience;
3) Close the public hearing; and
4) Commission discussion and consider taking action on the recommendation.

Respectfully,

Rachel Jones
Administrative Analyst

Attachments:

1. Publication Notice
2. Draft Report | Central Marin Wastewater Study

Marin Independent Journal
4000 Civic Center Drive, Suite 301
San Rafael, CA 94903
415-382-7335
legals@marinij.com

2071569

MARIN LAFCO
ATTN: CADICE BOZZARD
1401 LOS GAMOS DR SUITE 220
SAN RAFAEL, CA 94903-3698

PROOF OF PUBLICATION
(2015.5 C.C.P.)

STATE OF CALIFORNIA
County of Marin

I am a citizen of the United States and a resident of the County aforesaid: I am over the age of eighteen years, and not a party to or interested in the above matter. I am the principal clerk of the printer of the MARIN INDEPENDENT JOURNAL, a newspaper of general circulation, printed and published daily in the County of Marin, and which newspaper has been adjudged a newspaper of general circulation by the Superior Court of the County of Marin, State of California, under date of FEBRUARY 7, 1955, CASE NUMBER 25566; that the notice, of which the annexed is a printed copy (set in type not smaller than nonpareil), has been published in each regular and entire issue of said newspaper and not in any supplement thereof on the following dates, to-wit:

03/23/2017

I certify (or declare) under the penalty of perjury that the foregoing is true and correct.

Dated this 23th day of March, 2017.

Donna Lazarus

Signature

PROOF OF PUBLICATION

Attachment One

Legal No. **0005922681**

NOTICE OF PUBLIC HEARING
MARIN LOCAL AGENCY FORMATION COMMISSION

NOTICE IS HEREBY GIVEN the Marin Local Agency Formation Commission (LAFCO) will open a public hearing on Thursday, April 13, 2017 at Marin Clean Energy located at 1125 Tamalpais Avenue in San Rafael starting at 7:00 P.M. to consider the following matter:

Central Marin Wastewater Study | Draft Report and Determinations

Marin LAFCO will open a public hearing to review and provide direction therein on a draft report and its related determinations on public wastewater service in Central Marin relative to the Commission's regional growth management duties. This includes evaluating the current and future relationship between public wastewater demands and collection, treatment, and disposal capacities region-wide and within the service area of the seven affected agencies directly or indirectly subject to Marin LAFCO. Information generated as part of the study will be directly used in guiding subsequent sphere of influence updates, informing future boundary changes, and – if merited – initiating government reorganizations. Affected agencies reviewed in the study area Las Gallinas Valley Sanitary District, San Rafael Sanitation District, Ross Valley Sanitary District (County Sanitary 1), Corte Madera Sanitary District (County Sanitary 2), Murray Park Sewer Maintenance District, San Quentin Village Sewer Maintenance District, and Central Marin Sanitation Agency.

Marin LAFCO invites interested persons to attend and provide testimony. A formal 60-day public review and comment period is expected to commence following the public hearing. The associated staff report will be available for download at www.marinlafco.org approximately one week prior to the hearing date. You may also request a written copy of the staff report by contacting LAFCO at 415-488-5877.

March 20, 2017

Keene Simonds
Executive Officer

NO. 334 MARCH 23, 2017

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CENTRAL MARIN WASTEWATER SERVICES STUDY

Municipal Service Review | Government Code Section 56430

Affected Agencies
Central Marin Sanitation Agency
County Sanitary District No. 1
County Sanitary District No. 2
Las Gallinas Valley Sanitary District
Murray Park Sewer Maintenance District
San Rafael Sanitation District
San Quentin Village Sewer Maintenance District

Draft Report | April 2017

Project Manager
Rachel Jones
Administrative Analyst

ACKNOWLEDGEMENT

Marin LAFCO gratefully acknowledges the time and effort of staff of the County of Marin, Central Marin Sanitation Agency, County Sanitary District No. 1, County Sanitation District No. 2, Las Gallinas Valley Sanitary District, and San Rafael Sanitation District who provided information and insight during the preparation of this report.

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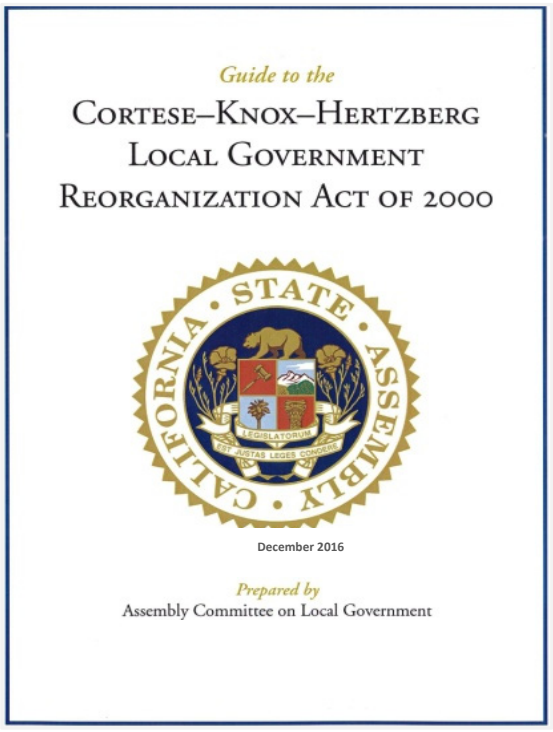
CHAPTER ONE
INTRODUCTION

1.0 LOCAL AGENCY FORMATION COMMISSIONS

1.1 Authority and Objectives



Local Agency Formation Commissions (LAFCOs) were established in 1963 and are political subdivisions of the State of California responsible for providing regional growth management services in all 58 counties. LAFCOs' authority is currently codified under the Cortese-Knox-Hertzberg Local Government Reorganization Act of 2000 ("CKH") with principal oversight provided by the Assembly Committee on Local Government.[1] LAFCOs' are comprised of locally elected and appointed officials with regulatory and planning powers delegated by the Legislature to coordinate and oversee the establishment, expansion, and organization of cities and special districts as well as their municipal service areas. LAFCOs' creation were engendered by Governor Edmund "Pat" Brown Sr. (1959-1967) to more effectively address the needs of California's growing and diversifying population with an emphasis on promoting governmental efficiencies. Towards this end, LAFCOs are commonly referred to as the Legislature's "watchdog" for local governance issues.[2]

Guiding LAFCOs' regulatory and planning powers is to fulfill specific purposes and objectives that collectively construct the Legislature's regional growth management priorities under Government Code (G.C.) Section 56301. This statutes reads:

[1] Reference California Government Code Section 56000 et seq.

[2] In its ruling on *City of Ceres v. City of Modesto* the 5th District Court of Appeal referred to LAFCOs as the "watchdog" of the Legislature to "guard against the wasteful duplication of services." (July 1969)

> ***"Among the purposes of the commission are discouraging urban sprawl, preserving open space and prime agricultural lands, efficiently providing governmental services, and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances. One of the objects of the commission is to make studies and to obtain and furnish information which will contribute to the logical and reasonable development of local agencies in each county and to shape the development of local agencies so as to advantageously provide for the present and future needs of each county and its communities."***

LAFCO decisions are legislative in nature and therefore are not subject to an outside appeal process. LAFCOs also have broad powers with respect to conditioning regulatory and planning approvals so long as not establishing any terms that directly control land uses, densities, or subdivision requirements.

1.2 Regulatory Responsibilities

LAFCOs' principal regulatory responsibility involves approving or disapproving all jurisdictional changes involving the establishment, expansion, and reorganization of cities and most special districts in California.[3] More recently LAFCOs have been tasked with also overseeing the approval process for cities and districts to provide new or extended services beyond their jurisdictional boundaries by contract or agreement as well as district actions to either activate a new service or divest an existing service. LAFCOs generally exercise their regulatory authority in response to applications submitted by the affected agencies, landowners, or registered voters. Recent amendments to CKH, however, now authorize and encourage LAFCOs to initiate on their own jurisdictional changes to form, consolidate, and dissolve special districts consistent with current and future community needs.

LAFCOs have been responsible since 1963 to oversee formation, expansion, reorganization, and dissolution actions involving cities and special districts in California with limited exceptions.

[3] CKH defines "special district" to mean any agency of the State formed pursuant to general law or special act for the local performance of governmental or proprietary functions within limited boundaries. All special districts in California are subject to LAFCO with the following exceptions: school districts; community college districts; assessment districts; improvement districts; community facilities districts; and air pollution control districts.

1.3 Planning Responsibilities

LAFCOs are tasked with planning the location of future urban development and services through two interrelated activities: (a) establish and update spheres of influence and (b) prepare municipal service reviews to independently evaluate the availability and performance of governmental services relative to need.

LAFCOs inform their regulatory actions through two central planning responsibilities: (a) making sphere of influence ("sphere") determinations and (b) preparing municipal service reviews. Sphere determinations have been a core planning function of LAFCOs since 1971 and effectively serve as the Legislature's version of "urban growth boundaries" with regard to cumulatively delineating the appropriate interface between urban and non-urban uses within each county. Municipal service reviews, in contrast, are a relatively new planning responsibility enacted as part of CKH and are intended to inform – among other activities – sphere determinations. The Legislature mandates, notably, all sphere changes as of 2001 be accompanied by preceding municipal service reviews to help ensure LAFCOs are effectively aligning governmental services with current and anticipated community needs. An expanded summary of the function and role of these two planning responsibilities follows.

Sphere of Influence Determinations

LAFCOs establish, amend, and update spheres for all cities and most special districts in California to designate the territory it independently believes represents the appropriate and probable future service area and jurisdictional boundary of the affected agency. Importantly, all jurisdictional changes, such as annexations and detachments, must be consistent with the spheres of the affected local agencies with limited exceptions.[4] Further, an increasingly important role involving sphere determinations relates to their use by regional councils of governments as planning areas in allocating housing need assignments for counties and cities, which must be addressed by the agencies in their housing elements.

[4] Exceptions in which jurisdictional boundary changes do not require consistency with the affected agencies' spheres include annexations of State correctional facilities or annexations to cities involving city owned lands used for municipal purposes with the latter requiring automatic detachment if sold to a private interest.

As of January 1, 2008, LAFCO must review and update as needed each local agency's sphere every five years. In making a sphere determination, LAFCO is required to prepare written statements addressing five specific planning factors listed under G.C. Section 56425. These mandatory factors range from evaluating current and future land uses to the existence of pertinent communities of interest. The intent in preparing the written statements is to orient LAFCO in addressing the core principles underlying the sensible development of each local agency consistent with the anticipated needs of the affected community. The five mandated planning factors are summarized in the following table.

Spheres serve as the Legislature's version of urban growth boundaries and – among other items – delineate where cities or districts may seek future annexation and outside service approvals with LAFCOs. All jurisdictional changes must be consistent with the affected agencies spheres with limited exceptions.

Mandatory Determinations | Spheres of Influence (Government Code Section 56425)
1. Present and planned land uses in the area, including agricultural and open space.
2. Present and probable need for public facilities and services in the area.
3. Present capacity of public facilities and adequacy of public services the agency provides or is authorized to provide.
4. Existence of any social or economic communities of interest in the area if the commission determines they are relevant to the agency.
5. If the city or district provides water, sewer, or fire, the present and probable need for those services of any disadvantaged unincorporated communities within the existing sphere.

Municpal Service Reviews

Municipal service reviews were a centerpiece to CKH's enactment in 2001 and are comprehensive studies of the availability, range, and performance of governmental services provided within a defined geographic area. LAFCOs generally prepare municipal service reviews to explicitly inform subsequent sphere determinations. LAFCOs also prepare municipal service reviews irrespective of making any specific sphere determinations in order to obtain and furnish information to contribute to the overall orderly development of local communities. Municipal service reviews vary in scope and can focus on a particular agency or governmental service. LAFCOs may use the information generated from municipal service reviews to initiate other actions under their authority, such as forming, consolidating, or dissolving one or more local agencies. Advisory guidelines on the preparation of municipal service reviews was published by the Governor's Office of Planning and Research in 2003 and remain the lone statewide document advising LAFCOs in fulfilling this mandate.

All municipal service reviews – regardless of their intended purpose – culminate with LAFCOs preparing written statements addressing seven specific service factors listed under G.C. Section 56430. This includes, most notably, infrastructure needs or deficiencies, growth and population trends, and financial standing. The seven mandated service factors are summarized in the following table.

Municipal service reviews serve to fulfill the Legislature's interests in LAFCOs regularly assessing the adequacy and performance of local governmental services in order to inform possible future actions ranging from sphere determinations to reorganizations.

Mandatory Determinations | Municipal Service Reviews (Government Code Section 56430)	
1.	Growth and population projections for the affected area.
2.	Location and characteristics of any disadvantaged unincorporated communities within or contiguous to affected spheres of influence.[5]
3.	Present and planned capacity of public facilities, adequacy of public services, and infrastructure needs or deficiencies.
4.	Financial ability of agencies to provide services.
5.	Status and opportunities for shared facilities.
6.	Accountability for community service needs, including structure and operational efficiencies.
7.	Matters relating to effective or efficient service delivery as required by LAFCO policy.

1.4 LAFCO Composition & Decision-Making

LAFCOs are generally governed by 11-member board comprising three county supervisors, three city councilmembers, three independent special district members, and two representatives of the general public.[6] Members are divided between "regulars" and "alternates" and must exercise their independent judgment on behalf of the interests of residents, landowners, and the public as a whole. LAFCO members are subject to standard disclosure requirements and must file annual statements of economic interests. LAFCOs have sole authority in administering its legislative responsibilities and its decisions are not subject to an outside appeal process. All LAFCOs are independent of local government with the majority employing their own staff; an increasingly smaller portion of LAFCOs, however, choose to contract with their local county government for staff support services. All

State law directs all LAFCO members to independently discharge their responsibilities for the good of the region and irrespective of the interests of their local appointing authorities.

[5] This determination was added to the municipal service review process by Senate Bill 244 effective January 1, 2012. The definition of "disadvantaged unincorporated community" is defined under G.C. Section 56330.5 to mean inhabited territory that constitutes all or a portion of an area with an annual median household income that is less than 80 percent of the statewide annual median household income; the latter amount currently totaling $60,190.

[6] Approximately two-fifths of LAFCOs in California currently operate without special district representation based on local conditions. A limited number of LAFCOs also have additional seats through special legislation.

LAFCOs, nevertheless, must appoint their own Executive Officers to manage agency activities and provide written recommendations on all regulatory and planning actions before the membership. All LAFCOs must also appoint their own legal counsel.

1.5 Prescriptive Funding

As part of the original negotiations between the State and local agencies in establishing LAFCOs in 1963 and later updated in 2001 CKH prescribes local agencies fund LAFCOs' annual operating costs. Counties are generally responsible for funding one-third of LAFCO's annual operating costs with the remainder one-third portions allocated to the cities and independent special districts. The allocations to cities and special districts are calculated based on standard formula using general tax revenues unless an alternative formula has been approved by a majority of the local agencies. LAFCOs are also authorized to collect applicant fees to offset local agency contributions.

2.0 MARIN LAFCO

2.1 Adopted Policies and Procedures

The majority of Marin LAFCO's ("Commission") existing policies and procedures were updated and or established in 2001 in step with the enactment of CKH. These policies and procedures collectively guide the Commission in implementing LAFCO law in Marin County in a manner consistent with regional growth management priorities as determined by the membership. This includes overarching policies and procedures to direct existing and new urban uses towards city-centers along the State Highway 101 corridor and maintaining restrictive allowances for the potential development and use therein of agricultural and open-space lands. The Commission has also established pertinent policies and procedures specific to preparing sphere updates and municipal service reviews. These latter policies are anchored on directing staff to present annual recommendations on new sphere updates and their associated municipal service reviews every year with proposed scopes of work for Commission approval.

2.2 Commission Roster

The Commission's current membership is provided below.

Current Members

Name	Position	Agency Affiliation
Jeffry Blanchfield, Chair	Public	Commission
Carla Condon, Vice Chair	City	Town of Corte Madera
Damon Connolly	County	County of Marin
Jack Baker	Special District	North Marin Water
Sashi McEntee	City	City of Mill Valley
Craig K. Murray	Special District	Las Gallinas Valley Sanitary
Dennis J. Rodoni	County	County of Marin
Judy Arnold, Alternate	County	County of Marin
Matthew Brown, Alternate	City	City of San Anselmo
Chris Burdick, Alternate	Public	Commission
Lew Kious, Alternate	Special District	Almonte Sanitary

2.3 Contact Information

Marin LAFCO's administrative office is located at 1401 Los Gamos Drive in San Rafael (Terra Linda). Visitor parking is available. LAFCO is a small governmental agency and as a result the office is sometimes closed during normal business hours when staff is in the field. Accordingly, appointments to discuss proposals or other matters are strongly encouraged and can be scheduled by calling 415-448-5877. Communication by e-mail is also welcome and general questions or comments should be directed to staff@marinlafco.org. Additional information regarding Marin LAFCO's functions and activities is also available anytime by visiting www.marinlafco.org.

CHAPTER TWO
EXECUTIVE SUMMARY

1.0 OVERVIEW

This study represents Marin LAFCO's scheduled municipal service review on public wastewater services within an approximate 60-square mile area of central Marin County. The study has been prepared by staff and consistent with the scope of work approved by the Commission at a noticed public hearing. The underlying aim of the study is to produce an independent assessment of public wastewater service in the region over the next five to ten years relative to the Commission's regional growth management duties and responsibilities as established by the Legislature. This includes evaluating the current and future relationship between public wastewater demands versus collection, treatment, and disposal capacities region-wide and within the service areas of the seven affected agencies, directly or indirectly subject to the Commission's oversight. Information generated as part of the study will be directly used by the Commission in (a) guiding subsequent sphere of influence updates, (b) informing future boundary changes, and – if merited – (c) initiating government reorganizations, such as special district formations, consolidations, and or dissolutions.

> The underlying purpose of the study is to independently assess the relationship and influencing factors therein in Central Marin between public wastewater demands versus collection, treatment, and disposal capacities relative to the Commission's regional growth management duties under State law. Information generated in the study will (a) guide subsequent sphere updates, (b) inform future boundary changes, and (c) if merited serve as the source document to initiate one or more government reorganizations.

2.0 KEY ASSUMPTIONS & BENCHMARKS

The study has been oriented in scope and content to serve as an ongoing monitoring program on public wastewater services in Central Marin. It is expected the Commission will revisit the study and its key assumptions and benchmarks therein every five years consistent with the timetable set by the Legislature. This will also allow the Commission – among other items – to assess the accuracy of earlier projections and make appropriate

changes in assumptions and benchmarks as needed as part of future studies. Key assumptions and benchmarks affecting this study's scope and content follow.

2.1 Setting the Study's Timeframe

The timeframe for the study has been oriented to cover the next five to ten year period with the former (five years) serving as the analysis anchor as contemplated under State law. Markedly, this timeframe is consistent with the five-year cycle legislatively prescribed for municipal service reviews under G.C. Section 56430 while providing the Commission flexibility in scheduling its next review on public wastewater services within Central Marin in alignment with resources and priorities.[7]

2.2 Determining the Data Collection Range or Study Period

The period for collecting data to inform the Commission's analysis and related projections on growth, demands, and finances has been set to cover the five-year period from 2010 to 2014. This data collection period – which covers the 60 months immediately preceding the start of work on the study – purposefully aligns with the five-year timeline for the study with the resulting data trends appearing most relevant to the Commission in making near-term projections (i.e., data from the last five years is most pertinent in projecting trends over the next five to ten years).

2.3 Calculating Population Estimates

Residential population calculations in the study have been independently made by Commission for both recent and near-term estimates within all seven affected service areas. Recent population estimates for the service areas are premised on occupied housing driving resident projections based on data collected within all applicable census tracts. Four distinct calculations are made in producing population estimates for each agency and specific to each year that take into account total housing units, local occupancy rates, occupied housing units, and household sizes. Near-term estimates have been similarly calculated for the next five to ten year period based on applying the

[7] Incorporating projections 10 years out also allows the Commission to proceed with an applicant request for a sphere of influence amendment involving one of the affected agencies within the time period without the concurrent need for a new stand-alone municipal service review.

estimated growth trend in each service area over last 60 months with limited exceptions (i.e., population growth between the last five years is expected to hold over the next five to ten years).

2.4 Making Growth Projections at Buildout

The study includes a cursory review of population and housing totals at buildout for purposes of telegraphing potential long-term growth within each affected agency's service area. Housing unit projections at buildout are based on a review of all subject land use authorities existing housing elements and specific to zoning within existing jurisdictional boundaries.[8] Population projection totals at buildout are similarly based on applying an agency specific person-per-house amount for every projected housing unit as seperately calcauted by the Commission.

2.5 Calculating Future Wastewater Demands

Future near-term wastewater demands in the study have been independently calculated by the Commission through 2024 within each affected agency's service area based on overall production trends generated in the preceding five-year period between 2010 and 2014. These projections have been made using linear regression to help *control* for large variances in the recent five-year totals (emphasis). Importantly, these projections have been made by the Commission in the absence of the affected agencies' own projections and are intended only as reasonable estimates of likely and near-term demand-to-capacity relationships going forward.

2.6 Benchmarking Infrastructure Needs and Deficiencies

The study and its analysis focuses on average wastewater demands within specific categories (i.e., dry, wet, and peak periods) generated within each affected agency's service area during the 60-month study period in benchmarking infrastructure needs or deficiencies. This broader focus on averages provides a more reasonable account of system demands generated during the study period and helps to mitigate against one-

[8] Buildout estimates do not take into consideration future changes in boundaries as well as outside service commitments.

year outliers in step with analyzing overall relationships with collection, treatment, and disposal capacities.

2.7 Benchmarking Financial Solvency

Three diagnostic tools are used in the study to assess and make related determinations on each affected agency's financial solvency based on a five-year review of audited statements from 2010-2014. These diagnostic tools – (a) current ratio, (b) debt-to-net assets, and (c) operating margin – collectively provide the Commission with reasonable benchmarks to evaluate liquidity, capital, and margin and calculated to track both overall trends as well as final year standing.

2.8 Benchmarking Pension Obligations

Three diagnostic tools are used in the study to assess and make related determinations on the strength of the pension obligations for the five affected agencies that provide employees with defined retirement benefits; all of whom have contracts with the California Public Employees Retirement System (CalPERS) or – and to a more limited extent – the Marin County Employee Retirement Association (MCERA). These diagnostic tools – (a) funded ratio, (b) unfunded liability, and (c) active-to-retiree ratio – have been calculated by the Commission based on the three most recent pension statements issued by CalPERS or MCERA covering 2011 to 2014. (Earlier data is not readily accessible at this time.) Further key benchmarks herein include identifying 80% as the minimum threshold for an adequate funded ratio.

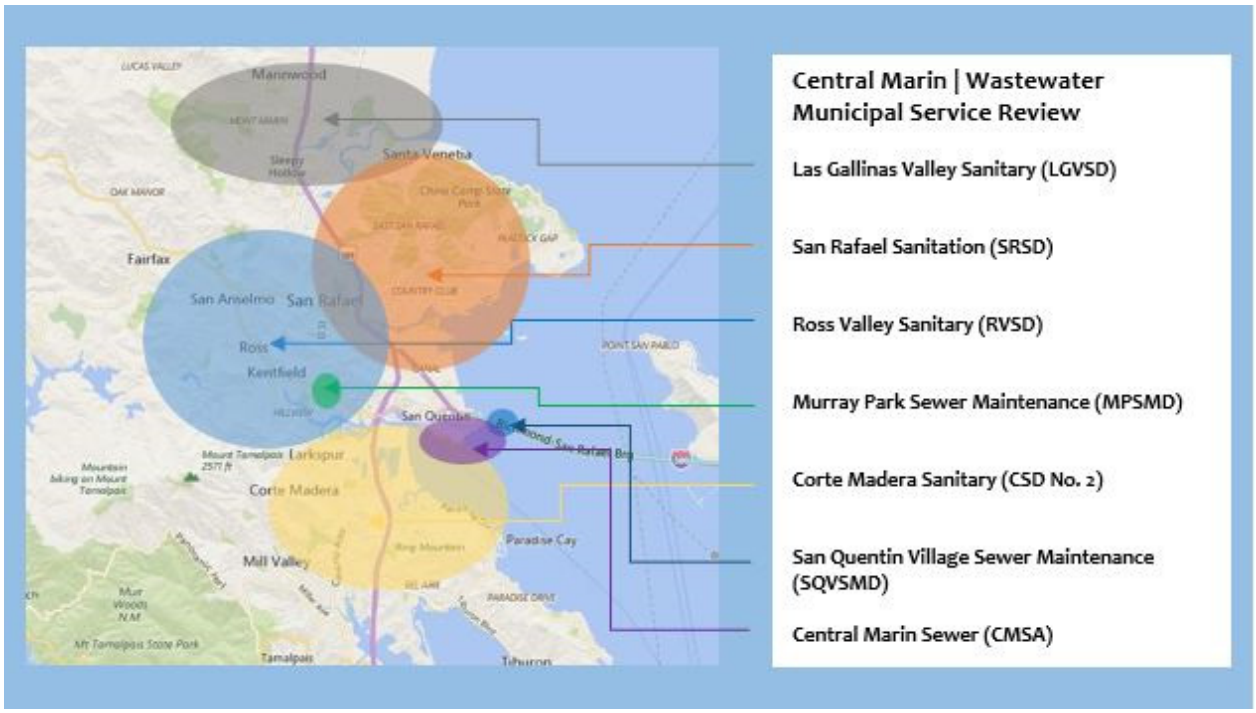
3.0 STUDY ORGANIZATION

This chapter serves as the Executive Summary and outlines the key conclusions and findings generated within the study. This includes addressing the mandatory service and governance factors required by the Legislature anytime the Commission performs a municipal service review. The Executive Summary is preceded by a review of key regional service characteristics (Chapter Three) underlying public wastewater services in Central Marin. Examples include providing regional and agency comparisons with respect to demographics, demands, capacities, costs, and financial resources now and

going forward. The third and final section involves individual agency profiles (Chapter Four) of all seven affected agencies responsible for providing public wastewater services directly or indirectly under the Commission's jurisdiction in Marin County. These profiles transition between narrative descriptions of the background and development of these agencies' service areas to quantifying specific data-driven categories, such as population and growth trends, wastewater service capacities, and financial standing.

4.0 AFFECTED PUBLIC AGENCIES | GEOGRAPHIC AREA

The geographic area designated for this study is approximately 60 square miles in size within Central Marin and incorporates therein seven public agencies that provide one or more of the following public wastewater services: collection, treatment, and disposal. These seven affected agencies and their service areas are shown below.



5.0 STUDY SUMMARY

5.1 General Conclusions

This study identifies 12 central themes or conclusions underlying the Commission's review of the availability, capacity, and performance of public wastewater services in Central Marin now and going forward. These conclusions range in substance from recent usage trends to financial standing and are entirely generated from information detailed in the succeeding sections. Additionally, and as previously detailed, these conclusions are premised on the Commission's own independent assessment relative to LAFCO's growth management interests and drawn from the information collected and analyzed between a five-year period of 2010 to 2014.

> The study's general conclusions are based on data collected and analyzed by the Commission between 2010 and 2014 and specific to LAFCO's prescribed growth management interests under State law.

- **No. 1 | Agencies' Substantive Influence on Growth in Marin County**
  The seven affected agencies organized to provide public wastewater services in Central Marin directly effect nearly one-half of all county residents as estimated by the Commission, and as such have a significant influence in accommodating - or inhibiting - new growth and development in Marin County. This relationship is marked by the seven agencies' service areas collectively accounting for an estimated 124,182 total residents and equals 48% of the entire countywide population as of the study period term.

- **No. 2 | Service Areas are Nearing Current Residential Buildout; Growth Exceeding Earlier Estimates**
  The Commission projects the seven affected agencies are collectively at 89% of their current planned residential buildout as of the term of the study period with the expectation this ratio will increase to 94% over the succeeding 10-year period. This includes the Commission estimating the affected agencies will collectively add close to 6,530 new residents over the succeeding 10-year period and result in a joint annual growth rate of 0.53% through 2024. Markedly, this Commission projection – which draws on actual trends during the study period – suggests the

region's population is outperforming by more than one-fourth estimates previously made by the Association of Bay Area Governments or ABAG.[9]

- **No. 3 | Increasing Diseconomies of Scale**

  As noted in the seven affected agencies' service areas are collectively approaching their respective residential buildout as established by the associated land use authorities and as memorialized in current housing elements. While buildout estimates will change and increase in the future in step with general plan updates, it is reasonable to assume the underlying constraints towards new growth in Central Marin will persist given community preferences, limiting opportunities going forward to spread out costs among a greater pool of ratepayers. The net effect is a diseconomies of scale in which the affected agencies' costs to maintain wastewater infrastructure will continue to exceed associated revenues as evident during the study period with the combined increases in operating expenses outpacing operating revenues by more than three-fold.

- **No. 4 | Variation in Civic Engagement; Board Type Matters**

  All seven affected agencies appear generally accountable to their constituents in the ongoing provision of public wastewater services within their respective service areas. The level and effectiveness of engagement between agency and customer in Central Marin, nonetheless, appears expressively highest among LGVSD and RVSD, and demonstrates a direct correlation between board type and responsiveness with favor assigned to independent agencies.

- **No. 5 | Immediate Merit to Reorganize MPSMD and SQVSMD**

  It appears two separate governance alternatives are readily merited to improve local accountability and service efficiencies and irrespective of other potential changes under consideration in Central Marin. This involves proceeding with reorganizations to dissolve MPSMD and SQVSMD and concurrently place their respective service areas in RVSD either by consolidation or annexation. These reorganizations would eliminate two dependent special districts governed by the

[9] Drawing from a publication issued in 2013 ABAG projects the Central Marin region will experience an overall increase in population over succeeding 10-year period of 5,208 and result in an annual population change of 0.42%.

County of Marin and operating under antiquated statutes in favor of recognizing RVSD as the preferred and more able service provider going forward.

- **No. 6 | Additional Merit to Explore Regional Consolidation**
  Information collected and analyzed in this study provides sufficient merit for the Commission to evaluate options and merits to reorganize and consolidate public wastewater services in Central Marin and most pertinently among agencies in the Ross Valley and San Rafael Creek Watersheds. This topic – which has been previously reviewed by the agencies specific to assessing cost-savings but not the Commission – responds to Marin LAFCO's directive to independently assess the notional sense affirmed in this study that consolidation would appear primed to produce greater accountability and efficiency within the combined watershed. The topic should be explored in addendum form and calendared as part of a future workplan. It should be premised on identifying merits/demerits of regionalization in improving costs, accountability, and efficiency while being sufficiently fair to all agencies and their ratepayers in terms of shared control.

- **No. 7 | Wastewater Demands Deintensifying During Normal Conditions**
  Overall relative demand – i.e., annual wastewater flow measured by residents – in Central Marin during the study's five-year term has decreased within all seven affected agencies' service areas with daily per capita demands declining from 133 to 111 gallons; a reduction of 20%. Similar reductions are also reflected in dry-weather and wet-weather periods with the former measurement – dry-weather – highlighting wastewater demands are deintensifying during normal conditions. This reduction appears most attributed to ratepayer diligence in water conservation in step with the drought; whether conservation practices hold going forward remains uncertain.

- **No. 8 | Wastewater Demands Intensifying During Peak-Day Conditions; Increasing Impacts from Inflow and Infiltration**

  Overall – and contrast to other flow measurements – relative peak-day demands in Central Marin have increased within all seven affected agencies' service areas with the daily per capita demands increasing from 852 to 901 gallons during the study period; a rise of 5.8% and a corresponding peaking factor of nearly 11-fold. This dynamic appears most attributed to changes in weather patterns and a rise in brief storm events yielding higher levels of intensity, leading to more susceptibility of inflow and infiltration within the wastewater system. Projected peak-day conditions do show some improvement in lessening peak-day demand impacts on the wastewater systems going forward with the affected agencies' combined peaking factor falling under 10-fold by 2024.

- **No. 9 | Collection System Capacities are Sufficient to Accommodate Demands Now and Projected Over the Next 10 Years Without Stress**

  The seven affected agencies' collection systems within Central Marin have sufficient capacities to meet current demands within their respective service areas under normal and peak conditions. This sufficiency is demonstrated by observing the highest agency demand-to-capacity ratio specific to collection systems during peak-day periods was 72% within RVSD. No substantive changes in these ratios are projected by the Commission over the next 10 years.

- **No. 10 | Treatment System Capacities are Sufficient to Accommodate Demands Now and Projected Over the Next 10 Years With Some Stress**

  The two entities responsible for providing wastewater treatment services within Central Marin – LGVSD and CMSA – have sufficient capacity based on demand averages over the study period as well as projected flows over the succeeding 10 year period, albeit to different allowances and stress levels. LGVSD is best positioned now and going forward in meeting wastewater demands with no single measurement (i.e., dry, wet, peak) ratio exceeding 70%. CMSA's treatment capacities are comparatively closer to approaching design and or permit limits and highlighted by current peak and dry weather flows within the contracted service area equaling 79% and 85%, respectively.

- **No. 11 | Near-Term Finances in Generally Good Shape and Highlighted by Liquidity and Capital; Margin Levels Mixed**

  A review of the audited financial statements covering five of the seven affected agencies – LGVSD, SRSD, RVSD, CSD No. 2, and CMSA – show these entities finished the study period in generally good financial standing as measured by liquidity, capital, and – albeit at more mixed results – margin levels. This includes noting all five of these affected agencies maintained moderate to high liquidity averages and marked by having no less than 315 days' cash on hand as well as no less than a 2 to 1 current ratio; meaning the agencies at a minimum ended with $2 in current assets for every $1 in short-term liabilities/obligations. All five of the agencies also finished the study period with available capital with no more than 54% in debt relative to net assets. Year-end profit levels as measured by total margin – the net difference between all revenues less all expenses – largely stayed positive with a combined study period average of 14% with the notable exception CSD No. 2 and CMSA both finished the study period with slight losses.[10] Audited statements specific to the other two affected agencies – MPSMD and SQVSMD – were not available as of date of this report.

- **No. 12 | Climate Change Requires Resiliency in Wastewater Planning**

  With increasingly serious climate impacts due to higher temperatures, such as more frequent droughts, storm surges and rising sea levels throughout Marin County, all seven affected agencies' demands, infrastructure and capacities are likely to be disturbed. The affected agencies will have to deal with changes in flow, facilities at risk and erosion, underlying the need for resilience planning. Resiliency is the capacity for a system to absorb a disturbance and still retain its basic function and structure. The affected agencies should explore and implement strategies to reduce risks which allow for flexibility, prepare for external shocks and stresses, and examine issues before solutions, and should be a focus of the Commission in future municipal service reviews.

[10] Total margin includes expensing depreciation.

5.2 Recommendations

The following recommendations call for specific action either from the Commission and/or by the affected agencies based on information generated as part of this study and outlined below in order of their placement in Section 6.0 (Written Determinations). Recommendations for Commission action are dependent on a subsequent directive from the membership and through the adopted work plan.

1. The Commission should proactively work with local agencies – and in particular water, sewer and fire providers – to develop a definition of "disadvantaged unincorporated community" consistent with SB 244 to ensure an appropriate and equitable level of municipal services is available for qualifying areas.

2. CMSA should develop a plan to allocate treatment capacity among its member agencies to enhance regional growth management. This plan would appropriately inform each member agency as well as local land use authorities with more certainty with respect to their ability to forecast and accommodate new development within their jurisdictional boundaries going forward.

3. CSD No. 2 should make additional efforts to distinguish itself as a stand-alone governmental entity separate from the Town of Corte Madera. An example herein would include developing stand-alone contracting arrangements with Corte Madera outlining specific services and costs therein with respect to the existing use of Town staff, supplies, and resources in carrying out District duties.

4. CMSA should reorganize its governing board structure to limit and or remove the City of Larkspur's presence within the joint powers authority to better align and weight governance with vested participation among member agencies.

5. SRSD should designate the lone board seat statutorily dedicated to a member of the County of Marin to the incumbent holding Supervisor District 1 given it covers nearly all of the District jurisdictional boundary. This designation would provide a more logical and direct match between SRSD voters and their appointed representative.

6. Corrective action is needed to appropriately amend jurisdictional boundaries to better align service areas with existing property lines within the Ross Valley and San Rafael Creek Watersheds. Similarly boundary clean-ups are needed to correct instances where actual service provision in this subregion does not match up with assigned jurisdictional boundaries.

7. The Commission should consider in proceeding with reorganizations to dissolve MPSMD and SQVSMD and concurrently place their respective service areas in RVSD. These reorganizations would eliminate two dependent special districts governed by the County of Marin in favor of recognizing RVSD as the preferred and more able service provider going forward.

8. The Commission should consider authorizing an addendum to fully evaluate options to reorganize and consolidate public wastewater services in Central Marin and most pertinently among agencies in the Ross Valley and San Rafael Creek Watersheds. This topic – which has been previously reviewed by the agencies specific to assessing cost-savings but not the Commission – responds to Marin LAFCO's directive to independently assess the notional sense affirmed in this study that a consolidation would appear primed to produce greater accountability and efficiency within the combined watershed.

9. Septic systems are increasingly problematic in urban and or developing areas in Central Marin and pose a public safety threat to the health and environment of the agencies' service areas. The affected agencies should work to identify all septic systems within their respective areas in step with resiliency planning and determining future system risks.

10. Land use authorities in Central Marin should match the affected wastewater service provider with potential development opportunities in its housing elements as a means to plan growth with service.

11. The affected agencies in Central Marin should coordinate efforts to establish policies and protocols in addressing the increasing effects of climate change relative to wastewater services. This includes resiliency planning with respect to droughts, storm events, raising water tables as well as future demands.

6.0 WRITTEN DETERMINATIONS

The Commission is directed to prepare written determinations to address the multiple governance factors enumerated under G.C. Section 56430 anytime it prepares a municipal service review. These determinations are similar to findings and serve as independent statements based on information collected, analyzed, and presented in this study's subsequent sections. The underlying intent of the determinations is to provide a succinct detailing of all pertinent issues relating to the planning, delivery, and funding of public wastewater services in Central Marin as it relates to the Commission's growth management role and responsibilities. An abridged version of these determinations will be separately prepared for Commission consideration and adoption with the final report.

These determinations detail the pertinent issues relating to the planning, delivery, and funding of public wastewater services relative to the Commission's interests. Determinations based on data collected and analyzed between 2010 to 2014.

6.1 Growth and Population Projections

1) The Commission estimates there are 124,182 total residents served by the seven affected agencies responsible for providing public wastewater services in Central Marin as of the end of the study period. It is also estimated the combined resident population has increased by 3,037 or 2.54% over the 60-month study period; the net effect resulting in a combined annual growth rate of 0.6%.

   a) Recent residential growth as estimated by the Commission during the study period has been exceeding by more than one-fourth earlier projections made for the Central Marin region by ABAG.

2) The Commission estimates resident growth in Central Marin during the study period has been disproportionally concentrated within SRSD and RVSD. These two agencies collectively account for nearly nine-tenths of all new estimated growth over the preceding 60-month period.

3) The Commission assumes calculated growth rates in Central Marin over the five-year study period will generally hold in the near-term, and as such it is estimated the region will experience an overall net increase in population of 6,530 over the succeeding 10-year period and total 130,712 by 2014.

4) The Commission estimates the housing market has produced 1,199 new occupied units in Central Marin over the course of the five-year study period. This results in an overall unit density of 2.56 new residents for every new occupied housing unit added in the region.

5) RVSD accounts for 37% of all occupied housing units within the region as of the study period term; the most of any of the affected agencies. RVSD also experienced the largest increase in new occupied housing units during the study period tallying 694 or 3.90% overall.

6) Should residential buildout plans proceed as currently contemplated by the County of Marin and other overlapping land use authorities the housing unit stock in Central Marin will increase by 3,352 and result in the estimated addition of 8,268 residents; a net increase of 6.7% over the end of the study period.

7) Current demographic information shows marked differences between SRSD and the other six affected agencies providing public wastewater services in Central Marin in both economic and social measurements. These differences include SRSD finishing the study period with significantly lower household incomes along with high poverty and unemployment rates. Distinctions among and within the other six affected agencies are less evident with limited exceptions.

8) The Commission estimates there are 28,475 total residents within LGVSD that are explicitly served by the District's wastewater collection and treatment system as of the term of the study. It is further estimated LGVSD has experienced an overall population increase of 261 over the preceding five-year period, resulting an in annual growth rate of 0.186%.

a) New and occupied housing units within LGVSD over the study period is estimated by the Commission at 263 coupled with a net change in persons per household – i.e., an intensity measurement – of (1.2%).

b) The Commission estimates LGVSD is at 90% of the service area's current residential buildout projection relative to applicable land use policies.

9) The Commission estimates there are 40,744 total residents within SRSD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated SRSD has experienced an overall population increase of 1,363 over the preceding five-year period, resulting in an annual growth rate of 0.69%.

a) New and occupied housing units within SRSD over the study period is estimated by the Commission at 153 coupled with a net change in persons per household – i.e., an intensity measurement – of 2.7%.

b) The Commission estimates SRSD is at 93% of the service area's current residential buildout projection relative to applicable land use policies.

10) The Commission estimates there are 40,809 total residents within RVSD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated RVSD has experienced an overall population increase of 1,356 over the preceding five-year period, resulting an in annual growth rate of 0.7%.

a) New and occupied housing units during the study period within RVSD are estimated by the Commission at 694 coupled with a net change in persons per household – i.e., an intensity measurement – of (4.5%).

b) The Commission estimates RVSD is at 96% of the service area's current residential buildout projection relative to applicable land use policies.

11) The Commission estimates there are 9,874 total residents within CSD No. 2 that are explicitly served by the District's wastewater collection system as of the study term. It is further estimated CSD No. 2 has experienced an overall population increase of 86 over the preceding five-year period, resulting an in annual growth rate of 0.175%.

    a) New and occupied housing units over the study period within CSD No. 2 is estimated by the Commission at 87 coupled with a net change in persons per household – i.e.., and intensity measurement – of (11.1%).

    b) The Commission estimates CSD No. 2 is at 99% of the service area's current residential buildout projection relative to applicable land use policies.

12) The Commission estimates there are 191 total residents within MPSMD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated MPSMD has experienced an overall population increase of 16 over the preceding five-year period, resulting an in annual growth rate of 1.8%.

    a) New and occupied housing units over the study period within MPSMD is estimated by the Commission at one coupled with a net change in persons per household – i.e.., and intensity measurement – of 7.1%.

13) The Commission estimates there are 89 total residents within SQVSMD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated SQVSMD has experienced an overall population decrease of six persons over the preceding five-year period, resulting an in annual growth rate of (1.8%).

    a) New and occupied housing units over the study period within SQVSMD is estimated by the Commission at zero coupled with a net change in persons per household – i.e., and intensity measurement – of (8.8%).

14) The Commission estimates there are 95,428 total residents within CMSA that are explicitly served by the District's treatment system as of the term of the study; an amount that includes inmates at San Quentin State Prison. It is also estimated CMSA has experienced an overall population increase of 1,356 over the preceding five-year period, resulting in an annual growth rate of 0.7%.

a) New and occupied housing units during the study period within CMSA are estimated by the Commission at 934 coupled with a net change in persons per household – i.e., an intensity measurement – of 0.9%

6.2 Location and Characteristics of Any Disadvantaged Unincorporated Communities in the Area

1) There are no unincorporated areas within Central Marin or immediately adjacent therein that presently qualify as disadvantaged under the statewide definition based on recent census information.

2) The unincorporated community of Nicasio previously qualified as disadvantaged under the statewide definition before slightly exceeding the median household income threshold in the latest census. This community and its estimated population of 130 is in relative proximity to LGVSD – though outside the District's present sphere of influence – and currently dependent on private septic systems.

3) It is possible other unincorporated communities in or adjacent to Central Marin would qualify as "disadvantaged" upon completion of the Commission's scheduled policy review to establish its own definition in implementing Senate Bill 244 (Wolk). The Commission should proactively work with other local agencies – and in particular water, wastewater, and fire providers – in developing a definition to meet the legislation's intent to ensure an appropriate and equitable level of municipal services is available to all qualifying areas.

6.3 Capacity of Public Facilities and Infrastructure Needs and Deficiencies

1) The Commission estimates the average total daily flow of wastewater collected by the seven affected agencies in Central Marin during the study period tallies 14.6 million gallons, or 120 gallons for every person. Additional wastewater flow tallies collectively generated over the 60-month period follow.

   a) Average dry-day wastewater flows during the study period tallies 11.1 million gallons, or 91 gallons for every person.

   b) Average wet-day wastewater flows during the study period tallies 18.1 million gallons, or 148 gallons for every person.

   c) Average peak-day wastewater flows generated over 24 hours during the study period tallies 102 million gallons, or 855 gallons for every person.

2) The Commission estimates total annual wastewater flows generated among the seven affected public agencies' services areas in Central Marin have decreased overall by (17%) and results in a net daily demand savings of 2.7 million gallons.

3) All of the affected agencies experienced decreases in annual wastewater flows in their respective collection systems serving Central Marin during the study period ranging from a high of (23%) in RVSD to a low of (1%) in CSD No. 2.

4) Changes in the affected agencies' combined annual wastewater flow totals during the study period closely matches year-end rainfall counts for Central Marin and highlighted in 2013 –the apex of the parallel drought – when collected flows fell to a period low average of 12.8 million per day. This correlation indicates, albeit differently among the collection systems, the existence of excessive infiltration and inflow throughout the region.

5) The combined average peaking-factor among the seven affected agencies' service areas in Central Marin generated during the study period tallies 9.2. This amount further quantifies excessive amounts of runoff and or groundwater are entering the collection systems and – among other adverse impacts – contributing to the 317 reported sanitary overflows in the region during the 60-month period.

6) It appears the primary sources of excessive infiltration and inflow within Central Marin is occurring within RVSD and SRSD given these agencies' collection systems account for over 90% of all reported overflows during the study period.

7) All of the affected agencies with collection systems and or treatment facilities in Central Marin are accounting and funding therein replacement of their capital infrastructure, albeit to different degrees and accordingly producing a sizable range in equipment age among the agencies. The average age of capital equipment among the affected agencies as of the study period term is 21 years and bookmarked by a low – or youngest – of 12 years within CSD No. 2 and a high – or oldest – of 30 years within RVSD.

8) All of the wastewater collection systems within Central Marin appear adequately sized in accommodating current and projected flow demands. This comment is substantiated given none of the affected agencies' collection systems' peak–day demands generated during the study period exceed 72% of estimated capacity.

9) LGVSD is the entity responsible for treating and disposing all wastewater generated within the Las Gallinas Watershed portion of Central Marin and has adequate capacity to accommodate current and projected flows through the 10-year timeframe of this study. This includes the Commission projection that no demand measurement is expected to reach 70% of capacity now or through 2024.

10) CMSA is the entity responsible for treating and disposing all wastewater generated within the Ross Valley and San Rafael Creek Watersheds portion of Central Marin and has adequate – albeit more narrowly – capacity to accommodate current and projected flows through the 10-year timeframe of this study. The most pressing demand measurement within CMSA involves dry

weather flows and highlighted by averages during the study period reaching 85% of the treatment facility's permitted capacity.

6.4 Agencies' Financial Ability to Provide Services

1) Approximately three-fourths of operational costs underlying public wastewater services in Central Marin are generated from direct revenues based on a combined earned income ratio generated during the study period of 76%.

    a) Earned income ratios during the study period ranged from 91% in SRSD to 55% in CSD No. 2; a difference of nearly two-thirds.

2) Resident accounts make up no less than 89% of any one affected agency's total wastewater service connections in Central Marin as of the study period term with the average annual residential charge – the principal source of direct revenue – tallying $710 as of the study period term.

    a) The annual residential charge for wastewater services in Central Marin as of the study term varies significantly and bookended between $1,067 in RVSD (Larkspur) and $472 in MPSMD.

3) Opportunities to increase direct revenues among all seven affected agencies in Central Marin in support of their respective public wastewater systems is substantively constrained given two external factors. First, opportunities to spread-out costs among additional customers is limited given community preferences – which are reflected in local land use policies – to limit new growth. Second, opportunities to raise rates and or establish assessments are constrained under State law to require two-thirds voter approval.

4) Indirect revenues support the remaining and approximate one-fourth of operational costs underlying public wastewater services in Central Marin and largely derived from the distribution of property taxes. The average property tax distribution rate among the affected agencies - less CMSA as a joint-powers - is 1.9% of the 1.0% in total ad-valorem.

5) Large variances exist with respect to individual agency shares of the 1.0% of property tax collected within Central Marin. RVSD receives the highest property tax distribution rate at 7.8% and is more than four times greater than the next highest of 1.5% by SRSD. The lowest distribution rate is SQVSMD at 0.03%.

6) The affected agencies in Central Marin finished the study period with a combined net asset total of $245.2 million as of the study period term. This amount has collectively increased during the study period by 13% and more than one-half greater than the corresponding inflation rate for the greater Bay Area region.

7) Overall unrestricted fund balances for the affected agencies in Central Marin collectively tally $66.0 million at the end of the study period. This amount has collectively increased during the study period by 65% and more than five times greater than the corresponding inflation rate for the greater Bay Area region.

   a) LGVSD has experienced the largest percentage increase in unrestricted fund balances during the study period at 132% followed by RVSD at 94%, SRSD at 78%, CMSA at 23%, and CSD No. 2 at (16%).

   b) Information for SQVSMD and MPSMD is not available as of date of this report.

8) Five of the seven affected agencies – LGVSD, SRSD, RVSD, CSD No. 2, and CMSA – have pension obligations. These agencies collectively experienced an approximate 29% rise in annual contributions during the study period.

   a) Increases in annual pension contributions among the five agencies range from 78% in RVSD to 1% in CSD No. 2 (Corte Madera).

9) All five affected agencies with pension obligations – directly or indirectly through their parent agency – have improved their funded status over the course of the study period by no less than 7%.

a) Improvements in funded status among the five agencies range from 16% in LGVSD to 7% in CSD No. 2 (Corte Madera).

10) Four of the five affected agencies – LGVSD, RVSD, CSD No. 2, and CMSA - with pension obligations finished the study period with funded status ratios near or above 80%; the standard threshold used in governmental accounting to identify relatively stable pension plans. The remaining agency – SRSD – ended the study period with a funded status of 72%.

11) Four of the five affected agencies – LGVSD, SRSD, CSD No. 2, and CMSA – experienced decreases in their active-to-retiree ratio during the study period. RVSD experienced no change.

a) RVSD finished the study period with the highest ratio at 1.81 active employees to every 1.00 retiree, while CSD No. 2 had the lowest ratio with 0.36 active employees to every 1.00 retiree.

6.5 Status and Opportunities for Shared Facilities and Resources

1) Ratepayers within the Ross Valley and San Rafael Creek Watershed portion of Central Marin have benefited from the ongoing costs savings associated with the creation of CMSA and construction and operation therein of a single and jointly-owned wastewater treatment facility serving multiple jurisdictions.

2) CMSA should develop a formal plan to dedicate remaining treatment capacity among its member agencies based on assigning an ultimate equivalent dwelling unit allocation. This plan would significantly enhance regional growth management by providing each member agency and all associated land use authorities more certainty in their ability to appropriately match wastewater provision with future development projects within their respective jurisdictions.

3) There appears to be relatively limited engagement between LGVSD and the remaining affected agencies within Central Marin despite comparatively close service areas. Opportunities should be explored for the benefit of region ratepayers to establish more connectivity among all agencies in sharing costs and expertise commonly underlying the management and operation of public wastewater systems.

4) LGVSD has taken a leadership role in investing resources to repurpose wastewater into recycled water supplies for beneficial use within jurisdictional boundary through an ongoing partnership with Marin Municipal Water District. Additional partnerships should be explored to expand the potential reach of repurposed wastewater throughout the rest of Central Marin.

6.6 Local Accountability and Government Restructure Options

1) Residents throughout Central Marin similarly benefit from the aptitude and responsiveness of board and senior management within all seven affected agencies. These attributes create trust with ratepayers and help ensure their ongoing financial investment in the agencies' wastewater systems are appropriately safeguarded.

2) There has been noticeable improvement in membership relations within CMSA during the course of the study period that ultimately benefits ratepayers. This improvement appears aided in large part to board and management change within RVSD and, among other benefits, contributed to the recent settlement of litigation within CMSA.

3) Additional efforts should be taken by CSD No. 2 distinguish its role as a stand-alone governmental entity separate from the Town of Corte Madera. This includes developing stand-alone contracting arrangements with Corte Madera outlining specific services and costs therein with respect to the existing use of Corte Madera staff, supplies, and resources in carrying out District duties.

4) CMSA's governing structure appears outdated given the dedication of one of its six-member regular board seats to the City of Larkspur; an entity that ceased wastewater services in 1993 in step with the annexation of its service area to RVSD, and as such is no longer a funding contributor. Reorganization of the board, accordingly, appears appropriate to limit and or remove Larkspur's presence on CMSA to better align and weight governance with vested participation among member agencies.

5) SRSD's dependent governance structure would be enhanced by formally designating the lone board seat dedicated to a member of the County of Marin to the incumbent holding Supervisor District 1 given it covers nearly all of the jurisdictional boundary. This designation would provide a more logical and direct match between SRSD voters and their appointed representative.

6) Two separate governance alternatives appear readily merited to improve local accountability and service efficiencies in Central Marin. This involves immediately proceeding with reorganizations to dissolve MPSMD and SQVSMD and concurrently place their respective service areas in RVSD by annexation or consolidation. These reorganizations would eliminate two dependent special districts governed by the County of Marin subject and inhibited therein to antiquated statutes in favor of recognizing RVSD as the preferred and more able service provider going forward.

7) Irrespective of other determinations it appears appropriate for the Commission to evaluate options to potentially reorganize and consolidate public wastewater services in Central Marin and most pertinently among agencies in the Ross Valley and San Rafael Creek Watersheds. This topic – which has been previously reviewed by the agencies specific to assessing cost-savings but not the Commission – responds to Marin LAFCO's directive to independently assess the notional sense affirmed in this study that a consolidation would appear primed to produce greater accountability and efficiency within the combined watershed.

8) Corrective action is needed to appropriately amend jurisdictional boundaries to better align service areas with existing property lines within the Ross Valley and San Rafael Creek Watersheds. Similarly boundary clean-ups are needed to correct instances where actual service provision in this subregion does not match up with assigned jurisdictional boundaries.

6.7 Matters of Local Interests as Required by Policy | Relationship Between Services and Land Use Policies

1) There is merit for more connectivity between planning wastewater services with land use policies of the local cities, towns and County of Marin to manage future growth within Central Marin. A coordinated effort among municipalities could also promote better use of federal funds.

2) Land use authorities in Central Marin should match the affected wastewater service provider in step with identifying potential development opportunities in housing elements as a means to connect growth with service.

6.8 Matters of Local Interests as Required by Policy | Planning for Climate Change

1) The affected agencies in Central Marin should coordinate efforts to establish policies and protocols in addressing the increasing effects of climate change relative to wastewater services. This includes resiliency planning with respect to droughts, storm events, raising water tables as well as future demands.

2) The Commission, affected agencies and the County of Marin's Environmental Health Services Department should work to identify all remaining septic systems – active and inactive – within Central Marin and proactively partner in connecting these properties with the appropriate public wastewater system.

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CHAPTER THREE
REGIONAL CHARACTERISTICS & COMPARISONS

1.0 SERVICE AREAS

1.1 Population Trends

The resident population collectively served by the seven affected public agencies responsible for providing wastewater services in the region is estimated by the Commission at 124,182 as of the term of this study period (2014).[20] This estimate is specific to residents directly tied to the agencies' collection systems. It is also estimated the affected agencies are collectively at 93.8% of their projected and combined near-term planned buildout of 132,450. The planned near-term buildout is based on the potential for up to 3,352 new units that *may* be eventually built subject to market demand and project approvals and as detailed in the accompanying footnote. [21]

LAFCO estimates there are 124,182 total residents served by the seven public agencies responsible for providing public wastewater services in the region as of the end of this study period. It is also estimated the combined service population has increased by 3,037 or 2.54% over the study period.

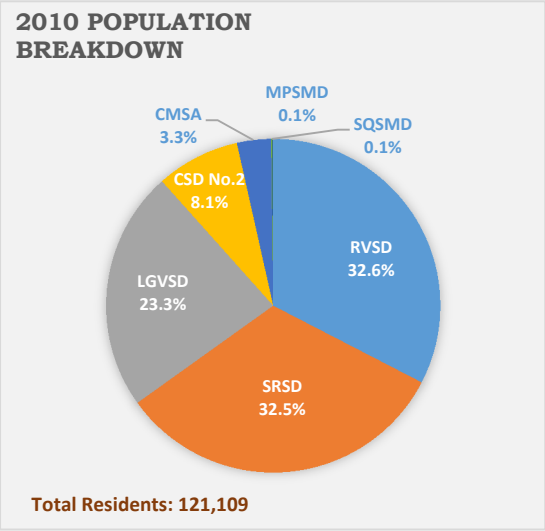
Estimated resident totals within all seven affected agencies has increased by a combined net of 3,073 persons and reflects an overall 2.54% or 0.51% growth rate over the five-year study period. Nearly all of the estimated net addition in residents over the study period is directly tied to growth within SRSD, RVSD, and – to a lesser extent – LGVSD. These three agencies collectively account for 97% of

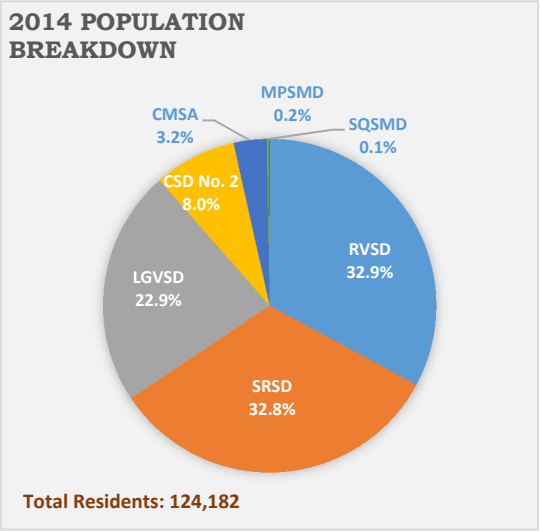
Overall estimated resident growth in the region during the study period has been disproportionally concentrated within SRSD and RVSD. These two agencies alone account for 88% of all new estimated growth in the region over the preceding 60-month period.

[20] The estimated total resident service population of 124,182 as of the term of this study period has been independently calculated by the Commission and premised on deference to occupied housing driving resident estimates based on data collected within the subject census tracts. Four distinct calculations underlie the estimates and involve projecting a) total housing units, b) local occupancy rates, c) occupied housing units, and d) household sizes. The calculation also includes a flat assignment of 4,000 residents for the San Quentin State Prison.

[21] The calculation of planned near-term buildout is drawn analyzing data included in the applicable land use authorities' certified housing elements covering the 2015-2023 period and specific to each agency's service area. The housing unit total is paired with household size averages for each agency calculated by the Commission.

the projected new growth within the region with SRSD and RVSD leading the tally with net additions of 1,363 and 1,355, respectively. Estimated resident growth within the remaining four affected agencies accounts for the remaining 3% of the net over the study period and paced numerically by CSD No. 2 at 88. The other three affected agencies in the region – MPSMD, SQVSMD, and CMSA - collectively account for a net increase of 8 over the preceding 60-month period.[22]





With respect to projections going forward, and for purposes of this study, it is assumed the resident growth rate within all seven affected agencies will generally match the five-year study period (2010-2014). This assumption produces an overall and projected annual change of less than one-tenth of a percent or 0.53% in resident growth over the succeeding 10-year period. The substantive result of this assumption would be an overall increase in the combined resident service population of 6,530 and produce a total of 130,712 by 2024.

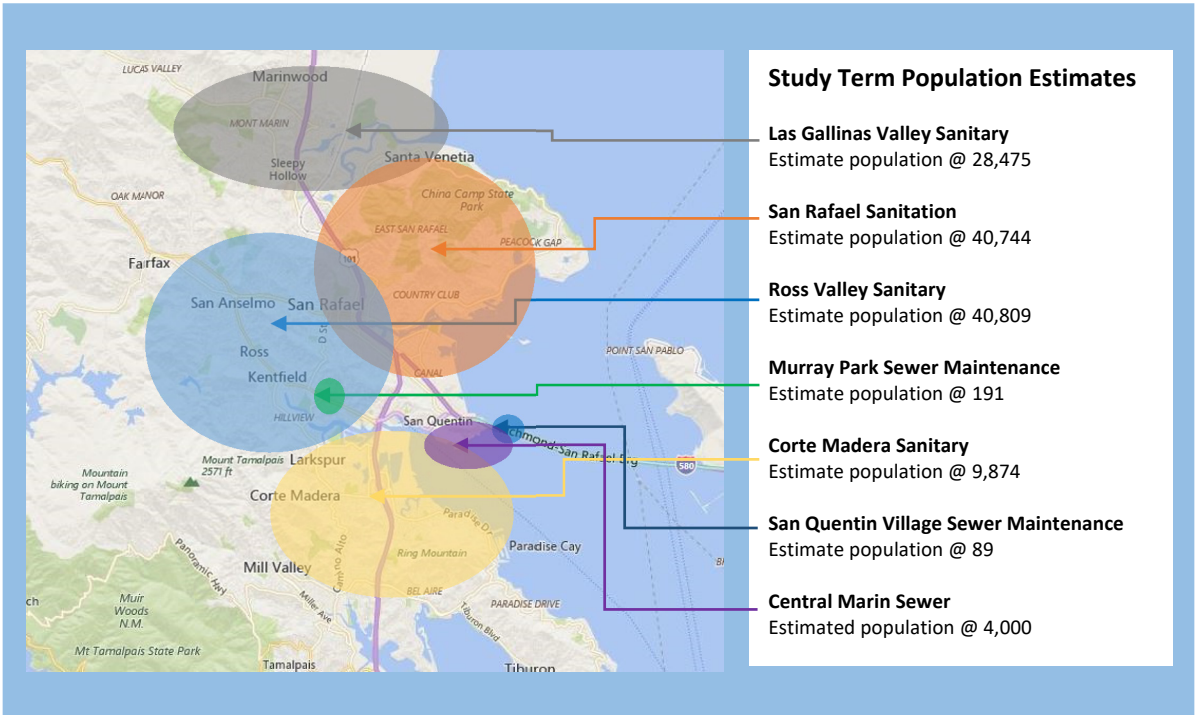
Should growth rates over the five-year study period hold it is projected the region will experience an overall net increase in population of 6,530 over the succeeding 10-year period and total 130,712 by 2014.

[22] The Commission's resident calculation for CMSA reflects a flat and stagnant 4,000 person assignment associated with directly serving the San Quentin State Prison. The remainder of CMSA's service population – estimated at 120,182 as of the study period term – is assigned to the associated collection system operator/district.

Resident Population Projections
Table 3.1 | Marin LAFCO

Agency	2010	2014 -Baseline-	2024	Annual Trend	Population @ Near-Term Buildout
Las Gallinas Watershed					
LGVSD	28,214	28,475	29,005	0.12	32,329
Ross Valley Watershed					
RVSD	39,454	40,809	43,702	0.71	45,430
SRSD	39,381	40,744	43,655	0.71	46,701
CSD No. 2	9,788	9,874	10,048	0.18	10,202
MPSMD	175	191	228	1.94	244
SQVSMD	97	89	74	(1.69)	100*
CMSA (State Prison)	4,000	4,000	4,000	0.0	106,577
Totals:	**121,109**	**124,182**	**130,712**	**0.53%**	

* The term "buildout" is specific to near-term planning estimates and based on land inventories conducted by the applicable land use authorities as part of the 2015-2023 housing element cycle. The buildout amount does not take into consideration second units and will most-certainly be revised and increased for the 2024-2032 period in step with the next housing element cycle.



1.2 Resident Characteristics / Housing Volume, Density, Type and Buildout

The Commission projects the estimated resident population of 124,182 as of the term of the study period within the seven affected agencies is divided among 49,873 total *occupied* housing units.[23] This total reflects a net increase of 1,199 new occupied housing units within the region over the five-year study period or 2.46% overall or 0.49% annually. It also produces a household density of 2.41 persons for every occupied unit in the region once the population from San Quentin State Prison is discounted; the latter of which marks a difference of three-tenths of one percent over the preceding 60 months.[24]

The Commission estimates there are 1,199 new occupied housing units in the region over the course of the five-year study period. This produces a growth ratio of 2.56 new residents for every new housing unit.

In terms of the distribution of the occupied housing units within the region as of the term of the study period nearly four-tenths – or 37% – lies within RVSD with a net total of 18,508. This latter amount also produces a corresponding density ratio of 2.22 persons per home. RVSD also experienced the largest net and percentage increase with the addition of 694 new occupied housing units over the 60-month period; a difference of 3.90% overall or 0.78% annually. The second largest source of occupied housing units among the affected agencies lies within SRSD at 15,260 and accounting for 30% of the regional total. It also produces a corresponding density ratio in SRSD at 2.67; the highest ratio therein among all affected agencies in the region.

RVSD accounts for 37% of all occupied housing units within the region as of the study period term; the most of any of the affected agencies. RVSD also experienced the largest increase in new occupied housing unit during the study period tallying 694 or 3.90% overall.

[23] For purposes of this study the Commission assigned deference to projecting and analyzing occupied housing units as opposed to total housing units.
[24] The overall region's housing density as of the study period's term is 2.4097 persons for every one occupied unit. This ratio is nearly identification to the ratio in 2010 totaling 2.4059.

A summary of occupied housing unit and density ratio estimates therein among all seven of the affected agencies follows.

Occupied Housing Volume and Density Estimates
Table 3.2 | Marin LAFCO

		2010 Totals		2014 Totals		Study Period Trends	
	Agency	Housing	Density	Housing	Density	Housing	Density
Las Gallinas Watershed	LGVD	11,265	2.505	11,528	2.470	2.33%	(1.40%)
Ross Valley Watershed	RVSD	17,814	2.215	18,508	2.205	3.90%	(0.45%)
	SRSD	15,107	2.607	15,260	2.670	1.01%	2.42%
	CSD No. 2	4,360	2.245	4,448	2.220	2.02%	(1.11%)
	MPSMD	87	2.022	88	2.170	1.15%	7.32%
	SQSMD	41	2.368	41	2.160	0.0%	(8.78%)
	CMSA	0	0	0	0	0.0%	0.0%
	Totals	**48,674**	**2.401**	**49,873**	**2.409**	**2.46%**	**0.33%**

Housing Type Estimates
Table 3.3 | Marin LAFCO

		2010 Totals		2014 Totals		Study Period Trends	
	Agency	Single Family	Multi Family	Single Family	Multi Family	Single Family	Multi Family
Las Gallinas Watershed	LGVD	79.36%	20.64%	78.37%	21.63%	(1.25%)	4.80%
Ross Valley Watershed	RVSD	70.21%	29.79%	69.67%	30.33%	(0.77%)	1.81%
	SRSD	54.74%	45.26%	53.37%	46.63%	(2.50%)	3.03%
	CSD No. 2	74.75%	25.25%	74.43%	25.57%	(0.43%)	1.27%
	MPSMD	66.02%	33.98%	63.30%	36.70%	(4.12%)	8.00%
	SQSMD	59.63%	40.37%	63.17%	36.83%	5.94%	(8.77%)
	CMSA	61.09%	38.91%	63.36%	36.61%	3.72%	(5.91%)
	Totals (Weighted)	**	**	**	**	**	**

Additional residential development – albeit to different degrees – is planned within all six affected local agencies' service areas, and accordingly represents a significant impact on the availability of future supplies going forward. The central source for this future planning is largely tied to State law and its requirement for land use authorities (i.e., cities and counties) to include housing elements in their general plans that make adequate provision for existing and projected housing needs of all economic segments of the community. These underlying statutes were amended by Senate Bill 375 in 2008 to require – among other items – housing elements be revised and updated every eight years beginning in 2010 to address the State's new regional housing assignments. The

It is anticipated a total of 3,352 new housing units – producing a projected 8,268 additional residents – may be constructed within the affected agencies' jurisdictions at buildout based on current land use policies.

intent of the housing element law is to create a market-based strategy for local land use authorities to facilitate opportunities to increase in the supply and affordability in housing; actual construction of additional housing is not required by the State.[25]

With the preceding comments in mind, and for purposes of telegraphing near-term buildout conditions as part of this study, the Commission believes it is reasonable to assume the potential development of 3,352 new housing units in the affected agencies' existing jurisdictional boundaries. (There is no specific timetable for actual development of these future housing units; associated buildout years identified in this study are based solely on current growth trends. It is also reasonable to denote the distinction between near-term and ultimate buildout; the latter of which is not readily quantifiable.) This total amount – which equals 93.6% of the total number of existing units – of expected new residential development is based almost entirely on the housing elements of all applicable and land use authorities underlying the region and specific to zoning assignments as it applies to the six affected agencies' jurisdictional boundaries.

Near-Term Buildout: Housing Units Estimates
Table 3.4 | Marin LAFCO

Type	LGVSD	SRSD	RVSD	CSD No. 2	MPSMD	SQVSMD	CMSA	Total
Existing Units	11,959	16,013	19,503	4,531	92	45	0	52,143
Additional Units at Near-Term Buildout	1,335	1,158	782	69	8	0	0	3,352
% at Buildout	**89.9%**	**93.3%**	**96.1%**	**98.5%**	**92.0%**	**100%**	**100%**	**93.6%**
	Las Gallinas Watershed		Ross Valley Watershed					

* The listing of residential units at buildout within each affected agency is based on a review of the applicable adopted housing elements of the associated land use authorities in Marin County as of date. It does not contemplate second units.

[25] A pertinent and related section of LAFCO law directs commissions to facilitate orderly growth and development that includes providing housing for persons and families of all incomes under Government Code Section 56001.

1.3 Demographics | Social and Economic Factors

A review of demographic information available for census tracts within the seven affected agencies for the study period indicates most fulltime residents are in good economic positions relative to countywide averages. This includes residents within six of the seven affected agencies finishing the study period with moderately to substantively higher median household incomes and led by CSD No. 2 at $108,934; an amount finishing 19% higher than the countywide average for the same period. SRSD – the lone outlier within the region as it relates to economic indicators – finished the study period with a median household income 18% below the countywide average at $75,046. This economic distinction also revealed itself in other economic indicators – including poverty rates, unemployment levels, and commute times – showing commonality between all of the affected agencies with the outlier exception of SRSD. Social indicators also show a notable distinction between SRSD and the other six affected agencies and reflected in statistical gaps in educational attainment and non-english speaking households.

Current demographic information shows marked differences between SRSD and the other six affected agencies in both economic and social measurements. These differences include SRSD finishing the study period with significantly lower household incomes along with high poverty and unemployment rates. Distinctions among and within the other six affected agencies are less evident with limited exceptions.

Economic and Social Factors | 2010-2014 Averages
Table 3.5 | Marin LAFCO

	Category	LGVSD	RVSD	SRSD	CSD No. 2	MPSMD	SQVSMD	CMSA	County Average
Economic	Median Age	46.16	44.98	46.27	48.4	42.3	40.64	43.59	45.1
	Prime Working Age	52.6%	52.9%	52.1%	52.9%	52.6%	64.6%	57.8%	55.3%
	Median HH Income	$96,602	$108,934	$108,510	$100,441	$84,065	$75,046	$93,648	$91,529
	Unemployment Rate	3.1%	3.7%	4.8%	5.2%	6.3%	6.1%	5.3%	4.7%
	Poverty Rate	7.5%	4.8%	6.5%	3.0%	5.8%	19.1%	11.9%	8.8%
Social	4-Yr College Degree	50.4%	65.7%	65.8%	68.7%	60.4%	41.1%	54.8%	30.8%
	Mean Travel to Work	28.6 min	30.4 min	31.1 min	29.1 min	29.0 min	26.9 min	29.0 min	29.4 min
	Non-English Speaking	24.0%	21.1%	13.8%	18.5%	24.8%	42.4%	27.3%	23.5%
	Pre Prop 13 Resident	18.6%	12.9%	12.4%	8.2%	8.4%	10.7%	11.7%	12.8%
		Las Gallinas Watershed	Ross Valley Watershed						

1.4 Jurisdictional Boundaries

The collective jurisdictional boundaries of the six agencies subject to the Commission's regulatory oversight providing wastewater services in the region tally 46 square miles. Ten land use authorities overlaps this area and led by County of Marin at 44%.

The jurisdictional boundaries of the six affected agencies directly subject to the Commission and its regulatory duty to set boundaries in the region collectively spans 46.01 square miles or approximately 29,450 acres.[26] Comparatively the collective jurisdictional boundaries of the six agencies represent 8.8% of the countywide land total. Ten land use authorities overlap the combined jurisdictional boundaries with two-thirds falling under the oversight of the County of Marin and San Rafael. The County of Marin is the predominant land use authority and accounts for an estimated 44% of combined jurisdictional boundaries. Another 23% of the combined jurisdictional boundaries falls under the land use authority of San Rafael. The remaining one-third is divided among the land use authorities of San Anselmo at 12%, Fairfax at 9%, Corte Madera at 4%, Ross at 3%, Larkspur at 3%, Tiburon at 1%, and Novato and Mill Valley each at less than 1%.

Jurisdictional Boundaries' Breakdown: Land Use Authorities
Table 3.6 | Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	9,113	44.1%	11,372	10,255
San Rafael	4,730	22.9%	16,824	23,244
San Anselmo	2,440	11.8%	5,482	6,279
Fairfax	1,904	9.2%	3,173	3,900
Corte Madera	897	4.3%	3,390	3,910
Ross	676	3.3%	847	883
Larkspur	542	2.6%	2,522	3,580
Tiburon	299	1.4%	442	435
Novato	58	0.3%	22	19
Mill Valley	1	0.0%	1	0
	20,660	**100%**	**44,075**	**52,505**

[26] CMSA is not subject to the direct regulatory oversight of the Commission as a joint-powers authority.

The combined population density within the six jurisdictional boundaries tallies 2,669 residents for every square mile as of the study period term. The square mile total also encompasses 44,223 assessor parcels with a combined assessed value (land and improvements) of $31.0 billion. This latter amount translates to a per capita value of $0.257 million based on the joint service population of 120,182.[27]

The combined assessed land values within the jurisdictional boundaries of the six agencies subject to the Commission totals $31.0 billion, and equates to a per capita share of $0.257 million.

The Commission estimates 71% of the jurisdictional assessor acreage within the six agencies' boundaries has already been developed, albeit not necessarily to the maximum density allowed under the respective land use authority. It is also estimated there are an existing and combined total of 1,747 unbuilt assessor parcels within the six agencies' boundaries that are privately owned and designated for some type of urban type use by the respective land use authority. Additional analysis would be needed to further assess the actual development potential of these unbuilt parcels relative to zoning and other germane local conditions.

Over three-fifths of assessor acreage within the collection jurisdictional boundaries of the six agencies directly overseen by the Commission has already been developed or improved – though not necessarily at its maximum density. Within the remaining two-fifths there are 1,747 un-built and privately owned parcels designated for some type of urban use by the respective land use authority.

Jurisdictional Lands | Region
Table 3.7 | Marin LAFCO

% Parcel Acres Already Developed	Residential Built Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
70.6	44,075	***	1,747	9,647

[27] Estimated service population includes only the projections made for the six agencies directly subject to the Commission's regulatory oversight; it excludes CMSA.

RVSD is the single largest of the six agencies in terms of jurisdictional size with 19.7 square miles and represents more than two-fifths of the combined six-agency total. Population density ratios range from a low of 0.0001 residents for every square mile in SQVSMD to a high of 3,134 residents for every square mile in SRSD as of the term of the study period. Tallies for all six agencies follows.

Jurisdictional Lands | Agencies
Table *** | Marin LAFCO

Category	LGVSD	RVSD	SRSD	CSD No. 2	MPSMD	SQVSMD
Total Square Miles	9.4	19.7	13.0	3.8	0.1	0.01
Density (Residents per Square Mile)	3,029	2,072	3,134	2,598	>0	>0
Assessed Value (Land and Structure)	$5.8 b	$13.4 b	$8.2 b	$3.6 b	$79.7 m	$15.7 m
Assessed Value Per Resident	$0.203m	$0.328 m	$0.201 m	$0.365 m	$0.417 m	$0.176 m

Las Gallinas Watershed

Ross Valley Watershed

2.0 WASTEWATER SERVICES

2.1 Overall Demands

The combined average annual wastewater system demand produced during this study period within the seven affected agencies totals 5.3 billion gallons.[28] This average amount, which serves as a macro overview of system demands, is equivalent to a daily average flow of 14.6 million gallons or 119.5 gallons per estimated resident.[29] This average annual amount – and despite a corresponding projected overall increase in population of 3,073 or 2.5% – experienced a significant decrease during the 60-month period of nearly one-sixth or (16.8%) with year-end totals declining from 6.2 billion gallons in 2010 to 5.2 billion gallons in 2014. A similar reduction is also shown in overall daily per capita usage

Overall average annual wastewater flows generated within the seven affected agencies' service areas during the study period tallied 5.3 billion gallons. Demands have also fallen with overall flows with the combined service areas decreasing during the study period by (17%).

[28] MPSMD flows are incorporated into RVSD. Similarly, SQVSMD – along with San Quentin State Prison – account for the stand-alone flows reflected for CMSA.
[29] The per resident daily use amount is based on a separately calculated residential average total of 122,115 within the combined service areas and as independently calculated by the Commission.

among the affected agencies with combined demands decreasing by (18.8%) from 141.0 gallons per resident in 2010 to 114.5 gallons per resident in 2014.

Study period trends show overall average daily wastewater system demands among individual agencies over the corresponding 60-months ranged from a low of 0.862 million gallons for CMSA (SQVSD and San Quentin State Prison) to a high of 5.450 million gallons within RVSD. Markedly, all of the agencies experienced a decrease in annual system demands during the study period of no less than (0.80%). Further, almost of the affected agencies experienced a significant decrease in system demands in 2013 in step with the height of the drought with the exception of RVSD.

All of the affected agencies experienced a decrease in annual system flows during the study period of no less than (0.80%). With limited exception 2013 proved seminal with dramatic flow decreases for all of the agencies with the exception of RVSD.

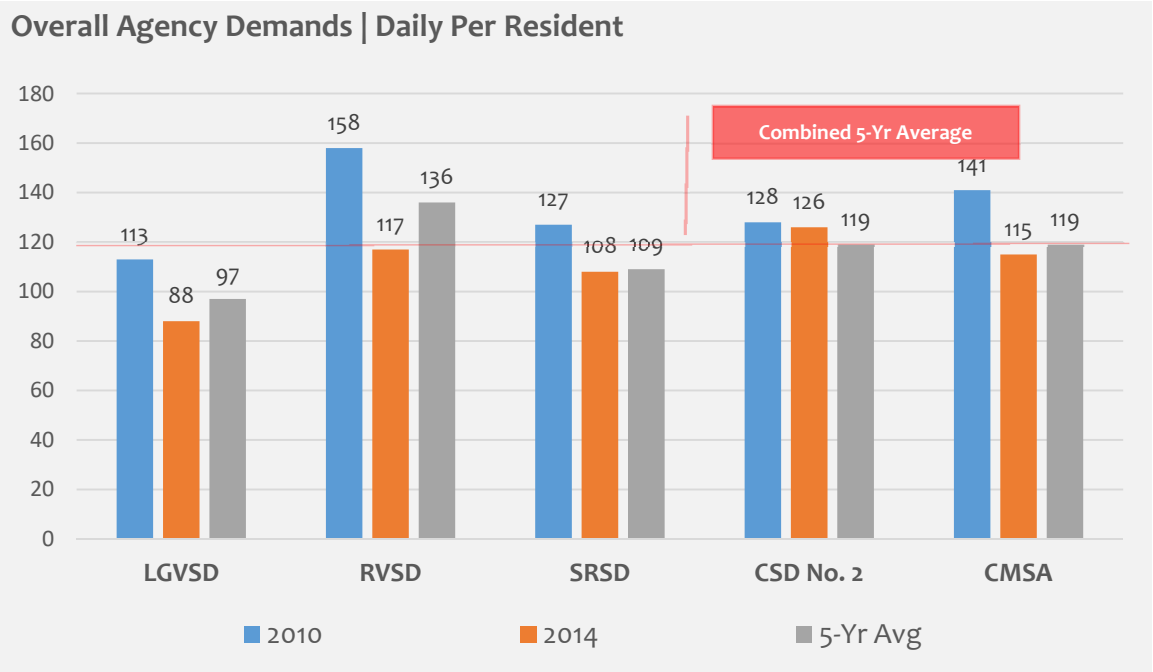
Wastewater Demands | Annual Daily Averages
Table 3.8 | Marin LAFCO

Agency	2010	2014 -Baseline-	Average	Overall Trend
LGVSD	3.180	2.520	2.740	(20.91%)
RVSD (w/MPSMD)	6.250	4.800	5.450	(23.20%)
SRSD	5.000	4.400	4.360	(12.00%)
CSD No. 2	1.250	1.240	1.168	(0.80%)
CMSA (SQVSMD and State Prison)	1.400	1.260	0.860	(10.00%)
TOTALS	**17.080**	**14.220**	**14.578**	**(16.75%)**

** Amounts Shown in Million Gallons*

As noted, the review of relative daily demands based on a per capita measurement produces a study period average among the affected agencies of 120 gallons. This average total is bookended by a period low of 103 gallons per capita within CSD No. 2 to a period high of 158 gallons per capita within RVSD; a difference of over one-half or 53.40%.

Relative daily demands during the study period based on average per capita usage year-round among the affected service areas produce an average of 120 gallons. RVSD finished with the highest per capita demand at 158 gallons.



Amounts Shown in Gallons

2.2 Overall Dry Weather Day Demands

The combined average annual demand during dry weather months during this study period within the seven affected agencies totals 2.0 billion gallons. This average amount, which serves as one of three standard micro overview of system demands and typically occurs during the months of May through October, is equivalent to a daily average flow of 11.1 million gallons. This latter amount represents a daily decrease of 3.5 million gallons – or (23.9%) – compared to the overall average day flows during the study period.

Overall average dry-weather wastewater flows generated within the seven affected agencies' service areas during the study period and generally between the months of May and October tallied 2.0 billion gallons or 11.1 million gallons daily; the latter representing a decrease of 3.5 million gallons per day compared to overall average day flows.

Study period trends show average dry-weather demand amounts experiencing a modest decrease over the corresponding 60-months of nearly one-tenth or (9.6%) from 2.1 billion gallons in 2010 to 1.9 billion gallons in 2014. A similar reduction is also shown in overall daily per capita flows among the affected agencies within dry-weather periods with combined demands decreasing by (11.8%) from 96.3 gallons in 2010 to 84.9 gallons in 2014.

Average dry-weather demands generated between April and October during the study period and within all seven affected agencies' service areas have decreased by (10%).

Overall average daily dry-weather wastewater system demands among individual agencies during the study period ranged from a low of 0.820 million gallons for CMSA (SQVSMD and San Quentin State Prison) to a high of 3.780 million gallons within RVSD. All of the affected agencies experienced decreases in annual dry-weather flows over the study period with the lone exception of CSD No. 2, which tallied a 6.90% increase over the 60-month period.

All of the affected agencies experienced decreases in annual dry-weather flows over the study period with the lone exception of CSD No. 2.

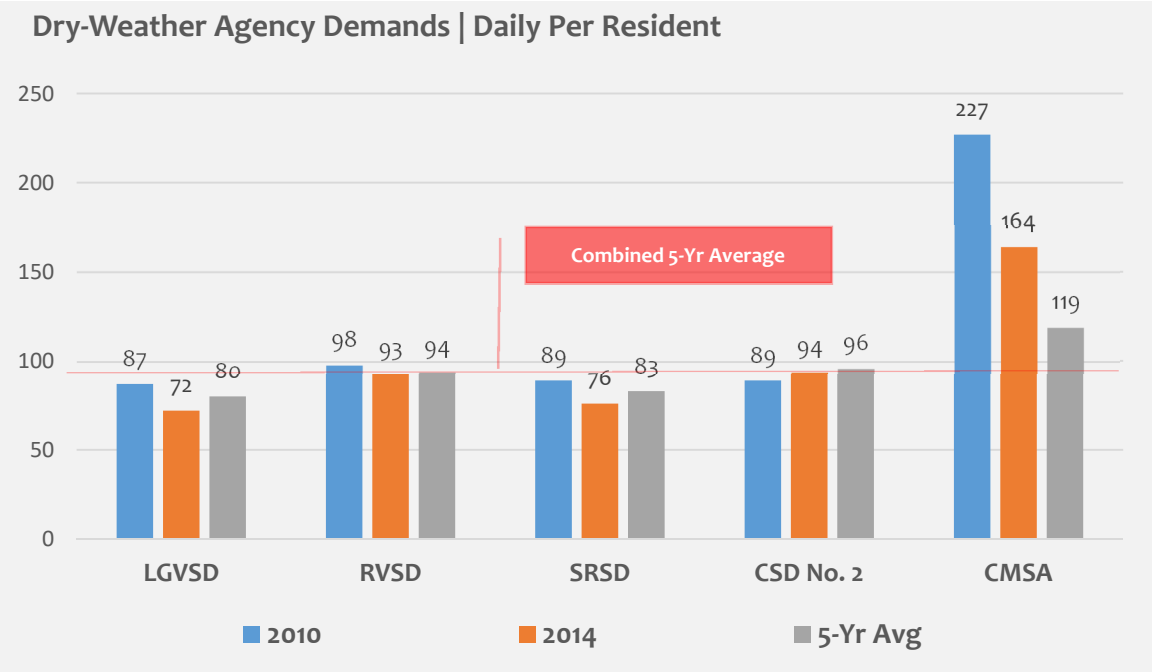
Wastewater Demands | Dry Weather Day Averages
Table 3.9 | Marin LAFCO

Agency	2010	2014 -Baseline-	Average	Overall Trend
LGVSD	2.460	2.040	2.250	(17.07%)
RVSD (w/MPSMD)	3.900	3.800	3.780	(2.56%)
SRSD	3.500	3.100	3.300	(11.43%)
CSD No. 2	0.870	0.930	0.940	6.48%
CMSA (SQVSMD and State Prison)	0.930	0.670	0.820	(10.00%)
TOTALS	**11.660**	**10.540**	**11.090**	**(9.61%)**

** Amounts Shown in Million Gallons*

A review of relative dry-day demands among the affected agencies produce a study period average of 90.9 gallons per capita. This average dry-weather day per capita total is bookended by a period low of 71.6 gallons within LGVSD to a period high of 227.0 gallons within CMSA; a difference of 217.0%.

Relative daily dry-weather demands during the study period based on per capita totals among the affected service areas produce an average of 90 gallons. CMSA finished with the highest per capita demand at 227 gallons and generated from its two stand-alone flow sources: SQVSMD and the State Prison



Amounts Shown in Gallons

2.3 Overall Wet Weather Day Demands

The combined average annual demand during wet weather months during this study period within the seven affected agencies totals 3.3 billion gallons. This average amount, which serves as one of three standard micro overview of system demands and typically occurs during the months of November through April, is equivalent to a daily average flow of 18.1 million gallons. This latter amount represents a daily increase of 3.5 million gallons – or (23.9%) – compared to the overall average day flows during the study period.

> Overall average wet-weather wastewater flows generated within the seven affected agencies' service areas during the study period and generally between the months of November and April tallied 3.3 billion gallons or 18.1 million gallons daily; the latter representing an increase of increase of 3.5 million gallons per day compared to overall average day flows.

Study period trends show average wet-weather amount experienced a sizable decrease over the corresponding 60-months of nearly one-fifth or (20.5%) from 4.1 billion gallons in 2010 to 3.3 billion gallons in 2014. A similar sizable reduction is also shown in overall daily per capita usage among the affected agencies within wet-weather periods with combined demands decreasing by (22.4%) from 185.8 in 2010 to 144.1 gallons in 2014.

Average wet-weather demands generated between April and November during the study period and within all seven affected agencies' service areas have decreased by (21%).

Overall average daily wet-weather wastewater system demands among individual agencies during the study period ranged from a low of 0.94 million gallons for CMSA (SQVSMD and San Quentin State Prison) to a high of 7.120 million gallons within RVSD. Additionally, all of the agencies experienced a decrease in annual system flows during the study period of no less than (20.49%). Markedly, all seven affected agencies faced a significant decrease in wet-weather flows for the year of 2013, with the exception of RVSD which actually experienced a substantial increase.

All of the affected agencies experienced decreases in annual wet-weather flows over the study period with substantial declines seen in 2013.

Wastewater Demands | Wet Weather Day Averages
Table 3.10 | Marin LAFCO

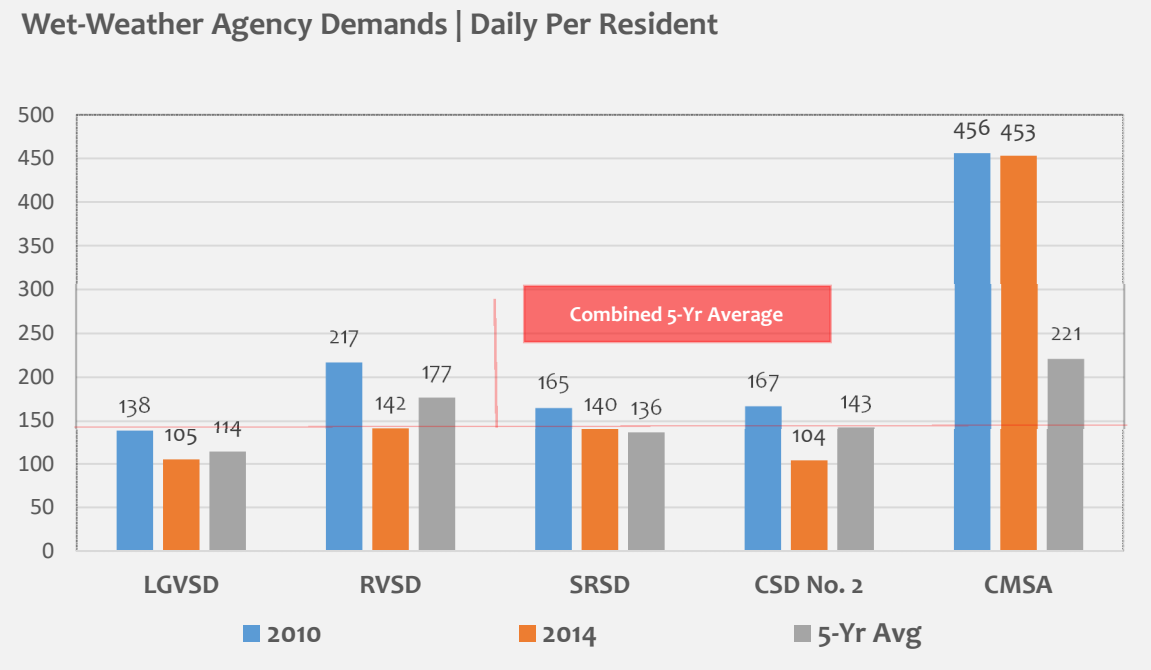
Agency	2010	2014 -Baseline-	Average	Overall Trend
LGVSD	3.900	2.990	3.222	(23.29%)
RVSD (w/MPSMD)	8.600	5.800	7.120	(32.56%)
SRSD	6.500	5.700	5.420	(12.31%)
CSD No. 2	1.630	1.550	1.396	(4.91%)
CMSA (SQVSMD and State Prison)	1.870	1.850	1.180	(1.07%)
TOTALS	**22.500**	**17.890**	**18.338**	**(20.49%)**

** Amounts Shown in Million Gallons*

A review of relative wet-day demands among the affected agencies produce a study period average of 148.1 gallons. This average total is bookended by a period low of 87.0 gallons per capita within LGVSD to a period high of

Relative daily wet-weather demands during the study period based on per capita totals among the affected service areas produce an average of 148 gallons. CMSA finished with the highest per capita demand at 456 gallons and generated from its two stand-alone flow sources: SQVSMD and the State Prison

456.4 gallons per capita within CMSA; a difference of 425%.



2.4 Overall Peak-Day Demands

The combined average peak-day wastewater system demand produced during this study period within the seven affected agencies totals 101.5 million gallons. (Said differently, should the seven service areas all generate their average peak-day demand at the same time it would equal 101.5 million gallons.) This average amount, which serves as one of three standard micro overview of system demands and typically occurs in January or February, produces a peaking-factor relative to dry-weather day averages of 9.2.

Overall average peak-day wastewater flows generated within the seven affected agencies' service areas during the study period tallied 101.5 million gallons. This amount generates a peaking-factor of 9.2.

Study period trends show average peak-day amount experienced a moderate increase over the corresponding 60-months of 8.5% with totals rising from 103.2 million gallons in 2010 to 111.7 million gallons in 2014. A similar increase is also shown in overall daily per capita usage among the affected agencies during peak-day periods with combined demands increasing by 5.8% from 852.0 gallons in 2010 to 901.7 gallons in 2014.

Average peak-day demands generated during the study period and within all seven affected agencies' service areas have collectively increased by 9%.

Overall average daily peak-day wastewater system demands among individual agencies during the study period ranged from a low of 5.920 million gallons for CSD No. 2 to a high of 45.700 million gallons within RVSD; a range difference of nearly eight-fold. Additionally, all of the agencies with the exception of RVSD experienced an increase in peak-day system flows during the study period ranging between a low of 25.5% within LGVSD and a high of 101.4% within CMSA. Markedly, and irrespective of the preceding statement, all seven affected agencies with the exception of RVSD faced a significant decrease in peak-day flows for the year of 2013.

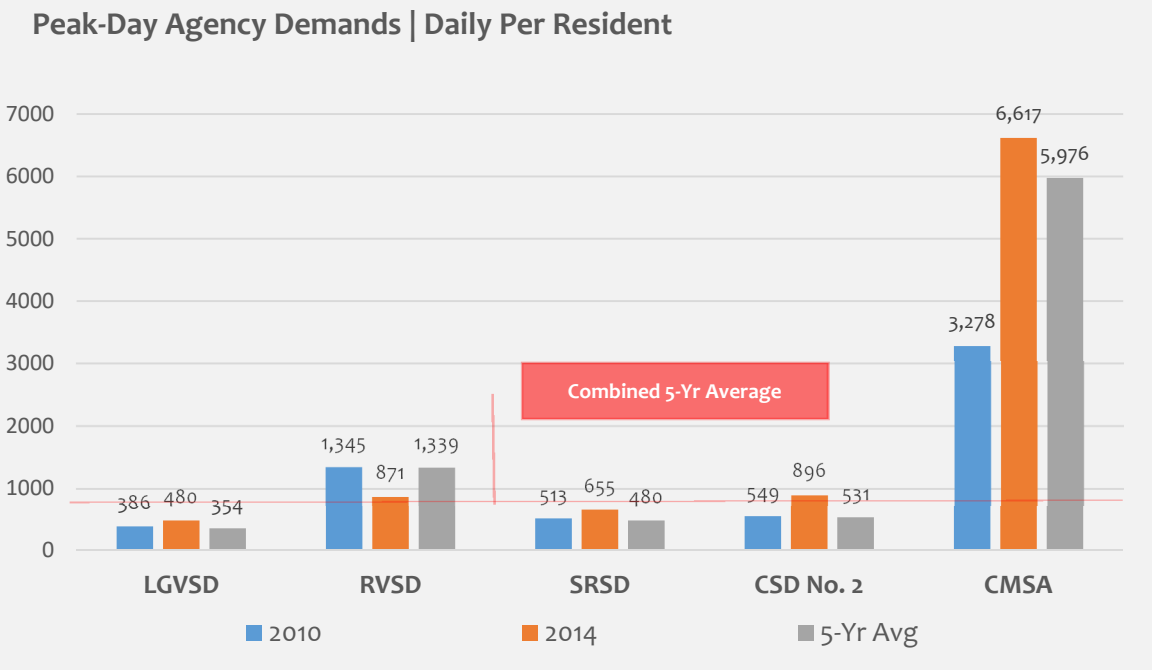
Peak-day demands for most of the agencies increased during the study period. Only RVSD experienced an overall decrease in peak-day demands during the study period at (33%).

Wastewater Demands | Peak Day Averages
Table 3.11 | Marin LAFCO

Agency	2010	2014 -Baseline-	Average	Overall Trend
LGVSD	10.890	13.670	10.002	25.53%
RVSD (w/MPSMD)	53.300	35.700	45.700	(33.02%)
SRSD	20.200	26.700	19.140	43.70%
CSD No. 2	5.370	8.850	5.192	37.03%
CMSA (SQVSMD and State Prison)	13.430	27.050	24.448	101.41%
TOTALS	**103.190**	**111.970**	**104.482**	**8.51%**

A review of relative peak-day demands based on per capita produce a study period average among the affected agencies of 855.2 gallons. This average total is bookended by a period low of 354.4 gallons per capita within LGVSD to a period high of 5,975.9 gallons per capita within CMSA.

Relative peak-day demands during the study period among the affected service areas produce an average of 855 gallons per capita.



3.0 AGENCY FINANCES

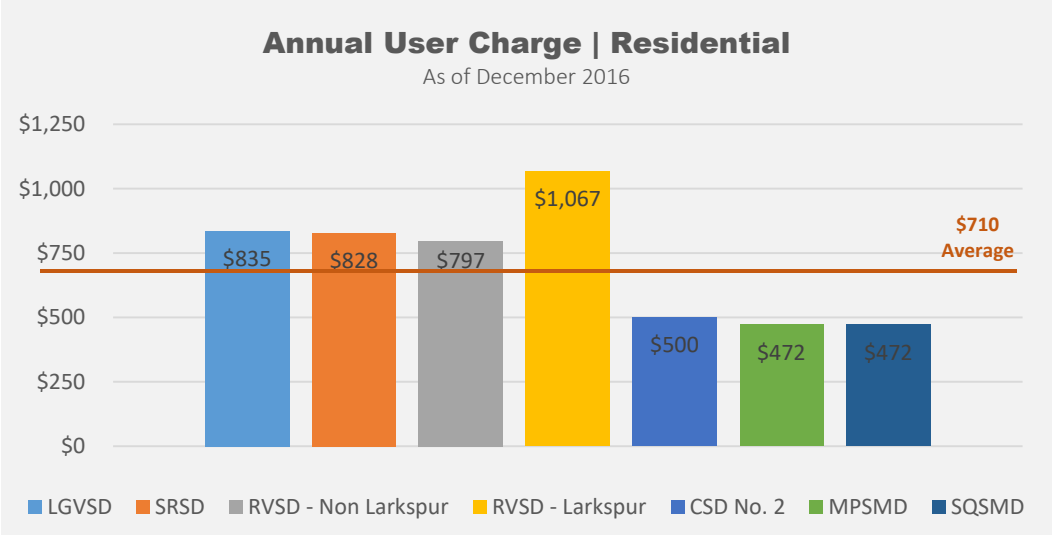
3.1 Direct Costs to Customers / User Charges and Connection Fees

The average annual residential charge among the six public wastewater services in the region directly subject to the Commission currently totals $710.

All six affected agencies directly subject to the Commission's regulatory oversight providing retail public wastewater services in the Central Marin region largely rely on annual user charges to fund day-to-day operations. This includes for CMSA members (SRSD, RVSD, CSD No. 2, MPSMD, and SQVSMD) blending rates to account for contracted treatment costs. All of the agencies distinguish between residential and non-residential accounts. Residential accounts – which make up no less than 89% of any one agency's total as of the term of the study period – are collected by each agency on the property tax roll and in the format of a flat per unit charge with some distinctions made for multi-family structures. One agency – RVSD – maintains two distinct fee zones and divided between Larkspur and non-Larkspur ratepayers.

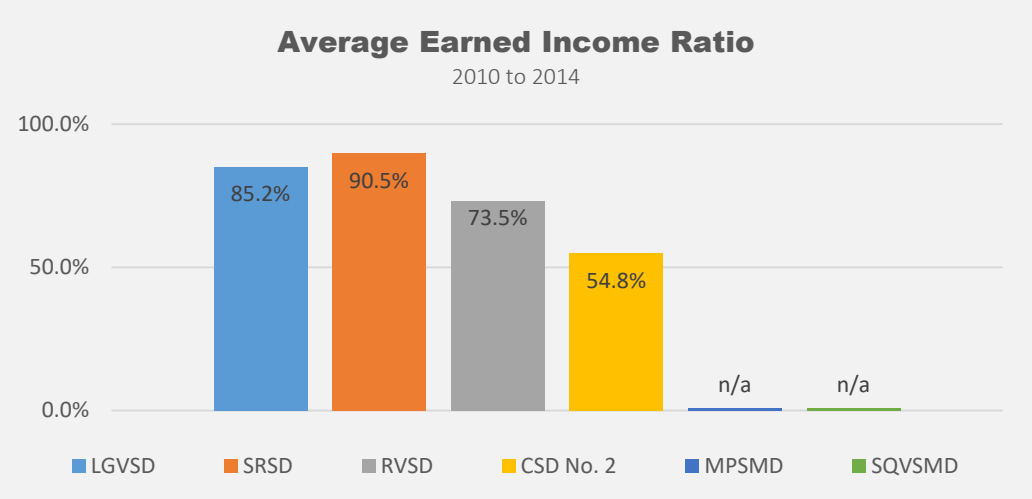
None of the six affected agencies have established supplemental charges or fees, such as special assessments, specific to funding wastewater related activities.

The current average annual residential charge among the six affected agencies totals $710 or $59 monthly. Individual residential user charges range in annual scope from a low user charge of $472 within both MPSMD and SQVSMD to a high user charge of $1,067 for RVSD (Larkspur); a range difference of 126%. Annual user charges for residential ratepayers among the agencies follows.



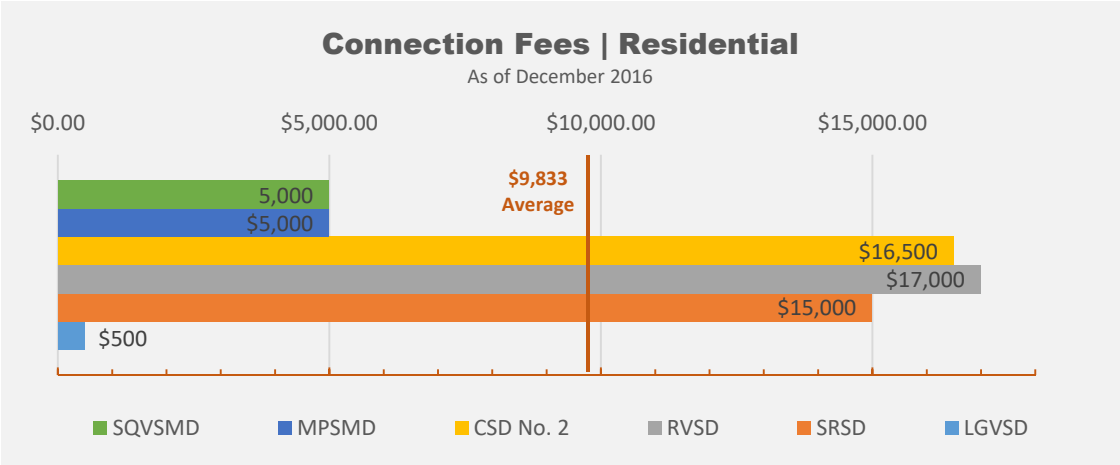
In terms of proportional significance and based on available information the average user fees and related service charges collected by the affected agencies directly subject to the Commission over the course of the study period have accounted for 76.0% of all earned income; i.e., $0.76 cents of every $1.00 dollar of collected income was directly tied to a deliverable service. (This amount excludes fess and changes collected by MPSMD and SQVSMD given this information is not available as of date.) Average earned income ratios among individual agencies generated during the study period ranged from a low of 54.8% by CSD No. 2 to a high of 90.5% by SRSD; a range difference of nearly two-thirds.

The average earned income ratio among the agencies directly subject to the Commission over the study period tallied 76%. (MPSMD and SQVSMD are not included.)



The average residential connection fee among the six public wastewater services in the region directly subject to the Commission totals $9,833.

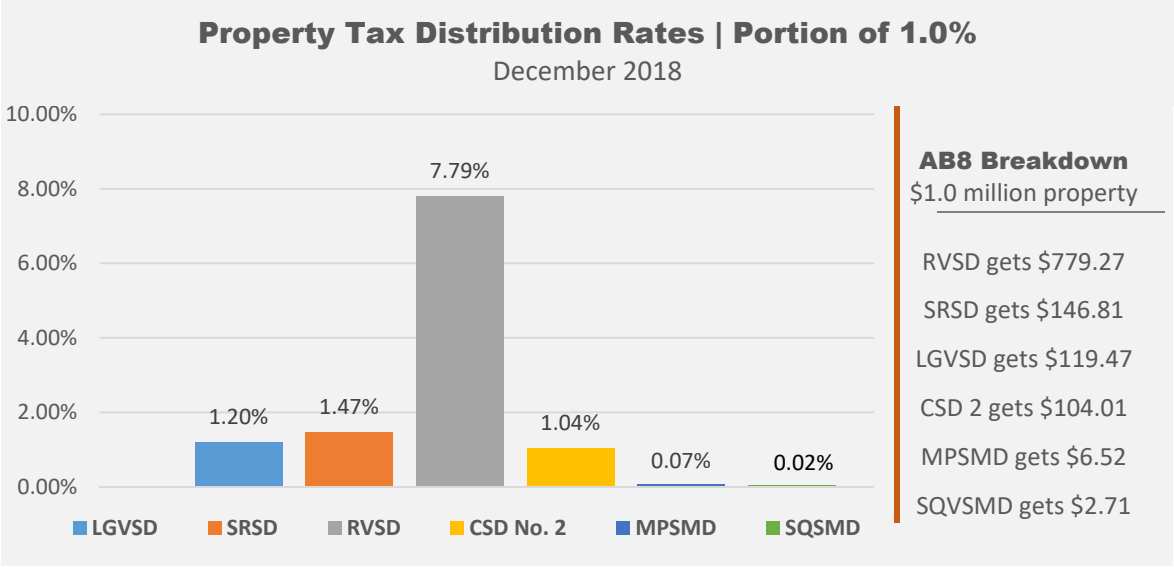
Connection fees serve as the "buy-in" charge for new customers and directly go towards funding non-operational activities and most notably capital improvements, such as sewer main replacements and treatment facility upgrades. All six affected agencies directly subject to the Commission that provide retail wastewater services in the Central Marin region have established connection fees that distinguish between residential and non-residential users. The affected agencies also similarly calculate residential connection fees based on the number of living units and associated loading (i.e., flow demand) projections with some variances as it relates to accommodating multi-family structures as well as affordable housing developments. The current average residential connection fee among the six affected agencies totals $9,833 and bookend from a low of $500 within LGVSD to a high of $17,000 within RVSD; a range difference of over 3,300%.



3.2 Indirect Costs to Customers / Property Taxes

All six affected agencies directly subject to the Commission in providing wastewater services in the region receive a portion of property taxes. Average distribution rate is 1.9% of the 1.0% annually collected.

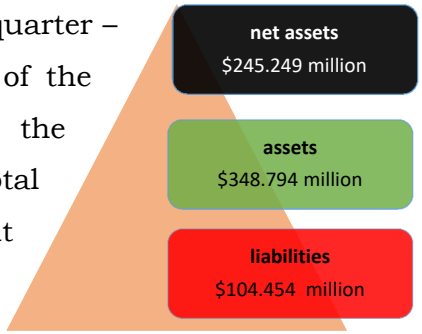
All six affected agencies directly subject the Commission's regulatory oversight providing retail public wastewater services in the Central Marin region receive a portion of property tax generated from landowners within their respective jurisdictional boundaries. Revenues generated from property taxes are used as general purpose income with no statutory restrictions. The average property tax distribution rate among the six affected agencies – which is a stagnant portion of the overall 1.0% levied and collected on all real property (land and improvements) as provided under Proposition 13 (Assembly Bill 8) – is 1.93%. Significant discrepancies, however, exist with respect to individual agency shares of the 1.0% of property tax collected within the six affected agencies boundaries. Most notably, RVSD receives the highest property tax distribution rate at 7.79% and is more than four times greater than the next highest of 1.47% by SRSD. The lowest property tax distribution rate is SQVSMD at 0.03%.



3.3 Net Assets / Unrestricted Fund Balances

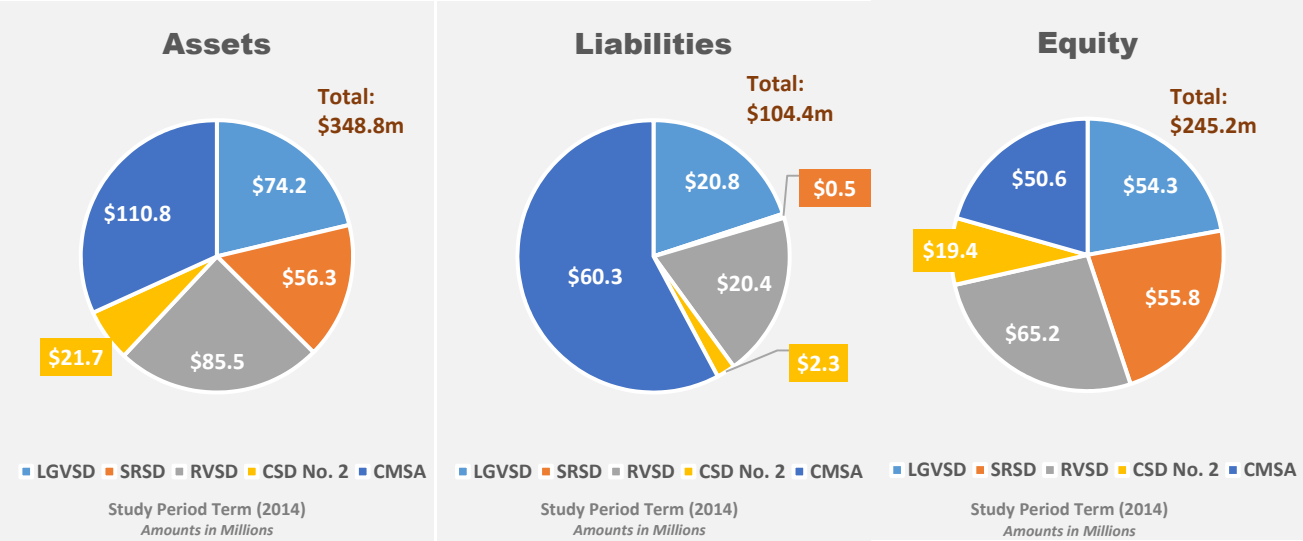
Overall five of the seven affected agencies providing retail public wastewater services in the Central Marin region and included in this report have produced audited financial statements covering the study period. The two exceptions involve MPSMD and SQVSMD. Accordingly, all references to "affected agencies" in this section shall mean only LGVSD, SRSD, RVSD, CSD No. 2, and CMSA.

Overall the affected agencies finished the study period with a combined net asset or equity total of $245.249 million. Slightly more than one-quarter – or 27% – of this amount has been categorized as part of the agencies' unrestricted fund balances. Trends covering the preceding 48-month period show the collective net asset total among the agencies having increased by 13%; an amount that translates to an annual rate of 3.25%.[30] This annual average increase is more than one-half greater than the corresponding inflation rate for the San Francisco Bay Region as determined by the



[30] Audited statements covering FY2010 were not readily available for review and as such the referenced data reflects net assets between FY11 and FY14.

Department of Labor.[31] Three of the agencies – RVSD, SRSD, and LGVSD - experienced significant gains in their overall financial standing by no less than 24% as measured by total net assets or equity during the course of the preceding 48-month period. The remaining agencies – CSD No. 2 and CMSA – have experienced relatively minor decreases in their total net assets over the same period in the amounts of (5%) and (1%), respectively. Collective totals among the affected agencies at the end of the study period with respect to assets, liabilities, and net assets follow.

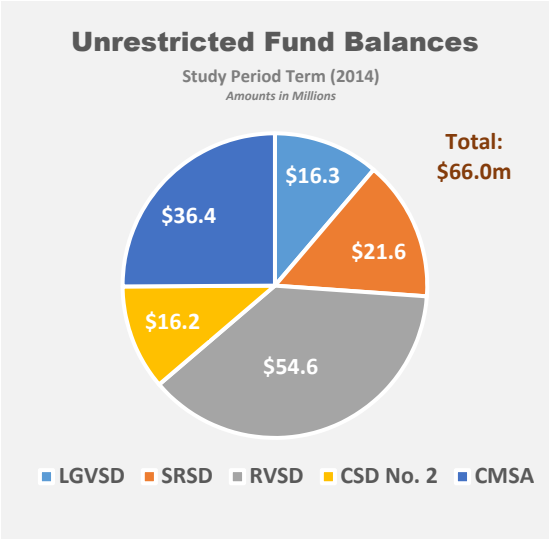


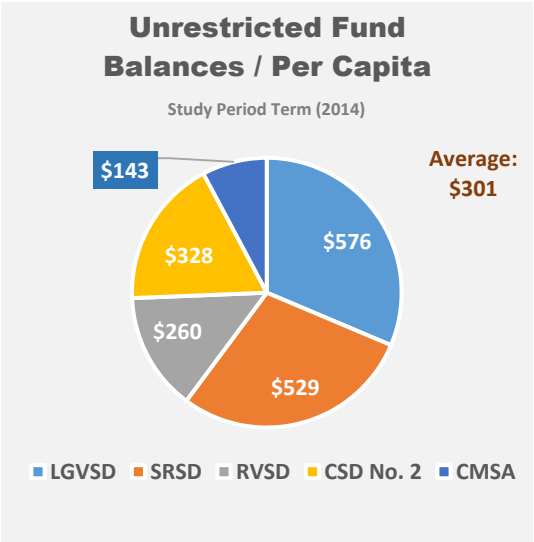
Overall unrestricted fund balances for the affected agencies at the end of the study term tallies $66.0 million and produces a corresponding per capita ratio of $300.95. The overall amount in unrestricted fund balances has increased over the preceding 48-month period among the affected agencies by nearly two-thirds or 65%.[32] LGVSD has experienced the largest percentage increase in unrestricted fund balances at 132% followed in order by RVSD at 94%, SRSD at 78%, CMSA at 23%, and CSD No. 2 at (16%).

Overall unrestricted fund balances for the affected agencies collectively tallies $66.0 million and represents a per capita share of $301.

[31] The average annual inflation index for the San Francisco Bay Area Region between FY11 to FY14 tallied 2.04%.

[32] The overall percentage change tracks net assets from 2011 to 2014. Audited statements for 2010 were not readily available for two of the five agencies, SRSD and CMSD.

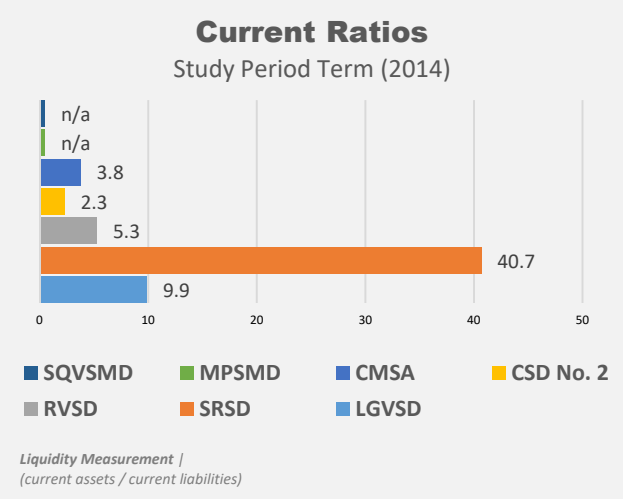


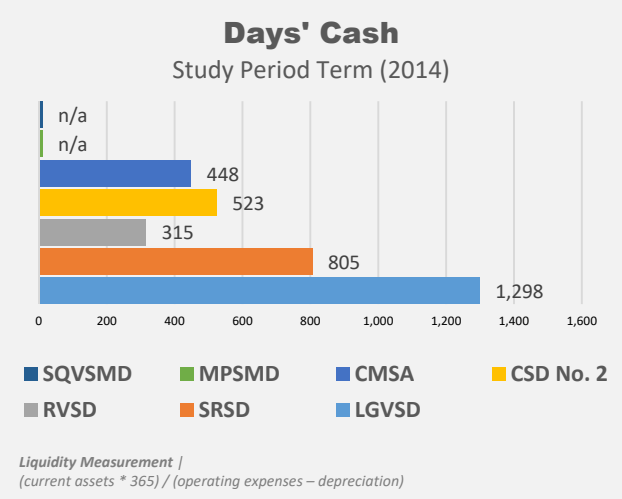


3.4 Liquidity, Capital, and Profitability

A review of the financial statements issued by the five of the seven affected agencies providing wastewater services in the Central Marin – and excluding the aforementioned MPSMD and SQVSMD – through the study period generally shows relatively strong ending positions with respect to liquidity and the ability to address short-term obligations. This includes noting all of the affected agencies finished the study period with no less than 315 days' cash on hand to cover budgeted operating expenses less depreciation and highlighted with LGVSD finishing the term at 1,298. The combined average days' cash among the five agencies totaled 678 and sufficient to cover over 22 months of operations. Current ratios – i.e., the amount of available cash and cash equivalents to cover immediate obligations due also finished in the positive for all of the agencies with a combine average of 12 to 1 and bookend by CSD No. 2 at 2 to 1 and SRSD at 41 to 1.

All of the affected agencies finished the study period with no less than 315 days' cash on hand.

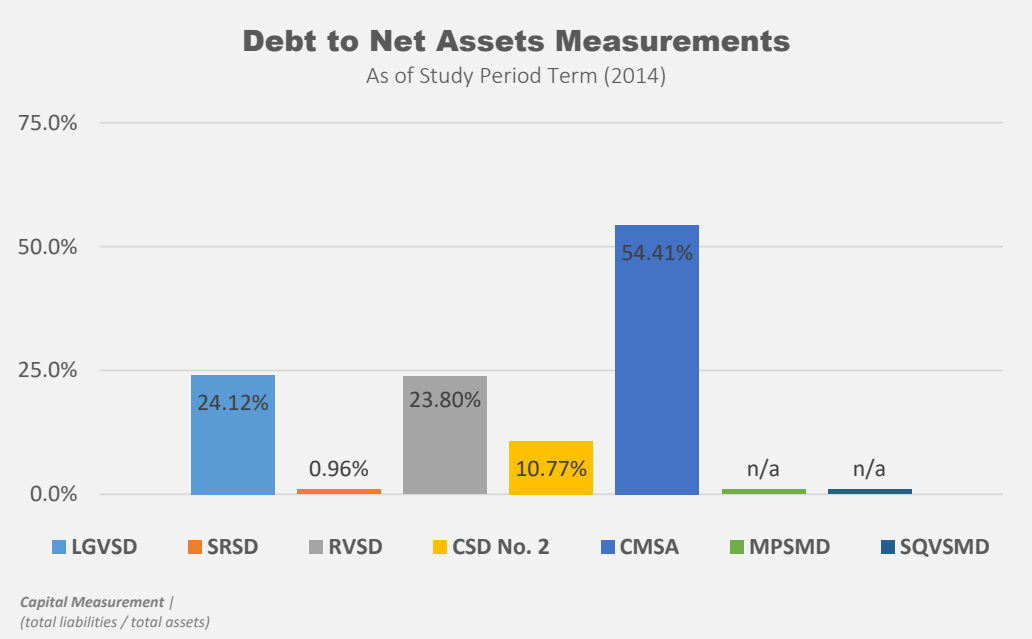




All of the affected agencies finished the study period with no more than 54% of long-term debt relative to overall equity as of the term of the study period.

All of the affected agencies finished the study period with relatively good to strong capital standing as measured by their debt-to-net assets calculation. (This excludes MPSMD and SQVSMD for aforementioned reasons.) This measurement – which matches up long-term debt as a percentage relative to overall equity – produces a shared tally among the affected agencies as of the study term equaling 22.8%. This shared amount represents a slight increase in the collective tally of long-term indebtedness by 6.0% over the preceding 48-month period.[33] SRSD finished the study period with lowest tally among the affected agencies and demarking the entity with the least amount of relative long-term debt at 1.0%. This measurement is more than 10 times less than the next lowest tally at 10.8% by CSD No. 2. CMSA finished the study period with the highest measurement of long-term debt at 54.4%

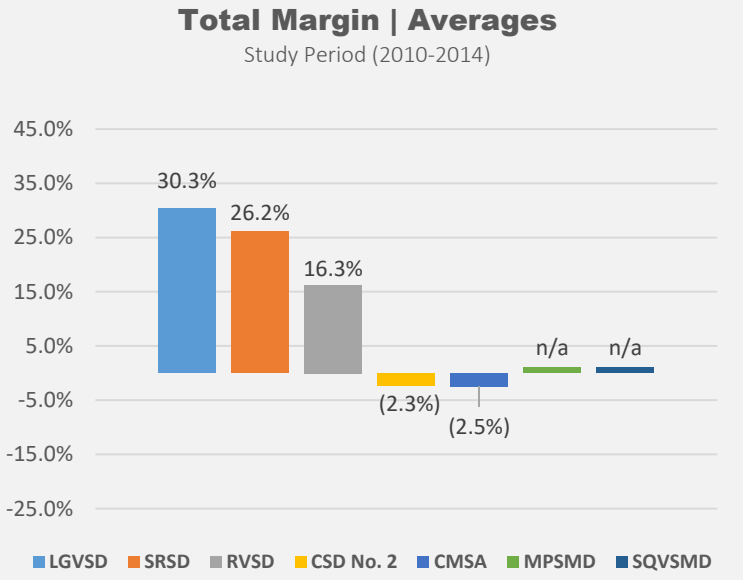
[33] The overall percentage change tracks net assets from 2011 to 2014. Audited statements for 2010 were not readily available for two of the five agencies, SRSD and CMSD.



Year-end profit levels among the affected agencies as measured by total margin – the net difference between all revenues less all expenses – largely stayed positive with a combined study period average tallying 13.58%.[34] The average is bookended among the affected agencies by a low of (2.50%) by CMSA and a high of 30.30% by LGVSD. The referenced average in total margin, however, has been declining over the study period among all of the affected agencies and producing a collective and downward trend of (135.88%). The combined operating margin – the net difference of normal and reoccurring revenues versus expenses tied to service provision – also stayed largely positive among the affected agencies, albeit at generally lower profit rates. Operating margins also showed more and divergent variance among the affected agencies with a combined tallying of (3.18%). This average is bookended among the affected agencies by a low of (65.36%) by CSD No. 2 and a high of 26.72% by LGVSD with an overall and shared study period change of (14.36%).

Profit levels among the affected agencies over the study period have varied with one constant: the combined average trend during the study period in both total and operating margins experienced sizable decreases.

[34] Analysis incorporates a four-year period for CSD No. 2 and SRSD given audited statements for FY 2010 were not available for review as of date.



Agency Trends
Study Period (2010-2014)

CSD No. 2 @ (400.6%)

CMSA @ (244.4%)

RVSD @ (12.9%)

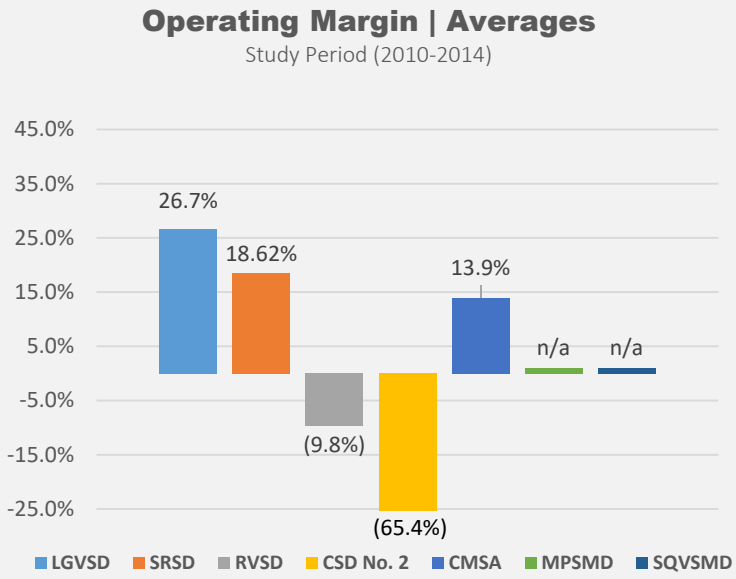
LGVSD @ (10.9%)

SRSD @ (10.9%)

MPSMD @ n/a

SQVSMD @ n/a

Profit Measurement *|*
(all revenue – all expenses) / (all revenue)



Agency Trends
Study Period (2010-2014)

CMSA @ (88.1%)

SRSD @ (20.4%)

LGVSD @ 1.1%

CSD NO. 2 @ 10.8%

RVSD @ 24.5%

MPSMD @ n/a

SQVSMD @ n/a

Profit Measurement *|*
(operating revenue – operating expenses) / (operating revenue)

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A. LAS GALLINAS VALLEY SANITARY DISTRICT

1.0 OVERVIEW

Las Gallinas Valley Sanitary District (LGVSD) was formed in 1954 and encompasses an approximate 9.4 square mile jurisdictional boundary within east-central Marin County.[1] Governance is provided by an independent five-member Board of Directors whose members are elected at-large to staggered four-year terms. Three local land use authorities overlap LGVSD's jurisdictional boundary. The County of Marin is the single largest land use authority in terms of acreage with an estimated 63% of all LGVSD's lands lying within the unincorporated area and marked by the unincorporated communities of Marinwood and Santa Venetia. Another 36% of the jurisdictional boundary falls under the land use jurisdiction of the City of San Rafael and generally encompasses the Terra Linda area.[2] The remainder of the jurisdictional boundary – 1% of the total – extends into the City of Novato and specific to the Marin Valley Mobile Home Park and an adjacent open-space property. LGVSD lies within two adjacent watersheds, Miller Creek and Gallinas Creek.

Marinwood Shopping Center

Courtesy / Marinwood Real Estate

LGVSD is currently organized as a limited-purpose agency with municipal operations restricted to wastewater, recycled water, and solid-waste collection. It is also empowered – subject to LAFCO approval – to provide storm drainage services. Wastewater services are provided through LGVSD's own approximate 112-mile collection system that conveys wastewater to the District's own treatment facility before discharge into Miller Creek or used for beneficial purposes through a recycled water program.[3] LGVSD's adopted operating budget at the term of the study period was $5.347 million and with funding dedicated for the equivalent of 24 fulltime employees. The unrestricted fund balance was $18.263 million with an associated days-cash ratio totaling 1,298; i.e., the amount of

[1] The jurisdictional-boundary estimates are based on digital mapping records maintained by Marin LAFCO.
[2] The City of San Rafael includes 65% of all existing residential units within LGVSD.
[3] LGVSD's biosolids are stored temporarily in lagoons and later disposed of at LGVSD's dedicated land disposal site, a process known as surface disposal.

cash on hand to cover operating expenses based on 2013-2014 actuals.

Las Gallinas Valley Sanitary District	
Formation Date:	1954
Principal Act:	Health and Safety Sections 6400-6982
Service Categories:	Wastewater Recycled Water Solid Waste Collection
Service Population	28,475
Governance Type	Independent

The Commission independently estimates the resident service population within LGVSD totals 28,475 as of the term of the study period (2014). It is also projected LGVSD's population growth rate over the five-year study period totals 0.92% or 0.19% annually with the underlying change primarily attributed to the estimated increase of 263 new and occupied housing units that – and among other items – absorbed a corresponding projected deintensification of household sizes. The substantive result of these Commission estimates is the projected addition of 261 residents in LGVSD between 2010 and 2014. Overall it is also estimated nearly 65% of the jurisdictional boundary has already been developed and/or improved – though not necessarily at the highest density. Consequently, it is estimated 34% of the jurisdictional boundary remains entirely undeveloped, and this includes 151 existing unbuilt and privately owned parcels that are zoned for some type of urban use.[4]

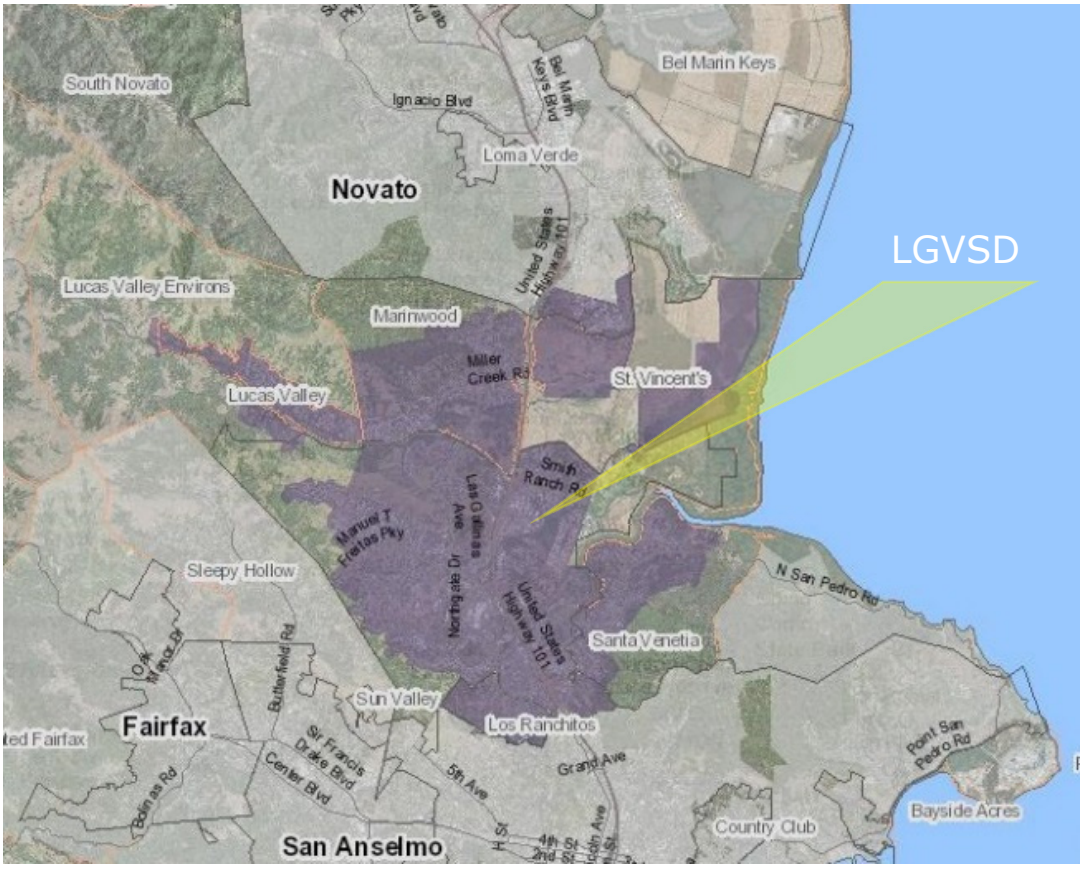
2.0 BACKGROUND

2.1 Community Development

Records show the modern day development of the LGVSD service area began in the form of cattle ranching in the 1840s with the first formal homestead established as a result of a Mexican land grant to Timothy Murphy, one of Marin County's first western settlers. The grant included three distinct ranchos - "San Pedro", "Santa Margarita" and "Las Gallinas" - totaling over 21,000 acres and spanned east to west from present-day Point San Pedro to Big Rock Ridge in Lucas Valley. The majority of lands within Las Gallinas Valley were kept in cattle ranching through the time of Murphy's death in the early 1850s. Murphy's death and subsequent decision to leave most of the lands to his nephew

[4] Additional analysis is needed to assess the actual development potential of these 151 unbuilt lots.

John Lucas proved pertinent in the gradual transition of the community towards more varied uses. Records show it was Lucas that began dividing and selling lots to outside parties, and as such began a slow process to intensify the lands to include more residential and supporting commercial uses. This included selling a large lot to the immigrant Portuguese Manuel T. Freitas whose family established a homestead in what is now present-day Terra Linda.[5] Markedly, Santa Venetia – which ultimately served as LGVSD's initial service area several decades later – was built on a marshland filled in the 1910s and originally envisioned as a planned luxury development after Venice, Italy set with canals and an artificial lake. The Great Depression ended these plans from real estate developer Mabry McMahan and the area remained largely undeveloped through the first half of the 20th Century.



[5] Historical archives show a portion of the Terra Linda territory was originally operated as a dairy farm, and is now the site of St. Isabella's Catholic Church and School. Two gold mines were also operated in the hillside of Santa Venetia between 1884 and 1889 on North San Pedro Road, with heavy logging in the area for the lumber mills located throughout the county to supply wood for the nearby development of San Francisco.

As in the case for many areas of California, the end of World War II generated significant growth pressures outside of existing urban centers, and in Marin County this resulted in the development of several unincorporated fringe communities immediately north of San Rafael in the Las Gallinas Valley. Santa Venetia was the first of these communities to be systematically developed with several subdivisions – and utilizing the subdivision map first penned decades earlier by Mabry McMahan – getting constructed by the late 1940s and early 1950s. The intensity of Santa Venetia's development, however, proved taxing to the underlying soils with the County beginning to suspend additional new construction approvals in lieu of establishing a community wastewater system.

2.2 Formation Proceedings

LGVSD's formation was petitioned by area landowners and ultimately approved in 1954 by way of the County of Marin's Boundary Change Commission and upon a successful vote. Formation proceedings, notably, appear premised on the desire of area landowners to remain independent of nearby San Rafael and its surrogate wastewater provider, San Rafael Sanitation District, which had been formed only a few years earlier in 1947.

2.3 Post-Formation Activities

A summary of notable activities undertaken by LGVSD and/or affecting the District's service area following formation in 1954 is provided below.

- LGVSD completed construction on its first wastewater treatment facility in 1955. Major expansions were completed in 1958, 1972, and most recently in 1984.
- From 1955 to 1965, architect Joseph Eichler, known for his contemporary-styled homes, built roughly 900 single-family residences in Terra Linda and Marinwood.
- By 1962, Northgate Industrial Park was under development and Northgate Mall began construction in 1963.
- By 1972, the unincorporated area of Terra Linda was annexed to the City of San Rafael and much of its development was complete as well as the other communities in LGVSD's service area. New growth thereafter shifted primarily to the east of U.S Highway 101.

- In 1982, the City of San Rafael adopted the Northgate Activity Center Plan to identify more detailed land uses for vacant sites in the area, as well as needed circulation improvement.

- In 1985, LGVSD purchased and developed 383 acres of land for wastewater disposal adjacent to its wastewater treatment facility.

- In 1989, LGVSD entered into an agreement with Marin Municipal Water District (MMWD) to provide reclaimed water supplies for landscape irrigation and other uses within LGVSD's boundary.

- In 2004, LGVSD installed an 81-kilowatt photovoltaic system to provide green power for its reclamation area.

- In 2006, LGVSD installed an 850,000 kwh/year photovoltaic system to power its treatment plant facilities with green power.

- In 2011, LGVSD entered into an agreement with North Marin Water District (NMWD) to provide fully treated recycled water supplies for distribution in the Novato and surrounding communities.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

LGVSD's jurisdictional boundary spans approximately 9.4 square miles in size and covers 6,026 total acres (parcels and right-of-ways). There are three land use authorities overlapping the jurisdictional boundary. The County of Marin is the single largest land use authority in terms of acreage with an estimated 63% of all LGVSD's lying within the unincorporated area and paced by the unincorporated communities of Santa Venetia and Marinwood. Another 36% of the jurisdictional boundary falls under the land use jurisdiction of the City of San Rafael and generally encompasses the City's Terra Linda area. (San Rafael conversely includes 65% of all existing residential units within LGVSD.) The remaining 1% of the

LGVSD's jurisdictional boundary spans 9.4 square miles and overlaps three land use authorities with the County of Marin being the largest with the unincorporated area covering 63% of all District lands.

jurisdictional boundary falls under the land use authority of the City of Novato and specific to the Marin Valley Mobile Home Park and an adjacent open-space property.

Total assessed value (land and structure) within LGVSD is calculated at $5.8 billion and translates to a per acre value ratio of $962,020. This former amount – $5.8 billion – further represents a per capita value of $0.203 million based on the estimated service population of 28,475. LGVSD's set annual allocation of – i.e., its share of the 1% of property tax proceeds – is 1.195%.

Assessed land values in LGVSD totals $5.8 billion, and based on receiving 1.195% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $0.693 million.

LGVSD Boundary Breakdown: Land Use Authorities
Table 4.1| Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	2,622	62.1%	4,269	4,256
San Rafael	1,542	36.5%	6,152	7,790
Novato	58	1.4%	22	19
	4,222	**100**	**10,443**	**12,065**

As provided in the preceding table there are overall 10,443 assessor parcels currently within LGVSD and collectively add up to 4,222 acres as of June 2016.[6] Close to two-thirds – or 65% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density. This existing development is highlighted by the standing construction of 12,065 residential units and divided between single-family and multi-family on a 78.4% to 21.6% split.[7] The remaining one-third – or 34% – of the current assessor parcel acreage within LGVSD is undeveloped/unimproved. This includes 151 un-built and privately owned assessor parcels that combine to total 197 acres.[8] (Additional analysis is needed to assess the

Almost two-thirds of LGVSD's jurisdictional boundary has already been developed/improved – though not necessarily at the highest allowable density. This means one-third of the boundary remains entirely undeveloped, and this includes 151 un-built and privately owned parcels zoned for some type of urban use.

[6] The remaining 1,805 jurisdictional acreage within LGVSD are tied to public right-of-ways and waterways.
[7] Residential unit total is based on by digital mapping records maintained by the County of Marin Assessor's Office
[8] Existing zoning divides the 151 un-built assessor parcels in LGVSD between residential (118), commercial (27) and

actual development potential of these unbuilt parcels.) The remaining undeveloped/unimproved assessor acreage within LGVSD – or 1,280 acres – is publicly owned and generally dedicated to municipal or open space uses.

LGVSD Boundary Breakdown: Land Use Features
Table 4.2 | Source: Marin LAFCO

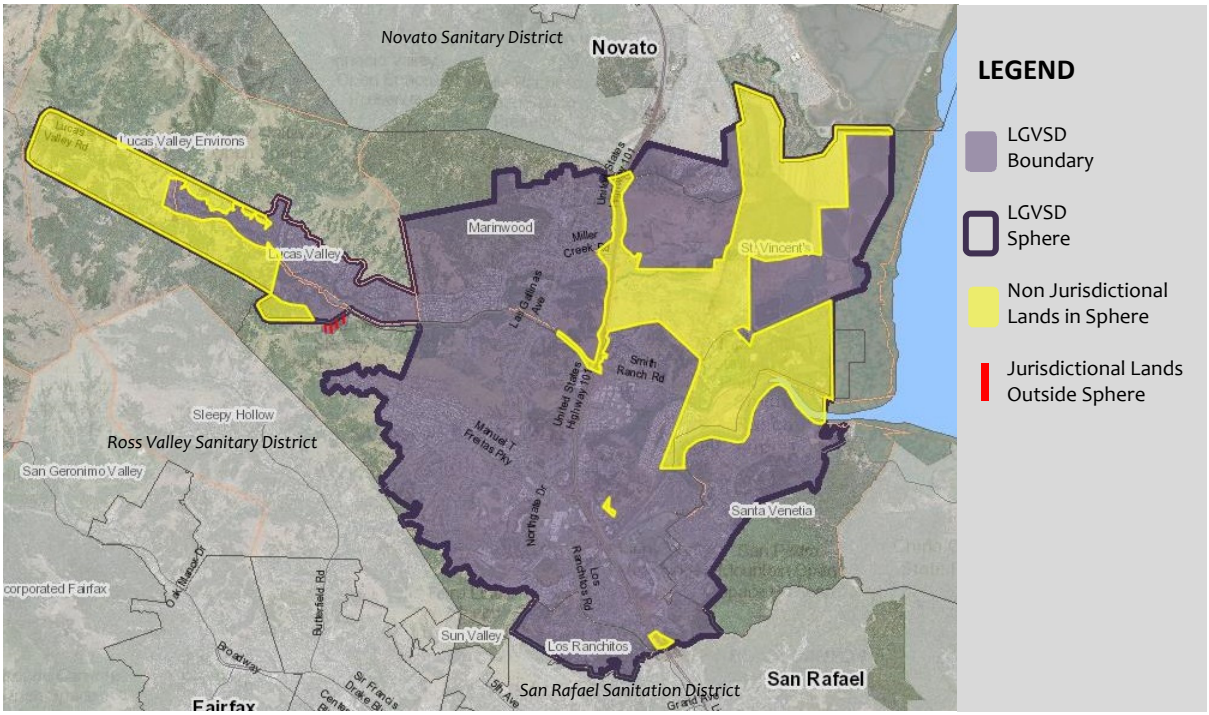
% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
65.4	12,065	77.3	151	197

3.2 Sphere of Influence

LGVSD's sphere of influence was initially established by the Commission in 1985 and last reviewed and updated in 2006. The sphere spans approximately 7,993 acres or 12.5 square miles in size. The sphere is exactly one-third – or 33% – larger than LGVSD's jurisdictional boundary. This includes approximately 1,967 non-jurisdictional total acres (parcels and right-of-ways) in the sphere that are immediately eligible for either annexation or outside service extension subject to Commission approval. Among the total includes 48 assessor parcels that collectively add up to approximately 1,355 acres. Further, and among this latter sum, 29 of the assessor parcels equaling 722 acres are privately owned with the majority within the Lucas Valley and the Silvera/St. Anthony areas.

LGVSD's sphere of influence is one-third larger than the District jurisdictional boundary. This includes 1,967 total acres that are immediately eligible for annexation and or outside service extensions and primarily located within the Lucas Valley and Silvera/St. Anthony areas.

industrial (6).



4.0 DEMOGRAPHICS

4.1 Population and Housing

LGVSD's resident population within its jurisdictional boundary is independently estimated by the Commission at 28,475 as of the term of the study period (2014). This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents 10.9% of the estimated countywide population.[9] It is also projected

LAFCO estimates there are 28,475 total residents within LGVSD that are explicitly served by the District's wastewater collection and treatment system as of the term of the study. It is further estimated LGVSD has experienced an overall population increase of 261 over the preceding five-year period, resulting an in annual growth rate of 0.186%. New and occupied housing units over the same period within LGVSD totaled 263 with a net change in persons per household – i.e., an intensity measurement – of (1.2%).

[9] Marin LAFCO's resident service population for LGVSD is independently calculated and premised on occupied housing driving resident estimates based on data collected within the four affected census tracts in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to LGVSD over the study period include a weighted annual housing unit change of 0.44% and a

LGVSD has experienced an overall growth rate of 0.92% over the preceding five-year period, or 0.186% annually, all of which generated an estimated net add of 261 persons. This projected increase has been generated by the addition of an estimated 263 new and occupied housing units within the jurisdictional boundary and despite a deintensification of household sizes over the span of the five-year period, starting at 2.50 in 2010 and ending at 2.47 in 2014; the latter being a net intensity decrease of (1.2%). Overall projected growth within LGVSD falls well below the concurrent annual change estimated for the entire county – 0.60%.[10]

LGVSD Resident Population: Past and Current Estimates
Table 4.3 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
a) Total Housing Units	11,749	11,801	11,853	11,906	11,959
b) Local Occupancy Rate	96.40	95.8	95.8	94.7	95.9
c) Occupied Housing Units	11,265	11,180	11,353	11,403	11,528
d) Projected Household Size	2.50	2.50	2.49	2.48	2.47
Estimated Population	**28,214**	**27,904**	**28,237**	**28,264**	**28,475**

** rounded for reporting purposes*

With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate within LGVSD will generally match the preceding five-year period with an overall yearly population change of 0.186%. The substantive result of this assumption would be an overall increase in LGVSD's resident population of 531, producing a total population of 29,005 by 2024. This growth rate, similarly, would generate the addition of 134 new and occupied housing units within LGVSD through 2024 assuming the preceding five-year average ratio of 2.49 persons for every one occupied housing unit holds. These collective projections are summarized below.

LGVSD Resident Population: Future Estimates
Table 4.4 | Source: Marin LAFCO

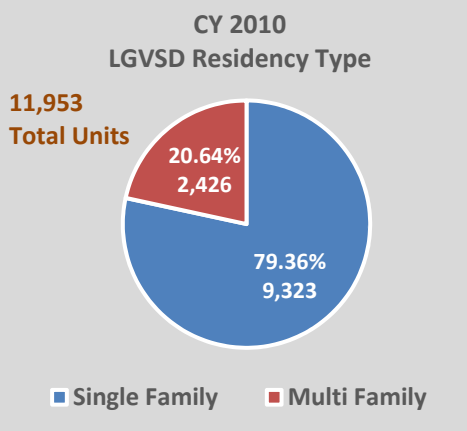
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**28,475**	**28,580**	**28,686**	**28,792**	**28,898**	**29,005**
Occupied Housing Units	11,528	11,490	11,533	11,576	11,619	11,662
- residents per housing unit	2.47	2.49	2.49	2.49	2.49	2.49
	Baseline					

weighted annual household size change of (0.35%). The annual weighted population change is 0.186%.

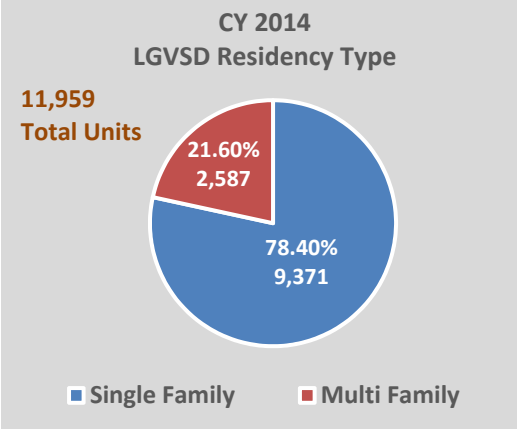
[10] Marin County's estimated population as of January 1, 2014 totaled 260,294 based on information published by the State of California's Department of Finance and marks a 3.12% increase over the preceding five-year period.

4.2 Residency Type

The Commission projects LGVSD's residential unit total (occupied and unoccupied) of 11,959 as of the study term is divided between single family and multi-family use at a 78.4% (9,371) to 21.6% (2,587) split, respectively. These totals produce an estimated ratio of 3.62 single-family units for every 1 multi-family unit. The overall stock of housing type has experienced a significant inversing change with single-family unit totals decreasing by (1.25%) while multi-family unit totals increasing by 4.80% over the corresponding 60-month period. The substantive change in residency type (i.e., single-family to multi-family units) has been (5.77%) from 3.85 to 1 in 2010.



Single Family to Multi Family:
3.85 to 1



Single Family to Multi Family:
3.62 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the LGVSD jurisdictional boundary for the study period indicates fulltime residents are generally in better economic positions compared to countywide averages. This information is drawn from census data collected between 2010 and 2014 that shows area residents' household income, unemployment rate, and poverty rate are at advantageous levels compared to countywide totals. Many of these economic indicators also improved for LGVSD residents over the

LGVSD's fulltime residents are moderately and increasingly more affluent than most of the county populace and highlighted by a median household income average over the study period of $96,602. Also of note there has been relative stability in LGVSD in terms of household tenure with 19% having been in place since the enactment of Proposition 13 in 1979; a ratio that is almost 50% higher than the countywide average.

preceding five-year period, highlighted with the median household income rising by over one-fourth from $75,322 to $96,602. Notable social indictors show LGVSD residents have relatively high levels of formal education with over one-half having at least earned a bachelor degree along with a statistically high percentage of residents – 11% – working at home; the latter of which is five times greater than the countywide average for the same period. LGVSD residents are also relative long-timers to the community with an average 18.60% of occupied households having arrived before Proposition 13 in 1979. This amount exceeds the countywide average of 12.80%.

LGVSD: Resident Trends in Social and Economic Indicators
Table 4.5 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$75,322**	**$96,602**	**28.25%**	**$91,529**
Median Age	45.74	46.16	0.41%	45.10
Prime Working Age (25-64)	51.71%	52.66%	1.84%	55.28%
Unemployment Rate (Labor Force)	3.66%	3.14%	(0.52%)	4.70%
Persons Living Below Poverty Rate	6.72%	7.49%	11.41%	8.80%
Mean Travel to Work	26.6 min	28.6 min	7.66%	29.4 min
Working at Home (Labor Force)	7.26%	11.43%	57.59%	2.50%
Adults with Bachelor Degrees or Higher	51.17%	50.39%	(1.52%)	30.80%
Non English Speaking	23.05%	23.95%	3.91%	23.50%
Householder Pre Proposition 13 (1979)	20.29%	18.60%	(8.34%)	12.80%

* Amounts represent the result of a weighted calculation by estimated population performed by Marin LAFCO taking into proportional account of all four census tracts underlying LGVSD.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

LGVSD's governance authority is established under the Sanitary District Act of 1923 ("principal act") and codified under Public Health and Safety Code Sections 6400-6982. This principal act empowers LGVSD to provide a moderate range of municipal services upon approval by LAFCO. As of date, LGVSD is authorized to provide three municipal services: (a) wastewater (b) recycled water (c) solid waste; collection. All other latent powers enumerated under the principal act would need to be formally activated by LAFCO before LGVSD would be allowed to initiate. Similarly, should it ever seek to divest itself of directly providing its two active services, LGVSD would also need to seek LAFCO approval. A list comparing LGVSD's active and latent powers follows.

Active Service Powers
Wastewater
Recycled Water
Solid Waste; Collection Allowed

Latent Service Powers
Storm Drainage

LGVSD has been governed since its formation in 1954 as an independent special district with registered voters comprising a five-member governing board. Members are either elected or appointed in lieu of a consented election to staggered four-year terms with a rotating president system and receive a $252 meeting per diem. The Board regularly meets on the second and fourth Thursday each month at the LGVSD Administrative Office located at 300 Smith Ranch Road in San Rafael. A current listing of LGVSD Board of Directors along with respective backgrounds and years served with the District follows.

LGVSD Current Board Roster
Table *** | Source: LGVSD

Member	Position	Background	Years on Board
Judy Schriebman	President	Zoologist	9
Russ Greenfield	Vice President	Utility Supervisor	14
Megan Clark	Member	Computer Programmer	15
Rabi Elias	Member	Civil Engineer	3
Craig K. Murray	Member	Housing / Redevelopment	9
		Average Years of Board Experience	**10.0**

5.2 Administration

LGVSD appoints an at-will General Manager to oversee all District operations. The current General Manager – Mark Williams – was appointed by the Board in 2007 and is fulltime. The General Manager presently oversees 20 other full-time employees, which includes four senior management support positions: Administrative Services Manager; Collection System Manager; District Engineer; and Treatment Facility Manager. LGVSD contracts for legal services with Byers/Richardson (San Rafael).

LGVSD Administrative Offices
300 Smith Ranch Road
San Rafael, California 94903

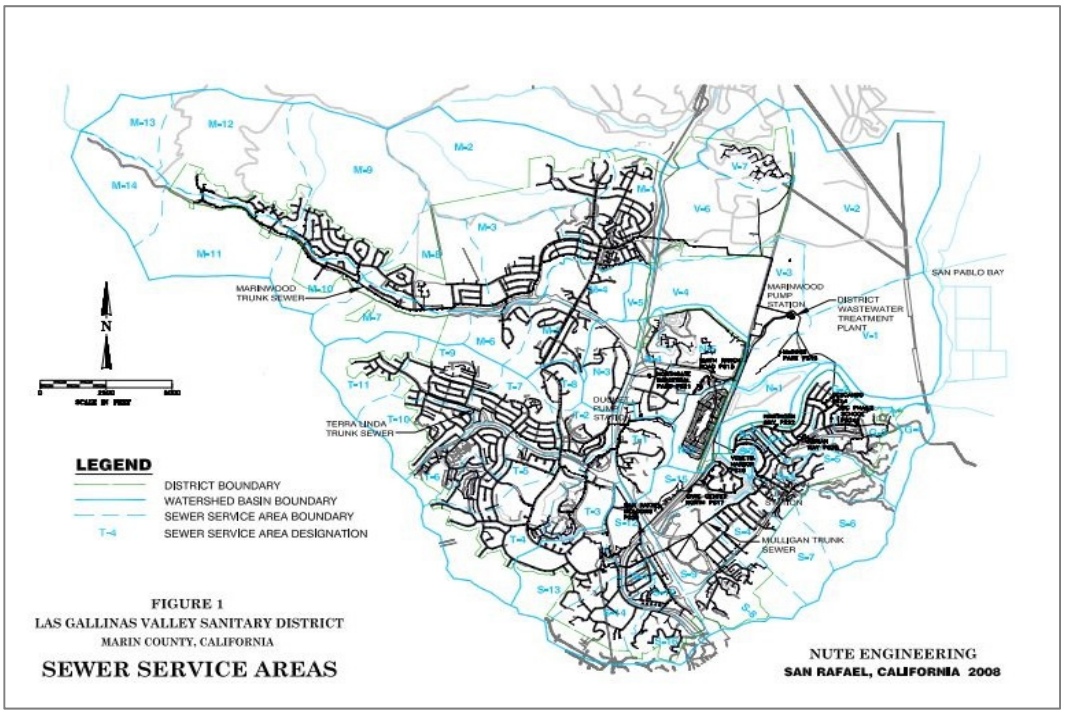
Courtesy: LGVSD

6.0 WASTEWASTER SERVICES

6.1 System Structure

LGVSD provides wastewater collection and treatment services through its own infrastructure supported by an approximate 112-mile collection system with 28 pump stations leading to an advanced secondary-level treatment facility. The collection system is divided between 105 miles of gravity lines and 7 miles of force mains. LGVSD reports the average age of the collection system dates between 40 to 50 years with an expected lifespan of up to 70 years. The treatment facility was initially constructed in 1955 and last substantively upgraded in 2008.[11] Treated effluent is discharged, stored or further processed by LGVSD's recycled water facility. As of the study term LGVSD's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – is 19 years with a (11%) trend over the corresponding 60-month period.[12]

LGVSD's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – as of the study term is 19 years.



[11] The treatment facility upgrade in 2008 was incremental, affecting specific processes. A project completed in 2012 resulted in a major upgrade of Primary clarifiers #2 and #3.
[12] The equipment replacement ratio has been calculated by LAFCO and drawn from LGVSD's 2013-2014 audit.

6.2 Wastewater Demands

Generators | Service Connections and Resident Population

LGVSD reports service to 9,752 active wastewater service connections as of the term of the study period. This connection total is divided among two billing categories: (a) residential at 96.7% and (b) commercial at 3.3%. The connections totals have remained stable within the five-year study period with a 0.92% increase. Overall, residential connections have consistently comprised no less than 96% of the total in any year. A breakdown of reported service connection types over the study period follows:

Service connection totals within LGVSD have remained relatively consistent over the study period and tally 9,752 at the term. Residential users on average have accounted for 96.7% of all active connections.

LGVSD: Service Connection Type Breakdown
Table 4.6 | Source: LGVSD

Category	Residential	Commercial	Net
2010	9,343	320	9,663
2011	9,422	321	9,743
2012	9.423	322	9,745
2013	9.425	323	9,748
2014	**9.429**	**323**	**9,752**
Overall Change	**0.92%**	**0.93%**	**0.92%**

As detailed in the preceding section the Commission independently estimates LGVSD's total resident service population at 28,475 as of the study period term. The substantive result when aligning the two demand generators – service connections and resident population – is an average ratio of 2.93 persons for every residential connection. The ratio at the end of the study term tallied 3.02. Recent service connection to resident population ratios follows.

LGVSD's current resident to residential connection ratio is 3.02 as of the term date of this study.

LGVSD: Resident to Connection Ratio Breakdown
Table 4.7 | Source: Marin LAFCO

Category	Residential Connection	Estimated Resident Population	Resident to Connection Ratios
2010	9,343	28,214	3.02
2011	9,422	27,904	2.96
2012	9.423	28,237	2.99
2013	9.425	28,264	2.99
2014	**9.429**	**28,475**	**3.02**
Overall Change	**0.92%**	**0.93%**	**0%**

Recent Measurements | Wastewater Collection System Flows

LGVSD's average annual wastewater collection demand generated for the current term based on information provided by the District and for ultimate treatment and disposal by its treatment facility have been approximately 998.6 million gallons. This average amount, which serves as a macro overview of system demands, represents a daily average flow of 2.7 million gallons. The average amount also translates to an estimated 97 gallons per day for each resident or 241 gallons per day each occupied housing unit; it also represents 281 gallons for every service connection.

Average day wastewater flows generated in LGVSD during the study period have totaled 2.7 million gallons, and translates to daily use ratios of 97 and 241 gallons for every person and occupied housing unit, respectively.

With respect to trends, annual demands within the five-year study period have shown an overall and steady (20.91%) decrease in flows over the span of the corresponding 60 months. The high year demand point for the collection system during the study period occurred in 2010 with total flows equaling 1.161 billion gallons for an average of 3.2 million gallons each day. A breakdown of annual and daily wastewater flows over the study period in relation to population and housing is shown below.

Annual wastewater flows within LGVSD have steadily decreased by one-fifth over the study period's 60-month point-to-point index; a difference of 242.7 million gallons.

LGVSD: Recent Annual and Average Daily Flows Breakdown
Table 4.8 | Source: Marin LAFCO and LGVSD

	2010	2011	2012	2013	2014	Average	Trend
Annual Flow	1.160 bg	1.038 bg	1.026 bg	850.5 mg	918.0 mg	998.6 mg	(20.91%)
Daily Average	3.2 mg	2.9 mg	2.8 mg	2.3 mg	2.5 mg	2.7 mg	(20.91%)
- Daily Resident	112.7	102.0	100.0	82.4	88.3	97.0	(21.64%)
- Daily Per Housing Unit	282.3	254.5	247.5	204.3	218.2	241.4	(22.72%)
- Daily Per Connection	329.1	292.0	288.4	239.0	257.9	281.3	(21.63%)

"bg" refers to billion gallons
"mg" refers to millions gallons
Per resident as estimated by the Commission
Per housing unit refers to occupied status as estimated by the Commission

Along with average annual wastewater flow three other more micro measurements are tracked with respect to LGVSD's collection system and provide additional context to assessing demand. These measurements are (a) dry weather flow, (b) wet-weather flow, and (c) peak-day flow, and are summarized below.

Dry-Weather Day Flows

Average dry-weather wastewater flows over the study period have been 2.3 million gallons. This flow typically is recorded between May and October and most recently tallied 2.0 million gallons as of the study term. The overall average dry-weather tally translates over the study period to 79.8 gallons for every resident or 189.9 gallons for every occupied housing unit; it also translates to 231.3 gallons per service connection. This measurement has decreased overall during the study period by nearly one-fifth or (17.07%). A breakdown of recent dry-weather flows follows.

LGVSD: Recent Dry Weather Day Flows
Table 4.9 | Source: Marin LAFCO and LGVSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	2.5 mg	87.2	209.4	254.6
2011	2.4 mg	84.6	199.9	242.2
2012	2.2 mg	77.6	184.8	224.7
2013	2.2 mg	71.8	184.8	225.7
2014	2.0 mg	71.6	170.6	209.2
Average	**2.3 mg**	**79.8**	**189.9**	**231.3**
Trend	**(17.07%)**	**(17.83%)**	**(18.53%)**	**(17.83%)**

"mg" refers to million gallons

Wet-Weather Day Flows

Average wet-weather day wastewater flows over the study period have been 3.22 million gallons. This flow typically is recorded between November and April and most recently tallied 3.0 million gallons during the study term. The overall average wet-weather day tally translates over the study period to 114.2 gallons for every resident or 272.0 gallons for every occupied housing unit; it also translates to 331.3 gallons per service connection. This measurement has decreased during the study period by almost one-fourth or (23.33%). A breakdown of recent wet-weather flows follows.

LGVSD: Recent Wet Weather Day Flows
Table 4.10 | Source: Marin LAFCO and LGVSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	3.9 mg	138.2	331.9	403.6
2011	3.3 mg	119.3	282.2	341.8
2012	3.4 mg	121.5	289.4	351.9
2013	2.5 mg	87.0	206.6	252.4
2014	3.0 mg	105.0	250.0	306.6
Average Trend	**3.2 mg (23.33%)**	**114.2 (24.04%)**	**272.0 (24.68%)**	**331.3 (24.03%)**

"mg" refers to million gallons

Peak-Day Flows

Average peak-day wastewater flows over the study period have been 10.0 million gallons producing a peak-factor relative to average day totals of 4.5. The average peak-day flow – which represents the highest volume during a 24-hour period for the affected year and typically is recorded during storm events – most recently tallied 13.7 million gallons as of the study term. The average wet-weather peak day tally translates over the study period to 354.3 gallons for every resident or 843.9 gallons for every occupied housing unit; it also translates to 1,028.1 gallons per connection. This measurement has increased overall during the study period by one-fourth or 25.53%. A breakdown of peak-day flows during the study period follows.

LGVSD: Recent Peak-Day Flows
Table 4.11 | Source: Marin LAFCO and LGVSD

Year	Peak-Day System Total	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection	System Peaking Factor
2010	10.9 mg	385.9	926.9	1,126.9	4.4
2011	10.2 mg	363.8	860.1	1,041.8	4.3
2012	11.7 mg	415.4	989.6	1,203.7	5.4
2013	3.6 mg	126.3	299.9	366.2	1.6
2014	13.7 mg	480.1	1,143.1	1,401.8	6.7
Average	**10.0 mg**	**354.3**	**843.9**	**1,028.1**	**4.5**
Trend	**25.53%**	**24.38%**	**23.32%**	**24.38%**	**33.94%**

"mg" refers to million gallons per day

6.3 Wastewater Capacities

Projected Measurements | Wastewater Collection System Flows to Treatment Facility

Going forward – and specifically for purposes of this study – it appears reasonable to assume LGVSD's wastewater flows will generally follow trends over the study period. It is estimated, accordingly and using linear regression to control for variances in the most recent year-end totals, the system will ultimately experience a continued decrease in annual wastewater flows of 108.2 million gallons over the succeeding 10-year period finishing in 2024; a difference of (11.8%) or (1.18%) annually. This projection continues LGVSD's overall annual flows decrease incurred during the study period, albeit at a deintensified rate of over three-fold. It is also estimated through regression analysis the system's peak-day flows will ultimately decrease over the succeeding 10-year period by 0.74 million gallons or (5.43%) and resulting in a peaking factor of 5.8; the latter representing a rise in peak day flows relative to average day amounts by one-fourth. The following table summarizes these and related projection flows through 2024.

> The Commission independently estimates LGVSD's annual wastewater demands will continue to decrease over the succeeding 10-year period at an average rate of (1.2%). This will result in the average day demand equaling 2.22 million gallons in 2024.

LGVSD: Projected Wastewater Flows
Table 4.12 | Source: Marin LAFCO

Year	Average Annual Flows	Average-Day Flows	Dry-Weather Flows	Wet-Weather Flows	Peak-Day Flows
2014	1.160 bg	2.85 mg	2.04 mg	3.00 mg	13.7 mg
2015	924.3 mg	2.53 mg	2.08 mg	3.01 mg	11.2 mg
2016	911.6 mg	2.50 mg	2.05 mg	2.97 mg	11.4 mg
2017	899.0 mg	2.46 mg	2.02 mg	2.94 mg	11.6 mg
2018	886.3 mg	2.43 mg	1.99 mg	2.90 mg	11.8 mg
2019	873.6 mg	2.39 mg	1.96 mg	2.87 mg	12.0 mg
2020	860.8 mg	2.36 mg	1.93 mg	2.83 mg	12.2 mg
2021	848.1 mg	2.32 mg	1.90 mg	2.79 mg	12.4 mg
2022	835.3 mg	2.29 mg	1.87 mg	2.76 mg	12.6 mg
2023	822.5 mg	2.25 mg	1.84 mg	2.72 mg	12.8 mg
2024	809.7 mg	2.22 mg	1.81 mg	2.68 mg	13.0 mg
Average Trend	**867.1 mg (11.79%)**	**2.38 mg (11.79%)**	**1.95 mg (11.13%)**	**2.85 mg (10.56%)**	**12.1 mg (5.43%)**

Constraints | Contractual Provisions

LGVSD operates under the permit provisions of the California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) with respect to discharge allowances. This permit was most recently updated on July 1, 2015 and extends through June 30, 2020.[13] It authorizes LGVSD to discharge treated wastewater into San Pablo Bay by way of two points along Miller Creek between November 1st and May 31st.[14] The permit allows influent above 8.0 million gallons per day to bypass secondary treatment and recombine the bypassed flows with secondary-treated flow to be disinfected and subsequently discharged into Miller Creek.[15] The permit prohibits discharge into San Pablo Bay between June 1st and October 31st unless an advanced request is made and approved by RWQCB. The permit also stipulates that the treatment facility shall not exceed 2.92 million gallons per day in average dry weather flow.

LGVSD is allowed to discharge into Miller Creek between November and May. No discharges into San Pablo Bay are allowed during the remainder of the year without special approval. Average dry-weather flow through the treatment plant in excess of 2.92 million gallons is prohibited.

[13] Reference to RWQCB National Pollutant Discharge Elimination System Permit No. CA0037851, Order R2-2015-0021.
[14] The permit does allow for discharge into San Pablo Bay between November 1st and May 31st to avoid overflows and upon advance notice/concurrence of RWQCB.
[15] The permit recognizes that full secondary treatment is provided for flows up to approximately 8 million gallons per day, and above that flow, the discharge consists of "blended" primary plus secondary treated wastewater.

Constraints | Infrastructure and Facilities

LGVSD's collection system is approximately 112 miles in total length and divided between 105 and 7 miles of gravity and force mains, respectively. The percentage of force mains to gravity flow pipelines has remained stagnant throughout the study period. The majority of the gravity lines are between 6 and 30 inches in diameter and supported by 28 strategically placed public pump stations. LGVSD's three principal trunk sewer lines, which serve as the main arteries of the wastewater collection system, convey flows to its treatment plant. The peak day collection system capacity during the entire 60-month study period as reported by LGVSD totals 25.0 million gallons per day. For purposes of this review this reported amount – 25.0 million gallons – is deemed the maximum daily capacity of the collection system.

> LGVSD's collection system's daily capacity to convey flows to the District's treatment facility is estimated at 25.0 million gallons.

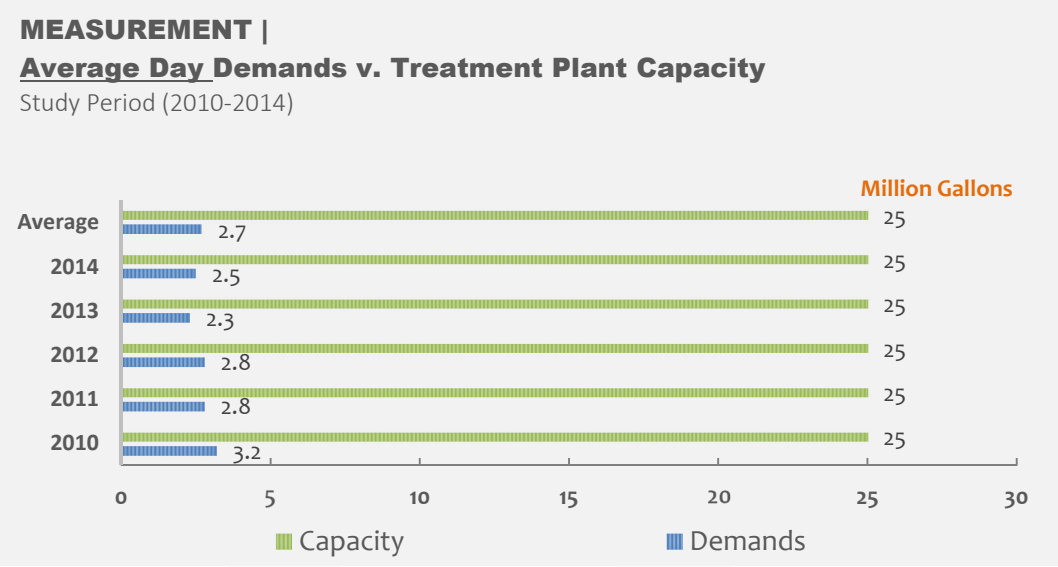
LGVSD's treatment facility has a daily engineer design capacity of 25.0 million gallons, and as such fully matches the referenced capacity of the District's collection system. However, and taking into account the referenced permit limitations, the maximum daily capacity of the treatment facility is reduced to a maximum average day flow of 2.92 million gallons during dry months (June 1st and October 31st). The capacity allows for "blended" flows during wet-months (November 1st and May 31st) once 8.0 million gallons have been processed and treated.[16]

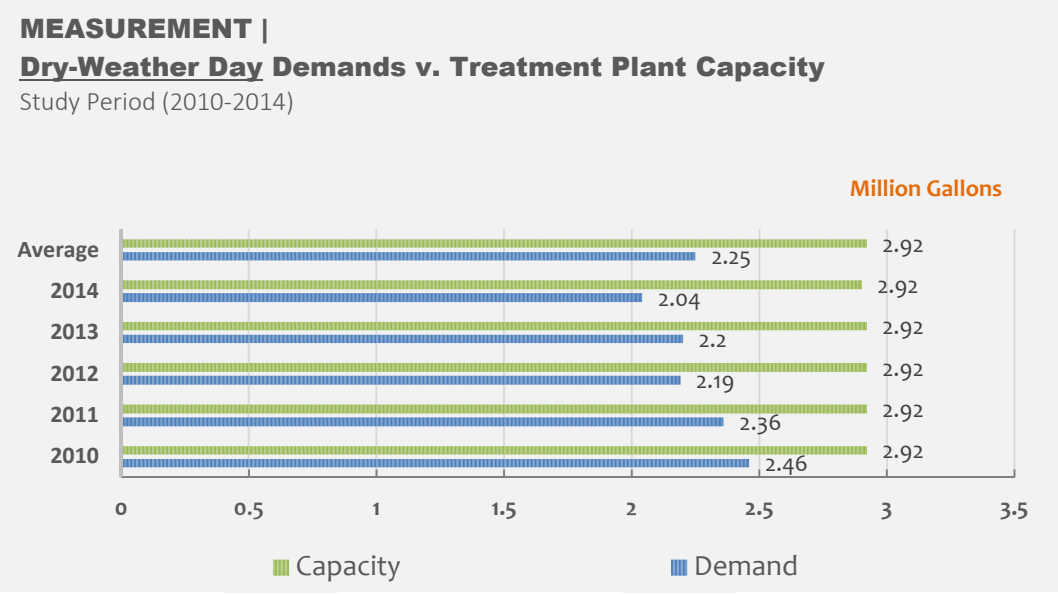
> LGVSD's treatment facility has a daily design capacity to process up to 25.0 million gallons. Permit requirements lower the daily capacity to no more than a 2.92 million gallons average during dry months for land disposal.

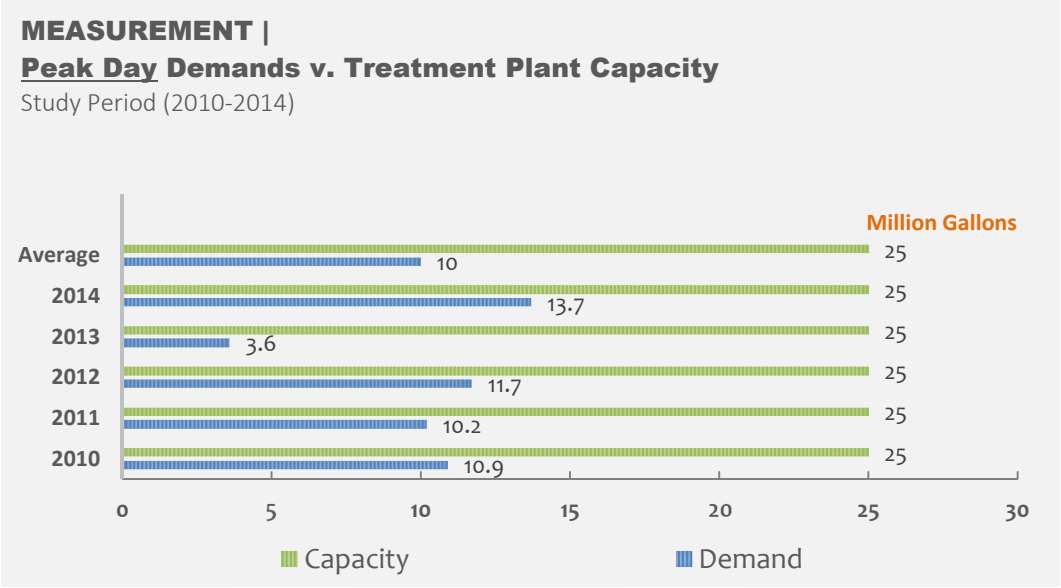
[16] Excess flows generated during storm events are controlled through automated valves, in which flows above 8.0 million gallons receive primary treatment and bypass secondary treatment to be recombined or blended with treated effluent in step with being discharged into San Pablo Bay.

6.4 Demand to Capacity Relationships

Study period flows averages show LGVSD has sufficient available capacities within its collection system to accommodate current and projected demands over the succeeding 10-year period. Average annual demands over the study period equal 10.8% of the collection system capacity and projected to decrease to 8.9% by 2024. Average dry-weather demands during the same period represent the biggest tax on the system and tally 77.1% of the capacity in step with the permit with RWQCB and expected to decrease to 67.8% by 2024. Average peak-day demands over the study period equal 40% of capacity and expected to rise to 52.0% by 2024.







6.5 Performance

Measurement | Sanitary Sewer Overflows

The State Water Resources Control Board (SWRCB) requires all public agencies that own or operate sanitary collection systems that are one mile or more in length and convey to a public owned treatment facility comply with the reporting requirements codified in Order No. 2006-0003. This Order mandates all subject agencies to develop and implement a system-specific sewer system management plan (SSMP) that includes a spill response plan as well as requiring immediately reporting to the SWRCB of all sanitary sewer overflows, or SSOs. The ultimate purpose of the SSO reporting process is to provide a uniform means to evaluate system reliability, source control, and operation and maintenance of wastewater systems in California. SSOs are defined as any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, and include any of the following occurrences:

a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

b) Overflows or releases of untreated or partially treated wastewater that do not reach water of the United States

c) Wastewater backups into buildings and on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

Total number of SSOs recorded by LGVSD during the study period was 18 with an overall spillage volume of 59,802 gal. The most recent year experienced 3 SSOs. The majority of the SSOs were classified by the SWRCB as a Category 1 at 55% of the total for the period, and accounted for spills of 58,862 gal to reach the surface water resulting in the potential for environmental and human health impacts. The average response time to SSOs during the study period was 31 minutes. LGVSD's adopted response time requirement is a two-hour period that starts upon the notification of an incident. The response time did not exceed the 2 hours throughout the period. The longest response time noted was in 2011 and 2012, tallying at 42 minutes. A review of each accompanying report incident claimed the main causes of SSOs were caused by roots at 55.5% of total causes. Debris and other issues amounted to 33.4% percent of the total with structural and fats, oils and grease (FOG) at 11%. LGVSD reports two SSOs that were repeat occurrences and attributed to roots and debris.[17]

LGVSD experienced 18 total SSOs during the five-year study period, and involved the unauthorized overflow of 0.058 million gallons.

LGVSD: Sanitary Sewer Overflows
Table 4.13 | Source: SWRQB

Year	Category 1		Category 2		Category 3		Total	
	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons
2010	0	0	0	0	2	225	2	225
2011	2	2,200	0	0	0	0	2	2,200
2012	5	55,580	0	0	3	610	8	56,190
2013	2	1,067	0	0	1	6	3	1,073
2014	1	15	0	0	2	99	3	114
	10	**58,862**	**0**	**0**	**8**	**940**	**18**	**59,802**

"gallons" are listed in millions

[17] LGVSD refers to its Emergency Response Plan for SSO notification and reporting. Notifications of SSOs may be reported by telephone, in person at District offices, or to police and/or sheriff departments. Calls are directed to the Collection System Manager during business hours (from 6:30 AM to 3:00 PM) who in turn contacts the field crew. Calls to District offices are automatically routed to an answering service during non-business hours and notifications are made to the District staff of essential information. The on-call staff person decides the resources needed, coordinates the response plan and calls the Collection Systems Manager. LGVSD's line crew are to be the first responders for SSOs and follow the procedures outlined in LGVSD's *Sewer Overflow Response Manual.* LGVSD noted for SSOs that may substantially impact environmental and human health, water quality monitoring of surface waters should be performed (except for spills greater than 50,000 gallons which reach surface water, for which monitoring is required by Order 2006-003). The District directs the field crew to exercise best judgment in deciding whether to conduct monitoring and consult with the Collection System Manager, Plant Manager, or General Manager.

Measurement | System Maintenance

System maintenance for purposes of this study includes both corrective and preventative maintenance. Corrective maintenance, is performed when signals indicate a fault, so an asset can be restored to its operational condition. Preventative maintenance, conversely, is initiated according to a predetermined schedule rather than in response to failure. A summary of both measurements follow.

Corrective Maintenance

LGVSD's corrective maintenance is noted in the number of service calls received to resolve, correct or assist a particular situation. During the entire 60-month study period, LGVSD received 39 service calls with 53.8% of these attributed to a public SSO notification and the remaining to odor complaints. LGVSD did not experience any pump station failures for the period. The following table shows all service calls by category type over the study period.

LGVSD: Number of District Service Calls
Table 4.14 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
General	0	0	0	0	0
Public SSO	2	2	8	3	6
Private SSO	0	0	0	0	0
Odor Complaints	5	2	6	4	1
Noise Complaints	0	0	0	0	0
Pump Station Alarms	0	0	0	0	0
Non-District Incidents	0	0	0	0	0
Total	**7**	**4**	**14**	**7**	**7**

Preventive Maintenance

LGVSD's preventative maintenance was reported in its actual cleaning activities during the 60-month study period which amounted to 2,738,069 feet of sewer lines cleaned. According to LGVSD, inspections on equipment are overseen by staff and include rodding, flushing, and CCTV (Closed-circuit television) cameras. LGVSD operates a preventative maintenance program designed to maintain the integrity of the system, reduce the frequency of SSOs and reduce inflow/infiltration (I/I). The database issues a monthly schedule that specifies preventative maintenance

activities for the month. The maintenance of the system's larger pump stations is performed by LGVSD's treatment facility operators and are inspected three times per week. LGVSD has established goals for inspecting the entire collection system over a four-year period. The agency also distributes a quarterly newsletter to property owners indicating the proper disposal techniques for FOGs to prevent blockages and SSOs, and provides educational outreach to contractors and plumbers working on private systems. Proper procedures when cleaning laterals are provided so as not to cause an SSO or structural issue. LGVSD does not track the number of blocked sewer pipes separately from SSOs.

LGVSD has completed and added future rehabilitation and replacement projects during the study period. In 2012, LGVSD completed a $4.2 million-dollar upgrade to its primary clarifiers in its treatment plant. Additional projects to update the treatment plant have been budgeted including replacing its grit classifier and upgrading its biogas digester system. A Predesign Report was reviewed for the upgrade and expansion of the treatment plant to provide full secondary treatment during wet weather events for peak flows up to 25 million gallons per day. During the entire study period, LGVSD accounted for 19,025 feet of sewer line replacement. According to LGVSD, line replacements are capital projects and are not performed on a work order basis.

PLANNED CLEANING ACTIVITIES COMPLETED

Year	Planned Feet	Actual Feet
2010	n/a	538,127
2011	n/a	535,844
2012	n/a	596,551
2013	n/a	561,940
2014	n/a	505,607
TOTAL	n/a	2,738,069
Planned Work Orders Completed		**n/a**

PLANNED LINE REPLACEMENT COMPLETED

Year	Planned Feet	Actual Feet
2010	-	-
2011	8,112	8,112
2012	-	-
2013	8,000	8,000
2014	-	-
TOTAL	16,112	16,112
Planned Work Orders Completed		**n/a**

6.6 User Charges and Fees

LGVSD bills one fee to its customers in recovering the District's wastewater service costs. This fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and treatment/disposal expenses. Rates are divided between residential and non-residential customers. Residential users are currently charged $835 for every dwelling unit (2016). Non-residential users are currently charged based on a calculation of water use and strength factor as determined by LGVSD staff. There are no voter-approved special assessments.

Most single-family customers in LGVSD currently pay $835 a year for wastewater services.

7.0 AGENCY FINANCES

7.1 Financial Statements

LGVSD contracts with an outside accounting firm to prepare an annual audit for each fiscal year to review the District's financial statements in accordance with established governmental accounting standards. This includes vetting LGVSD's statements with respect to verifying overall assets, liabilities, and equity. These audited statements provide the Commission with quantitative measurements in assessing LGVSD's short and long-term fiscal health with specific focus on delivering wastewater services.

LGVSD's most recent financial statements for the study period were issued for 2013-2014 and shows the District experienced a moderate and positive change over the prior fiscal year as its overall equity or fund balance increased by 1.96% from $53.222 to $54.263 million. Underlying this most recent change in equity standing is the result of rises in current assets. A summary of year-end totals and trends therein drawn from the audited statements over the study period follows with the qualifier LGVSD has indicated some of the numbers were subject to a subsequent reissuance.

End of Study Term Financial Statements	
Assets	$74.229 m
Liabilities	$20.875 m
Equity	$54.263 m

Agency Assets

LGVSD's audited assets at the end of 2013-2014 totaled $74.229 million; more than 13% higher than the average sum - $65.420 million - generated over the course of the five-year study period. As of the study term, assets classified as current with the expectation they could be liquidated within a year, represented more than one-fourth of the total amount and tied to cash and investments, rising by 87% over the 60-month period. Assets classified as non-current make up the remaining three-fourths of the total as of the study term. The single-largest capital asset source is tied to treatment/disposal facilities at 66% less depreciation. Overall capital assets have increased by 35% over the 60-month period.

LGVSD Assets | Study Period
Table 4.15 | Source: LGVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	10.374	18.699	15.335	18.716	19.409	87.09%	16.506
Non-Current	40.485	41.266	54.609	53.390	54.820	35.41%	48.914
	50.859	59.965	69.944	72.106	74.229	45.95%	65.420

Amounts in Millions

Agency Liabilities

LGVSD's audited liabilities at the end of 2013-2014 totaled $20.875 million; an amount that is more than 20% higher than the average sum – $16.884 million – generated over the course of the study period's five-year period. As of the study term liabilities classified as current representing obligations owed in the near-term equaled nearly one-tenth of the total and largely tied to accounts payable and pending debt payments. Current liabilities overall have increased by 10% through the study period. Non-current liabilities represent the remaining nine-tenths of the total and have increased by 134% over the study period, and the result of two loans booked in 2012-2013 tied to construction of a recycled water treatment facility.

LGVSD Liabilities | Study Period
Table 4.16 | Source: LGVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	1.777	2.695	8.399	1.877	1.956	10.07%	3.340
Non-Current	8.099	12.138	11.556	17.007	18.919	133.6%	13.543
	9.876	14.883	19.955	18.884	20.875	111.4%	16.884

Amounts in Millions

Agency Equity | Net Assets

LGVSD's audited equity or net assets at the end of 2013-2014 totaled $54.263 million and represent the difference between the District's total assets and total liabilities. This amount has increased by 32% over the five-year study period and primarily attributed to rises in non-current assets and the referenced construction of recycling facilities. The unrestricted portion of the net assets as of the study term totals $16.394 million and marks an overall decrease over the 60-month period of (51%) and attributed to capital investment. This latter amount also translates to a per capita reserve ratio of $576 within LGVSD based on a corresponding and projected resident total of 28,475.

LGVSD's net assets have increased by 32% over the five-year period and largely driven by a rise in non-current assets generated from the establishment of recycled water facilities. The unrestricted fund balance as of the study term total of $16.394 million equates to a per capita reserve ratio of $576.

LGVSD Net Assets | Study Period
Table 4.17 | Source: LGVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Unrestricted	33.232	7.071	11.351	17.580	16.394	(50.7%)	17.125
Restricted	7.751	38.061	38.638	35.642	37.869	388.6%	31.592
	40.983	45.132	49.989	53.222	54.263	32.4%	48.717

Amounts in Millions

7.2 Measurements
Liquidity, Capital, Margin, and Structure

A review of the audited financial statement issuances by LGVSD covering the study period shows the District finished the term with a relatively high and improving liquidity. This includes noting LGVSD finished the study term with a current ratio of nearly 10 to 1 as well as over three years – or 1,298 days – of cash on hand to cover operating expenses. These measurements also improved by no less than 39% over the 60-month period. LGVSD also finished the study term with moderate and stable levels of capital with less than 28% of its net assets being tied to long-term debt financing. LGVSD also finished each year with positive total and operating margins with the former and latter averaging 26% and 23%, respectively. The referenced operating profits are also reflected

in LGVSD's average earned income ratio – i.e., the percent of direct service fees relative to annual revenues – of 85% for the 60-month period. A summary of year-end liquidity, capital, margin, and structure ratios follow.

LGVSD: Financial Measurements | Study Period
Table 4.18 | Source: LGVSD Financials and Marin LAFCO

Fiscal Years	Current Ratio	Days' Cash	Debt Ratio	Total Margin	Operating Margin	Earned Income Ratio
2009-2010	5.84	932	19.42%	29.06%	23.00%	86.37%
2010-2011	6.94	1,608	24.74%	35.42%	31.16%	83.57%
2011-2012	1.83	1,246	28.53%	35.83%	31.80%	80.13%
2012-2013	9.97	1,275	26.19%	25.29%	24.39%	87.12%
2013-2014	9.92	1,298	24.12%	25.90%	23.24%	88.84%
Average	**6.90**	**1,272**	**25.40%**	**30.30%**	**26.72%**	**85.21%**
Trend	**69.9%**	**39.2%**	**44.82%**	**(10.87%)**	**1.08%**	**2.86%**
		Liquidity	**Capital**		**Margin**	**Structure**

Notes

Current Ratio (liquidity) relates to the ability of the agency to pay short-term obligations (current liabilities) relative to the amount of available cash and cash equivalents (current assets). Higher is better.

Days' Cash (liquidity) measures the number of days' worth of average operating expenses the agency can meet with cash on hand. Higher is better.

Debt Ratio (capital) measures the portion of agency's total assets that are directly tied to debt financing. Lower is better.

Total Margin (profit) represents the year-end profit level of the agency and includes all revenues and expenses. Higher is better.

Operating Margin (profit) represents the year-end profit level of the agency specific to its normal and reoccurring revenues and expenses tied to service provision. Higher is better.

Earned Income (structure) measures the portion of annual revenues that are directly tied from fees for services. Higher is better for enterprise agencies.

7.3 Pension Obligations

LGVSD provides a defined benefit plan to its employees through an investment risk-pool contract with the California Public Employees Retirement Systems (CalPERS). This pension contract provides employees with specified retirement benefits and includes disability benefits, annual cost-of-living adjustments, and death benefits to members and their beneficiaries. Actual pension benefits are based on the date of hire. Employees hired before January 1, 2013 are termed "Category One" while employees hired afterwards are termed "Category Two." Additional details of the pension program based on actuarial valuations issued by CalPERS follows.

Participants | Pension Formulas

Most LGVSD employees receive one of two types of defined pensions based on either a 2.7 @ 55 or 2.0 @ 55 formula. Employees hired after January 1, 2013 receive a 2.0 @ 62 pension formula.

As of the study period's term (2014) there are a total of 51 participants within LGVSD's pension program. This total amount – which represents an overall increase of 6% in participants since 2012 – is further divided between enrollee type (i.e., active, separated, transferred, retired) and marked by a worker-to-retiree ratio of 0.9 to 1 as of the study term. Category One participants represent 94% – or 48 – of the total program enrollees and are eligible to receive one of two types of retirement payments. The first and predominate tier within Category One is based on a 2.7 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 54% of their highest one year salary beginning at age 55 and continuing each year thereafter. The second tier is based on a 2.0 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 40% of their highest one year salary beginning at age 55 and continuing each year thereafter. Category Two participants account for the remaining 6% – or 3 – of the total program enrollee amount as of the study period's term and are subject to a flat 2.0% at 62 pension formula. This tier provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 62 and continuing annually thereafter.

LGVSD's Pension Enrollee Information
Table 4.19 | Source: CalPERS and Marin LAFCO

Type	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Active	n/a	n/a	19	18	20
Transferred	n/a	n/a	2	3	4
Separated	n/a	n/a	4	4	4
Retired	n/a	n/a	20	21	23
Total Enrollees	**n/a**	**n/a**	**45**	**46**	**51**
Worker-to-Retiree Ratio	**n/a**	**n/a**	**0.95 to 1**	**0.86 to 1**	**0.87 to 1**

Annual Contributions

LGVSD's total annual pension contributions as of the study period's term tallied $0.399 million. This amount represents an overall increase over the five-year study period of 20% and is two-fold greater than the corresponding inflation rate calculated for the San Francisco Bay Region.[18] The most recent annual pension contribution by LGVSD for the study period marked 18% of the District's total annual payroll for the corresponding year (2013-2014).[19]

LGVSD's pension contributions have increased by 20% over the five-year study period, and as of 2013-2014 account for 18% of total payroll.

LGVSD's Pension Contributions
Table 4.20 | Source: CalPERS and Marin LAFCO

2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
$283,055	$327,304	$403,005	$411,624	$339,757
			Average	**$352,757**
			Trend	**20.03%**

Funded Status

LGVSD's unfunded liability – tally of pension monies owed and not covered by assets – ended the study period at $1.801 million and as such represents 9.9% of the District's unrestricted fund balance as of June 30, 2014. This former amount produces a funded ratio of 83% based on market value. It also reflects an overall improvement in the funded ratio of 15% over the preceding four-year period.[20]

LGVSD's unfunded pension liability has decreased over the last four years of the study period by (20%) and ended the term at $1.801 million; the equivalent of a 83% funded ratio.

LGVSD's Pension Trends
Table 4.21 | Source: CalPERS and Marin LAFCO

	Unfunded Liability	Funded Ratio
2009-2010	n/a	n/a
2010-2011	$2,261,743	71.63%
2011-2012	$2,742,701	68.06%
2012-2013	$2,523,650	72.49%
2013-2014	$1,801,307	82.71%
Average	**$2,332,350**	**73.72%**
Trend	**(20.36%)**	**15.46%**

[18] According to the United States Department of Labor the overall inflation rate in the San Francisco Bay Area region between 2010 and 2014 tallied 10.77%.
[19] LGVSD's covered annual payroll in 2013-2014 totaled $1.874 million.
[20] Pension information for 2009-2010 is not available.

Amounts above are show in market form and reflects the immediate and short term values of the pension with respect to assets and liabilities (i.e., here and now).

7.4 Revenue to Expense Trends

A review of LGVSD's overall actual revenues and expenses during the study period and specific to 2009-2010 to 2013-2014 shows revenue surpluses in each year ranging in value from 25% to 42%. Overall actual revenues averaged $10.810 million over the 60-month period compared to $7.274 million in actual expenses; a difference of nearly one-half or 49%. The referenced separation, however, has been narrowing with the growth rate of expenses at 38% outpacing the growth rate of revenues at 31% over the 60-month period.

LGVSD's overall revenues have outgained overall expenses in each of the five years comprising the study period with an average monetary separation of $3.536 million – or 49%. This separation, however, has narrowed over the same period with expenses outpacing revenues by more than one-fifth.

LGVSD's revenue ledger consists of 10 distinct categories with sewer service charges accounting on average for 85% of the total. Another 10% of the revenue average has been drawn from property taxes. The remaining revenue total has been drawn and in proportional magnitude from intergovernmental proceeds, connection fees, interest earnings, other, franchise fees, recycled water, and asset disposal. LGVSD's expense ledger also consists of 10 distinct categories with depreciation accounting for the single largest resource demand and on average over the 60 months tallying 28% of the total. Other prominent expenses have been tied to administration, treatment, and collection and on average have accounted for 24%, 17%, and 13%, respectively. The remaining expense total have been drawn and in proportional magnitude from interest expense, lab, engineering, and recycled water activities.

Top Revenue Categories:
1) Sewer Charges @ 85%
2) Property Taxes @ 10%

Top Expense Categories
1) Depreciation @ 28%
2) Administration @ 24%

LGVSD Actual Revenue Trends| Study Period

Table 4.22 | Source: LGVSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Sewer Charges	7.604	8.835	9.233	10.069	10.157	33.57%	9.179	84.91
Miscellaneous	0.041	0.032	0.054	0.034	0.046	12.20%	0.041	0.38
Recycled Water	-	-	-	0.037	0.075	-	0.022	0.21
Intergovernmental	0.005	0.005	0.005	0.005	0.005	0.0%	0.005	0.05
Franchise Fees	0.025	0.025	0.025	0.025	0.25	0.0%	0.025	0.23
Property Taxes	1.054	1.009	1.005	0.983	1.118	6.07%	1.033	9.56
Asset Disposal	0.007	0.006	-	-	-	-	0.002	0.002
Interest	0.076	0.093	0.065	0.046	0.047	(38.16%)	0.065	0.60
Grants	-	0.075	1.107	0.386	-	-	0.313	2.90
Connection Fees	(0.008)	0.530	0.028	0.015	0.044	(650.0%)	0.122	1.13
	8.804	**10.610**	**11.522**	**11.600**	**11.517**	**30.82%**	**10.810**	**100.00**

LGVSD Actual Expense Trends| Study Period

Table 4.23 | Source: LGVSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Collection	1.009	0.854	0.937	0.951	1.089	7.93%	0.968	13.31
Treatment	1.088	1.138	1.295	1.312	1.519	39.61%	1.270	17.46
Disposal	0.085	0.143	0.147	0.267	0.340	300.0%	0.196	2.70
Lab/Testing	0.313	0.353	0.387	0.377	0.402	28.43%	0.366	5.04
Administration	1.564	1.756	1.726	2.093	1.692	8.18%	1.766	24.28
Engineering	-	-	-	0.296	0.325	-	0.124	1.71
Depreciation	1.828	1.756	1.726	2.093	1.692	33.04%	2.054	28.25
Recycled Water	-	-	-	0.060	0.090	-	0.030	0.41
Loss of Disposal	-	-	-	0.048	0.002	-	0.010	0.14
Interest Expense	0.364	0.357	0.331	0.652	0.735	102.14%	0.487	6.71
	6.251	**6.416**	**6.665**	**8.367**	**8.626**	**38.01%**	**7.274**	**100.00**

amounts in millions

Net	**2.553**	**4.149**	**4.857**	**3.233**	**2.890**
	29.00%	**39.10%**	**42.15%**	**27.87%**	**25.10%**

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B. SAN RAFAEL SANITATION DISTRICT

1.0 OVERVIEW

Downtown San Rafael

Courtesy / Downtown San Rafael Improvement District

The San Rafael Sanitation District (SRSD) was formed in 1947 and encompasses an approximate 13-square mile jurisdictional boundary in east-central Marin County. Governance is provided dependently by a three-member board whose members are appointed to staggered four-year terms with two drawn from the San Rafael City Council and a third drawn from the County of Marin Board of Supervisors. Three local land use authorities overlap SRSD's jurisdictional boundary and headlined by the aforementioned City of San Rafael, which presently accounts for three-fifths – or 58% – of the subject lands. The rest of SRSD's jurisdictional boundary is divided between the County of Marin's unincorporated area – including the island communities of Country Club and Bay View – at 42% with a small remainder in the City of San Anselmo.

SRSD is currently organized as a single-purpose agency with municipal operations limited to wastewater collection though it is empowered – subject to LAFCO approval – to provide three other distinct services: water (potable and non-potable); garbage transfer/disposal; and street cleaning/sweeping services. Wastewater service activities directly performed by SRSD focuses on engineering aspects of the District's approximate 146 mile collection system along with cost-recovery through the setting and collection of charges and fees. SRSD also provides routine and emergency cleaning and maintenance of the collection system. SRSD – and as a signatory – utilizes Central Main Sanitation Agency (CMSA) for wastewater treatment and disposal services. SRSD's adopted operating budget at the term of the study period was $17.1 million with funding dedicated for the equivalent of 15 fulltime employees. The unrestricted fund balance was $21.5 million with an associated days-cash ratio totaling 805; i.e., the amount of cash on hand to cover operating expenses based on 2013-2014 actuals.

San Rafael Sanitation District	
Formation Date:	1947
Principal Act:	Health and Safety Sections 4700 et seq.
Service Categories:	Wastewater Collection
Service Population	40,744
Governance Type:	Dependent

The Commission independently estimates the resident service population within SRSD is 40,744 as of the term of this study period (2014). It is also projected SRSD's population growth rate over the five-year study period has averaged 0.69% annually and primarily tied to an increase in occupancy levels; the substantive result being the net addition of 1,363 persons. Overall it is also estimated by the Commission nearly two-thirds of the jurisdictional boundary has been developed and or improved – though not necessarily at the highest density. This means one-third of the boundary area remains entirely undeveloped, and this includes 638 existing unbuilt and privately owned parcels that are zoned for some type of urban use by the respective land use authority.[21]

2.0 BACKGROUD

2.1 Community Development

SRSD's central service area – San Rafael – began its present-day development at the start of the 19th century with the establishment of the Mission San Rafael. Originally constructed to treat sick Native Americans whom fell ill at the Mission Dolores in San Francisco, the San Rafael Mission expanded its residency to nearly 1,000 by 1830 due to its agricultural activities and its function as a commerce site for the region. Development of the area further advanced in 1844 as three contiguous ranchos – "Las Gallinas," "Santa Margarita," and "San Pedro" – totaling over 21,000 acres were granted by Mexico to Irish settler, Timothy Murphy. Murphy kept the majority of the ranchos in cattle grazing through the time of his death in the early 1850s before leaving most of the lands to nephew John Lucas who subsequently began selling lots while retaining a homestead in present-day Terra Linda. John Lucas' decision to begin selling pieces of his newfound holdings, notably, coincided with outside developer interest in the region.

[21] Additional analysis is needed to assess the actual development potential of the 638 unbuilt parcels.

This interest was led by the establishment of the ferry and railroad service byway of San Quentin Point, connecting San Rafael to San Francisco by 1860.

Following in the footsteps of Timothy Murphy and his nephew John Lucas the next seminal phase in San Rafael's urban development is accredited to mining merchant William Tell Coleman. In the late 1860s Coleman purchased 1,100 acres of land east of the Mission site he named Magnolia Valley. He landscaped the property for the inclusion of a 12-acre nursery, filled with a variety of trees and hired Hall Hammond of Golden Gate Park to subdivide the land into smaller lots for purchase. Coleman helped facilitate lot sales in Magnolia Valley – subsequently termed Dominican – by securing an adequate water supply through the creation of the Marin County Water Company in 1871. The Marin Water Company proceeded to immediately purchase the neighboring San Rafael Water Company and its water rights to Lagunitas Creek. It also began providing basic

sanitary services, such as sewage flushing and constructing drainage systems conveying waste into San Rafael Bay byway of San Rafael and Erwin Creeks.

Coleman's investment in Magnolia Valley proved successful as lots were sold and developed that – and among other outcomes – contributed to an influx of new landowners and their successful efforts to incorporate San Rafael in 1874 with an initial resident count of 840. Coleman transitioned his focus thereafter on commercial and public-use projects in and around the mission site – now the downtown area – and marked by building the County of Marin's first courthouse and later Hotel Rafael. These and other projects, including the development of Gerstle Park, aided an early population surge for San Rafael as its resident base increased by nearly 500% over the next twenty five years and reached 3,879 by 1900; an amount representing one-fourth of the countywide total at the time. Another population surge occurred after the end of World War I with resident totals increasing from 5,512 in 1920 to 8,022 in 1930; a 10-year difference of nearly 50% and marked by the development of the Montecito area.

2.2 Formation Proceedings

The formation of SRSD was completed in 1947 with the County of Marin's Boundary Change Commission approving the official service area of the District in conjunction with the voter approval. The original boundaries included the then-incorporated boundary of the City of San Rafael along with adjacent unincorporated lands to the east towards Bayside Acres and south to California Park.

2.3 Post Formation Activities

A summary of notable activities undertaken SRSD and/or affecting the District's service area following formation in 1947 is provided below.

- Upon formation SRSD owned and operated two treatment plants.
- The population within SRSD's core service area - San Rafael - reaches 13,848 in 1950. It expands ten years later to 20,460 by 1960.

- SRSD became an original signatory in the creation of CMSA in 1979; a joint powers authority created for the purposes of planning, constructing, and operating wastewater treatment and disposal services for its member-agencies with the latter achieved through a deep-water outfall to the San Francisco Bay.

- CSMA completed construction and initiated operation of a wastewater treatment facility on the north side of Point San Quentin Point in 1985; SRSD flows are redirected accordingly.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

SRSD's jurisdictional boundary spans approximately 12.8 square miles in size and covers 8,184 total acres (parcels and right-of-ways). Three land use authorities overlap the jurisdictional boundary. And in terms of acreage the City of San Rafael is the predominant land use authority with an estimated 58% of all SRSD lands lying with the City. Another 42% of the jurisdictional lands fall under the land use jurisdiction of the County of Marin and include the unincorporated island communities of Country Club and Bayview. The remaining amount – or 0.1 % – lies within the City of San Anselmo and specific to eight properties located on or near Spring Grove Avenue.

SRSD's jurisdictional boundary spans 12.8 square miles and overlaps three land use authorities with San Rafael being the largest with the City covering 58% of all District lands.

Total assessed value (land and structure) within SRSD is calculated at $8.196 billion and translates to a per acre value ratio of $1.0 million. This former amount – $8.196 billion – further represents a per capita value of $0.201 million based on the estimated service population of 40,744. SRSD's set allocation of property tax proceeds – i.e., its share of the 1% – is 1.47%.

Assessed land values in SRSD totals $8.2 billion, and based on receiving 1.47% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $1.204 million.

SRSD Boundary Breakdown: Land Use Authorities
Table 4.24 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
San Rafael	3,153	58.1%	10,628	15,414
County of Marin	2,268	41.8%	1,577	621
San Anselmo	8	0.1%	16	15
	5,429	**100**	**12,221**	**16,050**

As provided in the preceding table there are overall 12,221 assessor parcels currently within SRSD and collectively add up to 5,429 acres as of June 2016.[22] Close to two-thirds – or 64% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density. This existing development is highlighted by the standing construction of 16,050 residential units and divided between single-family and multi-family on a 55% to 45% split. The remaining one-third plus – or 36% – of the current assessor parcel acreage is undeveloped/unimproved. This includes 638 un-built and privately owned assessor parcels that combine to total 480 acres.[23] (Additional analysis would be needed to assess actual development potential of these unbuilt parcels.) The remaining undeveloped/unimproved assessor acreage within SRSD – or 1,459 acres – is publicly owned and generally dedicated to open space uses.

Almost two-thirds of SRSD's jurisdictional boundary has already been developed or improved – though not necessarily at its maximum density. This means almost one-third of the boundary remains entirely undeveloped. This includes 638 un-built and privately owned parcels zoned for some type of urban use.

SRSD Boundary Breakdown: Land Use Features
Table 4.25 | Source: Marin LAFCO

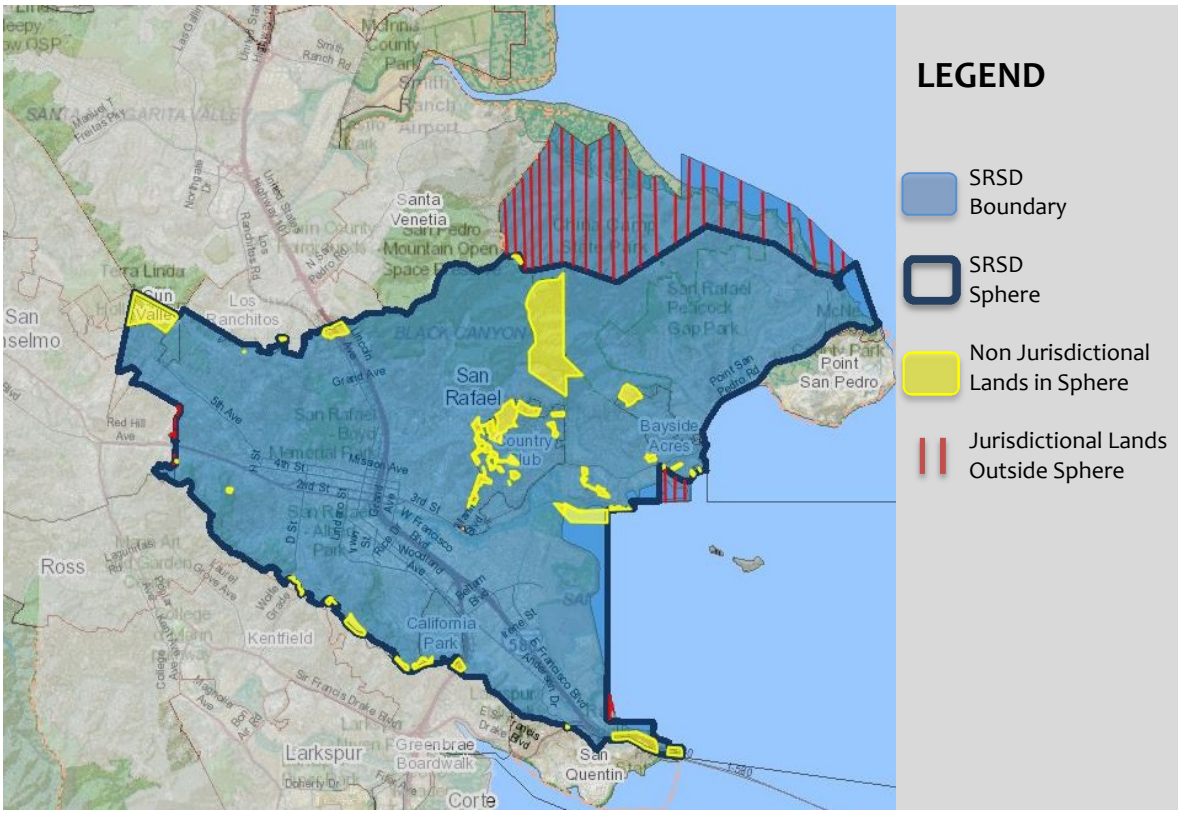
% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
64.3	16,050	54.9	638	480

[22] The remaining 2,755 jurisdictional acreage within SRSD are tied to public right-of-ways and waterways.
[23] Existing zoning divides the 638 un-built assessor parcels in SRSD between residential (509), commercial (109) and industrial (20) sites.

3.2 Sphere of Influence

SRSD's sphere of influence was initially established by the Commission in 1984 and last reviewed and updated in 2006. The sphere spans approximately 7,434 acres or 11.6 square miles in size. The sphere is nearly one-tenth – or 9% – smaller than SRSD's jurisdictional boundary. Most notably, there are two distinct areas within SRSD that lie outside the sphere – North San Pedro Road and Loch Lomond Marina – and collectively add up to 943 acres. Non-jurisdictional lands included in SRSD's sphere total approximately 119 acres (parcels and right-of-ways) and as such are immediately eligible for annexation or outside service extension subject to Commission approval. This includes 102 assessor parcels with nine-tenths – or 89% – privately owned and zoned for an urban type use.

SRSD's sphere of influence includes two unique features. First, the sphere excludes 943 jurisdictional lands concentrated in two unincorporated areas: North San Pedro Road and the Loch Lomond Marina, Second, the sphere includes 119 acres of non-jurisdictional land – including nearly a dozen parcels located within County Sanitary District 1. The majority of the non-jurisdictional lands are located within County Club.



4.0 DEMOGRAPHICS

4.1 Population Estimates

SRSD's resident population within its jurisdictional boundary is independently estimated by the Commission at 40,744 as of the term of the study. This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents 15.6% of the estimated countywide population.[24] It is also projected SRSD has experienced an overall growth rate of 3.46% over the preceding five-year period or 0.692% annually; all of which produces an estimated net add of 1,363 persons. This projected increase has been generated by the addition of an estimated 153 new occupied housing units within the jurisdictional boundary and aided by an intensification of household sizes over the span of the five-year period starting at 2.60 in 2010 and ending at 2.67 in 2014; the latter being a net intensity increase of 2.69%. Overall projected growth within SRSD falls above the concurrent annual change estimated for the entire county – 0.62%.[25]

LAFCO estimates there are 40,744 total residents within SRSD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated SRSD has experienced an overall population increase of 1,363 over the preceding five-year period, resulting in an annual growth rate of 0.692%. New and occupied housing units over the same period within SRSD totaled 153 with a net change in persons per household – i.e., an intensity measurement – of 2.69%.

SRSD Resident Population: Past and Current Estimates
Table 4.26 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
a) Total Housing Units	15,938	15,957	15,975	15,994	16,013
b) Local Occupancy Rate	94.78	93.66	94.68	94.68	95.30
c) Occupied Housing Units	15,107	14,945	15,126	15,144	15,260
d) Projected Household Size	2.60	2.62	2.64	2.65	2.67
Estimated Population	**39,381**	**39,191**	**39,906**	**40,192**	**40,744**

[24] Marin LAFCO's resident service population for SRSD is independently calculated and premised on occupied housing driving resident estimates based on data collected within the nine affected census tracts in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to SRSD over the study period include a weighted an annual housing unit change of 0.116% and a weighted annual household size change of 0.598%. The annual weighted population change is 0.692%.

[25] Marin County's estimated population as of January 1, 2014 totaled 260,750 based on information published by the United States Census and marks a 3.01% increase over the preceding five-year period.

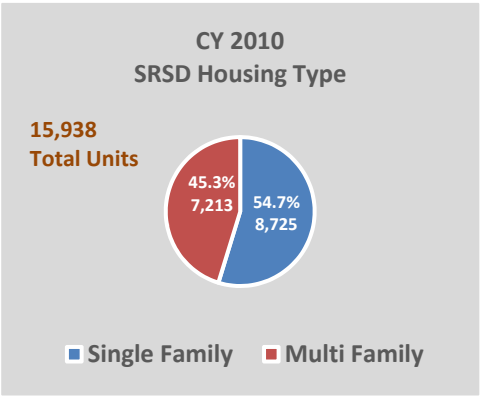
With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate with SRSD will generally match the preceding five-year period with an overall yearly population change of 0.692%. The substantive result of this assumption would be an overall increase in SRSD's resident population of 2,911 and produce a total of 43,655 by 2024. This growth rate, similarly, would generate the addition of 1,288 new and occupied housing units within SRSD through 2024 assuming the preceding five-year average ratio of 2.63 persons for every one occupied housing unit holds. These collective projections going forward are summarized below.

SRSD Resident Population: Future Estimates
Table 4.27 | Source: Marin LAFCO

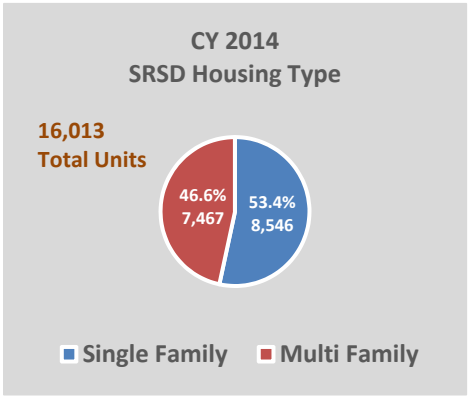
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**40,744**	**41,311**	**41,885**	**42,467**	**43,057**	**43,655**
Occupied Housing Units	15,260	15,689	15,877	16,098	16,321	16,548
- residents to housing units	2.67	2.64	2.64	2.64	2.64	2.64
	baseline					

4.2 Residency Type

The Commission projects SRSD's residential unit total (occupied and unoccupied) of 16,013 as of the study term is divided between single family and multi-family use at 53.37% (8,546) and 46.63% (7,467), respectively. These totals produce an estimated ratio of 1.14 to 1 with respect to single-family to multi-family units within the jurisdictional boundary. The overall stock of housing type has experienced a significant inversing change with single-family unit totals decreasing by (2.51%) while multi-family unit totals increasing by 3.03% over the corresponding 60-month period. The substantive change in the residency type ratio (i.e., single-family to multi-family units) has been (5.37%) from 1.21 to 1 in 2010.



Single Family to Multi Family:
1.21 to 1



Single Family to Multi Family:
1.14 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the SRSD jurisdictional boundary for the study period shows fulltime residents are relatively younger and with less economic standing compared to countywide averages. This information is drawn from census data collected between 2010 and 2014 and shows area residents' average median household income of $75,046 is close to one-fifth below the countywide amount. Comparisons also show SRSD residents have significantly higher average unemployment and poverty rates compared to countywide amounts and have significantly increased over the preceding five-year data collection period. SRSD residents are also close to being one-tenth younger with a median age of 40.6. Notable social indictors show SRSD residents are more ethnically diverse with 42.4% being non-native speakers and is nearly double the countywide rate. SRSD residents are also relative newcomers to the community with an average of 10.66% of occupied households arriving before Proposition 13 in 1979. This amount is nearly one-fifth below the countywide average of 12.80%.

SRSD's fulltime residents are generally younger and less affluent than most of the county populace and highlighted by a median household income average over the study period of $75,046; which is one-fifth below the county average. Also of note there has been sizeable amount of transition in SRSD over the last 40 years with only 11% of household owners have resided in their homes before the enactment of Proposition 13 in 1979.

SRSD: Resident Trends in Social and Economic Indicators
Table 4.28 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$76,534**	**$75,046**	**(1.94%)**	**$91,529**
Median Age	39.45	40.64	3.04%	45.10
Prime Working Age (25-64)	58.17%	64.59%	11.02%	55.28%
Unemployment Rate (Labor Force)	3.61%	6.09%	68.43%	4.70%
Persons Living Below Poverty Rate	9.67%	19.08%	97.40%	8.80%
Mean Travel to Work	25.25 min	26.68 min	5.53%	29.4 min
Working at Home (Labor Force)	7.4%	6.1%	(16.48%)	2.50%
Adults with Bachelor Degrees or Higher	45.25%	41.07%	(9.23%)	30.80%
Non English Speaking	39.66%	42.40%	6.91%	23.50%
Householder Pre Proposition 13 (1979)	12.86%	10.66%	(17.14%)	12.80%

* Amounts represent the result of a weighted calculation by estimated population performed by Marin LAFCO taking into proportional account of all nine census tracts underlying SRSD.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

SRSD's governance authority is established under the County Sanitation District Act of 1923 ("principal act") and codified under Public Health and Safety Code Sections 4700-4858. This principal act – which was enacted concurrently with an update to the similar provisions of the California Sanitary District Act – empowers SRSD to provide a moderate range of municipal services upon approval by LAFCO. As of date, SRSD is authorized to provide only one municipal service: (a) wastewater. All other latent powers enumerated under the principal act would need to be formally activated by LAFCO before SRSD would be allowed to initiate. Similarly, should it ever seek to divest itself of directly providing wastewater services, SRSD would also need to seek LAFCO approval. A list of active and latent powers for SRSD follows.

Active Service Powers
Wastewater

Latent Service Powers
Solid Waste; Not Collection
Recycled Water
Storm Drainage
Street Cleaning/Sweeping

SRSD has been governed since its formation in 1947 as a dependent special district with three appointments to its Board of Directors with two made by the San Rafael City Council and the third by the County Board of Supervisors. Appointees' serve staggered four-year terms and receive a $100 meeting per diem. The Board currently meets on the 4th Friday each month at 9:00 a.m. at the San Rafael City Hall located at 1400 Fifth Avenue in San Rafael. A current listing of SRSD Board of Directors along with respective backgrounds and years served follows.

Current SRSD Board Roster
Table 4.29 | Source: SRSD

Member	Position	Background	Years on Board
Gary O. Phillips | San Rafael	Chair	Certified Public Accountant	n/a
Maribeth Bushy | San Rafael	Director	Administrative Law Judge	n/a
Katie Rice | County of Marin	Director	Local Government Employee	n/a

5.2 Administration

SRSD Administrative Offices
111 Morphew Street
San Rafael, California 94901

Courtesy: Google

SRSD appoints an at-will General Manager to oversee all District operations. The current District Manager – Doris Toy – was appointed by the Board in 2009 and is fulltime. The General Manager oversees 14 other full-time employees and this includes two senior management support positions: Senior Civil Engineer and Sewer Maintenance Superintendent. SRSD contracts with San Rafael for a variety of staff support services ranging in scope from accounting with Maher Accountancy to information technology. SRSD also contracts with the County for legal through County Counsel.

6.0 WASTEWATER SERVICES

6.1 System Structure

SRSD directly provides wastewater collection services through its own infrastructure headlined by an approximate 146-mile collection system and 32 pump stations. The current infrastructure dates back to 1947 with the collection system divided between 133 miles of gravity lines and 13 miles of force mains. SRSD reports the average of its collection system ranges between 20 years for its force mains to 57 years for its gravity lines with an overall expected lifespan of 80 years for the entire system. Other integral aspects of wastewater service – and specifically treatment and disposal – are provided by contract to SRSD by CMSA and separately reviewed as part of this study.

SRSD's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – as of the study term is 20 years.

6.2 Wastewater Demands

Generators | Service Connections and Resident Population

SRSD reports service to 10,913 active wastewater service connections as of the term of the study period. This connection total is divided among three billing categories: (a) residential at 89.4% connections; (b) commercial at 7.7% connections and (c) other at 2.9% (industrial, public, etc.). The connections totals have experienced have remained stable within the five-year study period with only a 0.12% increase. Overall, the residential connections have consistently comprised no less than 89% of the total in any year. A breakdown of reported service connection types over the study period follows.

Service connection totals within SRSD have remained relatively consistent over the study period and 10,913 at the term. Residential users on average have accounted for 89.43% of all active connections.

SRSD: Service Connection Type Breakdown
Table 4.30 | Source: SRSD

Category	Residential	Commercial	Other	Net
2010	9,757	836	307	10,900
2011	9,761	846	310	10,917
2012	9.763	842	314	10,919
2013	9.761	842	312	10,915
2014	**9.758**	**840**	**315**	**10,913**
Overall Change	**0.01%**	**0.48%**	**2.61%**	**0.12%**

As detailed in the preceding section the Commission independently estimates SRSD's total resident service population at 40,744. The substantive result when aligning the two demand generators – service connections and resident population – is an average ratio of 4.09 persons for every residential connection. The ratio at the study term tallied 4.18. A breakdown of this ratio over the entire study period follows.

SRSD's current resident to residential connection ratio is 4.18 as of the term date of this study.

SRSD: Resident to Connection Ratio Breakdown
Table 4.31 | Source: Marin LAFCO

Category	Residential Connection	Estimated Resident Population	Resident to Connection Ratios
2010	9,757	39,381	4.04
2011	9,761	39,191	4.02
2012	9.763	39,906	4.09
2013	9,761	40,192	4.12
2014	**9,758**	**40,744**	**4.18**
Overall Change	**0.01%**	**3.46%**	**3.47%**

Recent Measurements | Wastewater Collection System Flows

SRSD's average annual wastewater collection demand generated over the study period as reported by the District and for ultimate treatment and disposal by CMSA has been approximately 1.591 billion gallons. This average amount, which serves as a macro overview of system demands, represents a daily average flow of 4.4 million gallons. It also translates over the study period to an estimated 109.4 gallons per day for each resident or 288.4 gallons per day for each occupied housing unit; it also translates to 400.0 gallons for every service connection.

Average annual wastewater flows generated within SRSD during the study period have produced the daily equivalent of 4.4 million gallons; an amount that further translates to 109 and 288 daily gallons for every person and occupied housing unit.

With respect to trends, annual demands within the five-year study period have shown an overall and steady (12.0%) decrease in flows over the span of the affected 60 months. The high annual demand point for the collection system occurred in 2010 with annual flow equaling 1.825 billion gallons. This high demand year translates over the study period to an estimated 127.0 gallons per day for each resident or 331.0 gallons per day of each occupied housing; it also translates to 458.7 gallons per day for each service connection. A breakdown of annual and daily wastewater flows over the study period in relation to population and housing follows.

Annual wastewater flows within SRSD have decreased by (12%) over the study period's 60-month point-to-point index; a difference of 219 million gallons.

SRSD: Recent Annual and Average Daily Flows Breakdown
Table 4.32 | Source: Marin LAFCO and SRSD

	2010	2011	2012	2013	2014	Average	Trend
Annual Flow Totals	**1.825 bg**	**1.606 bg**	**1.643 bg**	**1.278 bg**	**1.606 bg**	**1.591 bg**	**(12.0%)**
Daily Average	5.0 mg	4.4 mg	4.5 mg	3.5 mg	4.4 mg	4.4 mg	(12.0%)
- Daily Per Resident	127.0	112.3	112.8	87.1	108.0	109.4	(14.9%)
- Daily Per Housing Unit	331.0	294.4	297.5	231.1	288.3	288.5	(12.9%)
- Daily Per Connection	458.7	403.0	412.1	320.7	403.2	400.0	(12.1%)

"bg" refers to billons gallons
"mg" refers to millions gallons per day
Per resident as estimated by the Commission
Per housing unit refers to occupied status as estimated by the Commission

Along with average annual wastewater flow three other more micro measurements are tracked with respect to SRSD's collection system and provide additional context to assessing demand. These measurements are (a) dry weather flow, (b) wet-weather flow, and (c) peak-day flow and summarized below.

Dry-Weather Day Flows

Average dry-weather wastewater flows over the study period have been 3.3 million gallons. This flow typically is recorded between May and October and most recently tallied 3.1 million gallons as of the study term. The overall average dry-weather tally translates during the study period to 82.8 gallons for every resident or 206.7 gallons for every occupied housing unit; it also translates to 302.4 gallons per service connection. This measurement has decreased overall during the study period by (11.42%). A breakdown of flows during the study period follows.

SRSD: Recent Dry Weather Day Flows
Table 4.33 | Source: Marin LAFCO and SRSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	3.5 mg	88.9	219.6	321.1
2011	3.4 mg	86.8	213.1	311.4
2012	3.3 mg	82.7	206.6	302.2
2013	3.2 mg	79.6	200.7	293.2
2014	**3.1 mg**	**76.1**	**193.6**	**284.1**
Average	**3.3 mg**	**82.8**	**206.7**	**302.4**
Trend	**(11.42%)**	**(15.35%)**	**(11.84%)**	**(11.52%)**

"mg" refers to million gallons

Wet-Weather Day Flows

Average wet-weather day wastewater flows over the study period has been 5.42 million gallons. This flow typically is recorded between November and April and most recently tallied 5.7 million gallons at the study term. The overall average translates over the study period to 136 gallons for every resident or 339.5 gallons for every occupied housing unit; it also translates to 469.7 gallons for every service connection. This measurement has decreased overall during the study period by (12.31%). A breakdown of flows during the study period follows.

SRSD: Recent Wet Weather Day Flows
Table 4.34 | Source: Marin LAFCO and SRSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	6.5 mg	165.1	407.8	596.3
2011	5.4 mg	137.8	338.4	494.6
2012	5.7 mg	142.8	356.8	522.0
2013	3.8 mg	94.6	238.3	348.1
2014	**5.7 mg**	**139.9**	**356.0**	**522.3**
Average Trend	**5.42 mg (12.31%)**	**136.0 (0.51%)**	**339.5 (12.70%)**	**469.7 (12.41%)**

"mg" refers to million gallons

Peak-Day Flows

Average peak-day wastewater flows over the study period has been 19.14 million gallons producing a peak-factor relative to average day totals of 4.35. The average peak-day flow – which represents the highest volume during a 24-hour period for the affected year and typically is recorded during storm events – most recently tallied 26.7 million gallons as of the study term. The average wet-weather peak day tally translates to 479.7 for every resident or 1,198.3 gallons for every occupied housing unit; it also translates to 1,754 gallons for every service connection during the affected 60 months. This measurement has increased overall during the study period by 32.18%. A breakdown of flows during the study period follows.

SRSD: Recent Peak Day Flows
Table 4.35 | Source: Marin LAFCO and SRSD

Year	Peak Day System Total	Gallon Per Resident	Gallons Per Housing Unit	Gallons Per Connection	Peaking Factor
2010	20.2 mg	512.9	1,267.4	1,853.2	5.8
2011	18.0 mg	459.3	1,128.0	1,648.8	5.3
2012	24.8 mg	621.5	1,552.4	2,271.3	7.5
2013	6.0 mg	149.3	376.3	549.7	1.9
2014	**26.7 mg**	**655.3**	**1,667.4**	**2,446.6**	**8.6**
Average	**19.14 mg**	**479.7**	**1,198.3**	**1,754.0**	**5.8**
Trend	**32.18%**	**27.76%**	**31.56%**	**32.02%**	**49.23%**

"mg" refers to million gallons

Projected Measurements | Wastewater Collection System Flows

> The Commission independently estimates SRSD's annual wastewater demands will continue to decrease over the succeeding 10-year period at an average rate of (4.81%). This will result in the average day demand equaling 1.084 billion gallons in 2024.

Going forward – and specifically for purposes of this study – it appears reasonable to assume SRSD's wastewater flows will generally follow trends over the study period. It is estimated, accordingly and using linear regression to control for variances in the most recent yearend totals, the system will ultimately experience an overall decrease in annual wastewater flows of 521.3 million gallons over the succeeding 10-year period finishing in 2024; a difference of (48.05%) or (4.81%) annually. This projection continues SRSD's overall annual flows decrease incurred during the study period, albeit at a deintensified rate of two-fold. It is also estimated – in using regression analysis - the system's peak-day flows will ultimately decrease over the succeeding 10-year period by 0.74 million gallons or (2.48%) and resulting in a peaking factor of 8.7. The following table summarizes these and related projection flows through 2024.

SRSD: Projected Wastewater Flows
Table 4.36 | Source: Marin LAFCO and SRSD

Year	Average Annual Flows	Average-Day Flows	Dry-Weather Flows	Wet-Weather Flows	Peak-Day Flows
2014	1.825 bg	4.40 mg	3.10 mg	5.70 mg	26.7 mg
2015	1.438 bg	3.94 mg	3.03 mg	4.85 mg	21.2 mg
2016	1.400 bg	3.83 mg	2.96 mg	4.71 mg	21.7 mg
2017	1.361 bg	3.73 mg	2.89 mg	4.57 mg	22.2 mg
2018	1.323 bg	3.62 mg	2.82 mg	4.42 mg	22.8 mg
2019	1.284 bg	3.52 mg	2.78 mg	4.28 mg	23.3 mg
2020	1.244 bg	3.41 mg	2.69 mg	4.13 mg	23.8 mg
2021	1.205 bg	3.30 mg	2.62 mg	3.99 mg	24.3 mg
2022	1.165 bg	3.19 mg	2.55 mg	3.84 mg	24.9 mg
2023	1.125 bg	3.08 mg	2.47 mg	3.69 mg	25.4 mg
2024	1.085 bg	2.97 mg	2.40 mg	3.54 mg	26.0 mg
Average Trend	**1.263 bg (48.05%)**	**3.46 mg (48.05%)**	**2.72 mg (28.98%)**	**4.20 mg (61.00%)**	**23.6 mg (2.48%)**

"bg" refers to billion gallons
"mg" refers to million gallons

6.3 Wastewater Capacity

Constraints | Contractual Provisions

As referenced, SRSD utilizes CMSA to provide treatment and disposal services for all collected wastewater services generated within the District. This contract was established in 1979 with CMSA's treatment facility going online in 1984. The current contract does not establish any limitations or related constraints on total volume of wastewater conveyed to CMSA by SRSD or any of the other member agencies.

SRSD is under no contractual constraints with respect the volume of wastewater the District conveys to CMSA for treatment and disposal.

Constraints / Infrastructure and Facilities

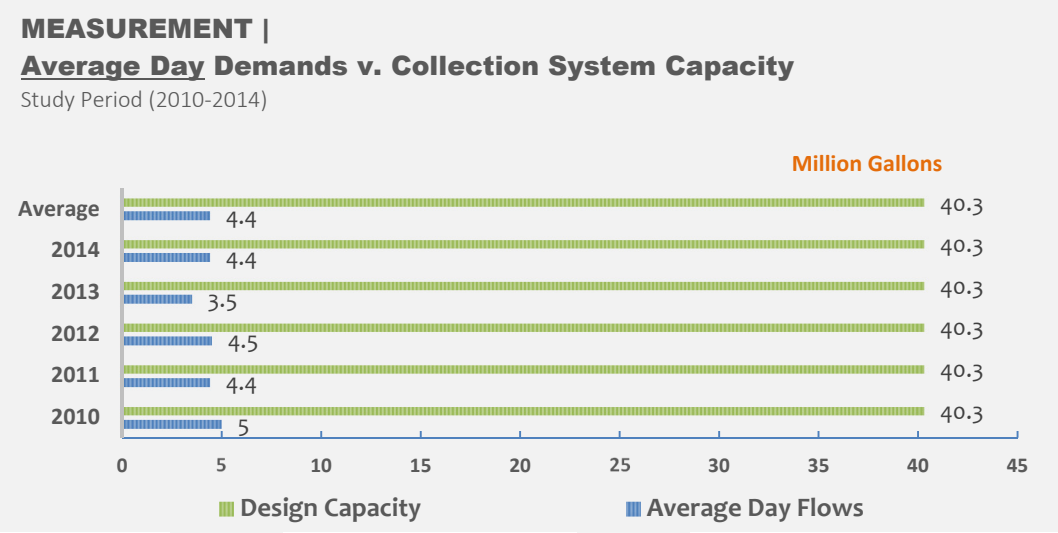
SRSD's collection system is approximately 146-miles in total length and divided between 133 and 13 miles of gravity and force lines, respectively. The percentage of forced mains to gravity flow pipelines has remained at 10% throughout the study period. The majority of the gravity lines are between 4 and 45 inches in diameter and supported by 32 strategically placed public pump stations that ultimately convey flows to CMSA. SRSD has two force main lines that direct flows

SRSD's collection system's daily capacity to convey flows to CMSA is estimated at 40.3 million gallons.

to CMSA. One force main flows from the South Francisco Pump Station with a design pump capacity of 1,800 gallons per minute or 2.592 million gallons a day and collects flows from the southern service area. The other force main known as the North Francisco Pump Station is located along Andersen Drive and collects from several pump stations. It is the largest pump station, which has a design capacity of 28,600 gallons per minute or 40.320 million gallons per day, and takes flows from Central San Rafael. The Anderson Drive Force Main also collects flows from East San Rafael to CSMA. For purposes of this review this latter reported amount – 40.3 million gallons – is deemed the maximum daily capacity of the collection system.

6.4 Demand to Capacity Relationships

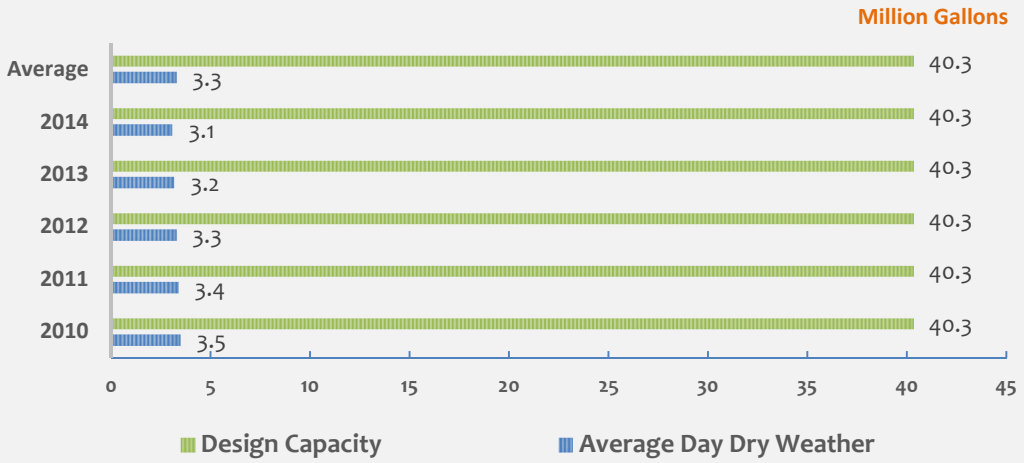
Study period flows averages show SRSD has sufficient available capacities within its collection system to accommodate current and projected demands over the succeeding 10-year period. Average annual demands over the study period equal 10.9% of the collection system capacity. Average dry-weather demands during the same period tally 8.2% of the collection system capacity. Average peak-day demands represent the biggest tax on the collection system and account over the study period to equal 66.2% of the collection system capacity. None of the capacity ratios are expected to significantly and adversely change over the succeeding 10-year period.



MEASUREMENT |

Average Dry-Weather Day Demands v. Collection System Capacity

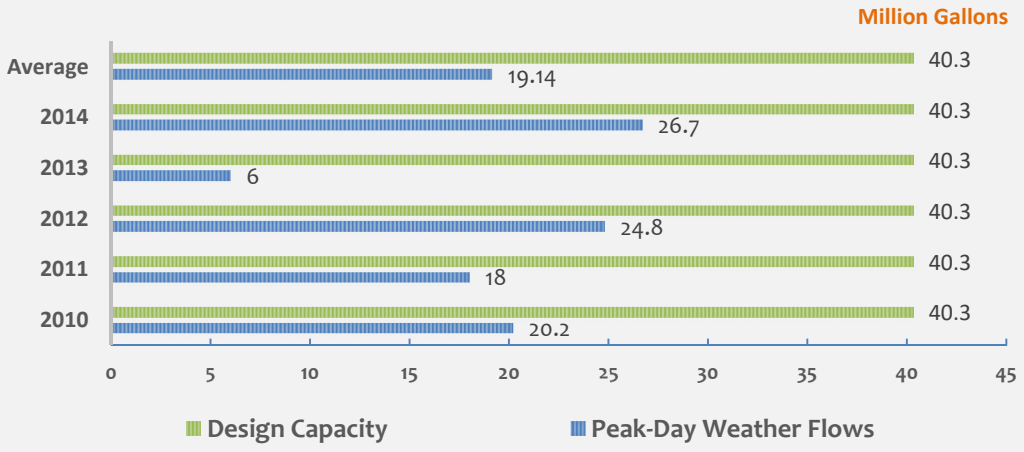
Study Period (2010-2014)



MEASUREMENT |

Average Peak-Day Demands v. Collection System Capacity

Study Period (2010-2014)



6.5 Performance

Measurement | Sanitary Sewer Overflows

The State Water Resources Control Board (SWRCB) requires all public agencies that own or operate sanitary collection systems that are one mile or more in length and convey to a public owned treatment facility comply with the reporting requirements codified in Order No. 2006-0003. This order mandates all subject agencies to develop and implement a system-specific sewer system management plan that includes a spill response plan as well as requiring immediately reporting to the SWRCB of all sanitary sewer overflows, or SSOs. The ultimate purpose of the SSO reporting process is to provide a uniform means to evaluate system reliability, source control, and operation and maintenance of wastewater systems in California. SSOs are defined as any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, and include any of the following occurrences:

a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

b) Overflows or releases of untreated or partially treated wastewater that do not reach water of the United States; and

c) Wastewater backups into buildings and on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

SRSD experienced 119 total SSOs during the five-year study period, and involved the unauthorized overflow of 0.025 million gallons.

Total number of SSOs recorded by SRSD during the study period was 119 with an overall spillage volume of 23,403 gal. The most recent year experienced 30 SSOs. The majority of the SSOs, a total of 130, were classified by the SWRCB as a Category 3, a spill of less than 1,000 gallons to not reach the surface water. SRSD experienced 11 SSOs classified as a Category 1 in which wastewater reached the surface water threatening public safety and environmental health. The average response time for SSOs during the study period was 27 minutes. A review of

each accompanying report incident suggests the main factors resulting in discharges were caused by the disturbance of roots, suggesting maintenance is needed to prevent future spillage and maintain system flows. According to SRSD, the District only accounted for 1 SSO that was a repeat occurrence and was attributed to roots.[26]

SRSD: Sanitary Sewer Overflows
Table 4.37 | Source: SWRQB

Year	Category 1		Category 2		Category 3		Total	
	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons
2010	2	600	1	1,825	20	1,851	23	4,276
2011	1	200	1	1,125	22	1,070	24	2,395
2012	3	510	0	0	26	1,056	3	1,566
2013	3	3,258	1	2,735	35	3,643	39	9,636
2014	3	1,575	0	0	27	3,955	30	5,530
	11	**6,143**	**3**	**5,685**	**130**	**11,575**	**119**	**23,403**

Measurement | System Maintenance

System maintenance for purposes of this study includes both corrective and preventative maintenance. Corrective maintenance, is performed when signals indicate a fault so that an asset can be restored to its operational condition. Preventative maintenance, conversely, is initiated according to a predetermined schedule rather than in response to failure. A summary of both measurements follow.

Corrective Maintenance

SRSD's corrective maintenance is noted in the number of service calls received to resolve, correct, or assist a particular situation. Through the entire 60-month study period the total number of service calls equaled 1,392, and produces an annual average sum 278. Close to two-thirds of all calls were tied to pump station alarms or non-District incidents at 34% and 32%, respectively. Another one-fifth involved public and private calls notifying sewer overflows at 10% and 12%, respectively.

[26] SRSD's has identified a chain of communication for reporting SSOs. The District's sewer maintenance staff are responsible for responding to SSOs. When an SSO is observed during normal business hours, it is expected to be reported to the sewer maintenance staff and during non-business hours the SSO is alerted to an on-call contractor to respond. The sewer maintenance staff assess and document the SSO, and provide the necessary information to the Maintenance Supervisor for mitigation, reporting and cleanup.

SRSD: Number of District Service Calls
Table 4.38 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014	Total	% of Total
General	26	2	26	28	37	117	8.4%
Public SSO	22	24	29	39	30	144	10.3%
Private SSO	11	37	28	36	48	160	11.5%
Odor Complaints	4	6	9	7	12	38	2.7%
Noise Complaints	3	2	3	8	7	23	1.7%
Pump Station Alarms	139	103	111	71	47	471	33.8%
Non-District Incidents	106	89	67	76	101	439	31.5%
	311	**261**	**273**	**265**	**282**	**1,392**	**100%**

Preventive Maintenance

SRSD's preventative maintenance was reported in its planned cleaning activities during the 60-month study period, which accounted for 731-miles. According to SRSD, all gravity sewer pipes are scheduled to be cleaned at least once every three years. Scheduled cleaning of gravity lines is based on list of maintained sewer lines, with some lines receiving frequent cleaning that are at a high risk of an SSO. SRSD cleans gravity sewer lines with high occurrences of fats, oils and grease (FOG) more regularly with a hydro flusher and cleans these areas at a minimum of twice per year. SRSD also has a system in place for pump stations to be checked 3 times per week. During the 60-month period, SRSD experienced (0) pump station failures.

SRSD does not record soft blockages that are relieved through regular maintenance, only SSOs. The agency utilizes a map application for tracking maintenance activities. SRSD implements closed-circuit televising (CCTV) inspection for the District's sewer mains that experience frequent backup and has a history of overflows. The District contracts most work for CCTV inspection, but utilizes a small lateral camera for shorter sections, and aims to perform CCTV inspection on ten percent of its sewer mains within 750 feet of surface water for the next five years. The District has performed outreach to plumbers and building contractors on its standard specifications and has reached out to the public for preventing blockages in private laterals. SRSD's rehabilitation and replacement plan calls to address the risk of collapsed pipes and frequent blockages due to defects and capacity issues. SRSD expects to meet preventative maintenance goals to replace all of its gravity sewer lines on an 80-year cycle. The level of infrastructure reinvestment the District achieved

during the entire study period came in at 89% byway completing 18,845 feet of the planned 21,125 feet of line replacement.

6.6 User Charges and Fees

SRSD bills one fee to its customers in recovering the District's wastewater service costs. This fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and contracted treatment/disposal expenses. Residential customers pay $828 each year for every dwelling unit. [27] Non-residential customers pay a rate based on estimated flows. There are no voter-approved special assessments.[28]

Most single-family customers in SRSD currently pay $828 a year for wastewater services.

7.0 AGENCY FINANCES

7.1 Financial Statements

SRSD contracts with an outside accounting firm (Vavrinek, Trine, Day and Company) to prepare an annual report for each fiscal year to review the District's financial statements in accordance with established governmental accounting standards. This includes vetting SRSD's statements with respect to verifying overall assets, liabilities, and equity. These audited statements provide the Commission with quantitative measurements in assessing SRSD's short and long-term fiscal health.

SRSD's most recent financial statements for the study period were issued for 2013-2014 and shows the District experienced a relatively sizable and positive change over the prior fiscal year as its overall equity or fund balance increased by 7.46% from $51.916 to $55.789 million. Underlying this most recent change in equity standing is the result of

End of Study Period **Financial Statements**	
Assets	$56.332 m
Liabilities	$0.543 m
Equity	$55.789 m

[27] Rates are subject to change each year. The rate listed is for Fiscal Year 2016-2017.

[28] SRSD also collects a dual connection fee in step with initiating new services. The connection fee for residential uses presently totals $9,290 for each dwelling unit and incorporates the buy-in charge for both collection (SRSD) and treatment/disposal (CMSA). Non-residential users' connection charges are based on the number of plumbing fixtures.

a notable rise in current assets and aided by a sharp increase in connection fees and sewer charges in 2013-2014. A summary of year-end totals and trends therein over the study period follows.

Agency Assets

SRSD's audited assets at the end of 2013-2014 totaled $56.332 million; more than 10% higher than the average sum generated over the course of the study period's prior four years (2009-2010 was not reviewed). As of the study term, assets classified as current with the expectation they could be liquidated within a year, represented approximately two-fifths of total assets tied to cash and investments and have risen by 60.70% over the 48-month period. Assets classified as non-current make up the remaining three-fifths of the asset total as of the study term and predominately comprise capital infrastructure with 66% less depreciation tied to sewer lines and have increased by 2.69% over the preceding 48 months.

SRSD Assets | Study Period
Table 4.39 | Source: SRSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	n/a	13.758	14.793	19.078	22.109	60.70%	17.434
Non-Current	n/a	33.328	34.110	33.340	34.223	2.69%	33.750
	n/a	47.086	48.904	52.419	56.332	19.64%	51.185

amounts in millions

Agency Liabilities

SRSD's audited liabilities at the end of 2013-2014 totaled $0.543 million; close to three fifths lower than the average sum generated over the course of the study period's prior four years. As of the study term liabilities classified as current representing obligations owed in the near-term represented the entire amount and tied to accounts payable and have overall decreased by (74.11%) over the preceding 48 months. SRSD booked no long-term liabilities throughout the 48 month period.

SRSD Liabilities | Study Period
Table 4.40 | Source: SRSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	n/a	2.097	0.491	0.503	0.543	(74.11%)	0.908
Non-Current	n/a	0.0	0.0	0.0	0.0	0.0%	0.0
	n/a	2.097	0.491	0.503	0.543	(74.11%)	0.908

amounts in millions

Agency Equity | Net Assets

SRSD's audited equity / net assets at the end of 2013-2014 totaled $55.789 million and represent the difference between the District's total assets and total liabilities. This amount has increased by 24.01% over the prior four years and primarily attributed to rises in current assets and aided therein by consistent operating surpluses. The unrestricted portion of the net assets as of the study term totals $21.566 million and translates to a per capita reserve ratio of $529 based on a corresponding and projected resident total of 40,744.

SRSD's net assets have increased by 24.01% over the prior four year period and largely driven by a rise in current assets generated by profit gains. The unrestricted fund balance as of the study term total of $21.566 million equates to a per capita reserve ratio of $529.

SRSD Net Assets | Study Period
Table 4.41 | Source: SRSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Unrestricted	n/a	12.143	14.302	18.575	21.566	77.59%	16.646
Restricted	n/a	32.845	34.110	33.340	34.223	4.20%	33.629
	n/a	44.988	48.412	51.916	55.789	24.01%	50.276

amounts in millions

7.2 Measurements / Liquidity, Capital, Margin, and Structure

A review of the audited financial statements issuanced by SRSD covering the study period's last four years and specifically 2010-2011 through 2013-2014 shows the District finished the term with high and improving liquidity. This includes noting SRSD's current ratio finished the term with a current ratio of over 40 to 1 as well as over two years – or 805 days – of cash on hand to cover operating expenses. Both of these measurements also improved by no less than 35% over the preceding 48 month period. SRSD also finished the study term with high and stable levels of capital with less than 1% of its net assets being tied to long-term debt financing. SRSD also finished each year with positive total and operating margins with the former and latter averaging 26.17% and 18.59%, respectively. The referenced operating profits are also reflected in SRSD's average earned income ratio – i.e., the percent of direct service fees relative to annual revenues – of 90.54% for the 48 month period. A summary of year-end liquidity, capital, margin, and

structure ratios are show in the following table.

SRSD: Financial Measurements | Study Period
Table 4.42 | Source: SRSD Financials and Marin LAFCO

Fiscal Years	Current Ratio	Days' Cash	Debt Ratio	Total Margin	Operating Margin	Earned Income Ratio
2009-2010	n/a	n/a	n/a	n/a	n/a	n/a
2010-2011	6.559 to1	593.63	4.45%	28.51%	21.47%	90.50%
2011-2012	30.083 to 1	609.60	1.01%	25.16%	17.65%	90.85%
2012-2013	37.911 to 1	787.38	0.96%	25.63%	18.08%	90.79%
2013-2014	40.706 to 1	805.16	0.96%	25.40%	17.15%	90.04%
Average	**28.815 to 1**	**698.94**	**1.85%**	**26.17%**	**18.59%**	**90.54%**
Trend	**520.58%**	**35.63%**	**(78.36%)**	**(10.91%)**	**(20.14%)**	**(0.50%)**
		Liquidity	**Capital**		**Margin**	**Structure**

Notes

Current Ratio (liquidity) relates to the ability of the agency to pay short-term obligations (current liabilities) relative to the amount of available cash and cash equivalents (current assets). Higher is better.

Days' Cash (liquidity) measures the number of days' worth of average operating expenses the agency can meet with cash on hand. Higher is better.

Debt Ratio (capital) measures the portion of agency's total assets that are directly tied to debt financing. Lower is better.

Total Margin (profit) represents the year-end profit level of the agency and includes all revenues and expenses. Higher is better.

Operating Margin (profit) represents the year-end profit level of the agency specific to its normal and reoccurring revenues and expenses tied to service provision. Higher is better.

Earned Income (structure) measures the portion of annual revenues that are directly tied from fees for services. Higher is better for enterprise agencies.

7.3 Pension Obligations

SRSD through the City of San Rafael provides a defined benefit plan to its employees through an investment risk-pool contract with the Marin County Employees' Retirement Association (MCERA). This pension contract provides employees with specified retirement benefits and includes disability benefits, annual cost-of-living adjustments, and death benefits to members and their beneficiaries. Actual pension benefits are based on the date of hire. Employees hired before January 1, 2013 are termed "Category One" while employees hired afterwards are termed "Category Two." Additional details of the pension program based on actuarial valuations issued by MCERA follows.

Participants | Pension Formulas

Most San Rafael employees receive one of two types of defined pensions based on either a 2.7 @ 55 or 2.0 @ 55 formula. Employees hired after January 1, 2013 receive a 2.0 @ 62 pension formula.

As of the study period's term (2014) there are a total of 623 participants within San Rafael's miscellaneous pension program (i.e., non-public safety). This total amount – which represents an overall increase of 6.1% in participants since 2010 – is further divided between enrollee type (i.e., active, separated, transferred, retired) and marked by a worker-to-retiree ratio of 1.03 to 1 as of the study term; meaning there is effectively one active member contributing to the retirement program for everyone one retiree. Category One participants are eligible to receive one of two types of retirement payments. The first and predominate tier within Category One is based on a 2.7 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 54% of their highest one year of salary beginning at age 55 and continuing each year thereafter. The second tier is based on a 2.0 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 40% of their highest one year of salary beginning at age 55 and continuing each year thereafter. Category Two participants are subject to a flat 2.0% at 62 pension formula. This tier provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 62 and continuing annually thereafter.

San Rafael's Pension Enrollee Information | Miscellaneous
Table 4.43 | Source: MCERA and Marin LAFCO

Type	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Active	233	240	217	220	217
Transferred	67	64	57	55	56
Separated / Other	114	112	131	132	139
Retired	173	178	195	202	211
Total Enrollees	**587**	**594**	**600**	**609**	**623**
Worker-to-Retiree Ratio	**1.35**	**1.35 to 1**	**1.11 to 1**	**1.09 to 1**	**1.03 to 1**

Annual Contributions

San Rafael's total annual pension contributions as of the study period's term tallied $17.576 million. This amount represents an overall increase over the five-year study period of 38% and is almost four-fold greater than the corresponding inflation rate calculated for the San Francisco Bay Region.[29] The most recent annual pension contribution by San Rafael for the study period equaled 56% of the City's total annual payroll for the corresponding fiscal year (2013-2014).[30]

San Rafael's pension contributions have increased by 38% over the five-year study period, and as of 2013-2014 account for 56% of total payroll.

San Rafael's Pension Contributions
Table 4.44 | Source: MCERA and Marin LAFCO

2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
$12,745,613	$15,409,519	$14,627,709	$15,522,832	$17,576,796
			Five-Year Average	**$15,176,493**
			Five-Year Trend	**37.90%**

Funded Status

San Rafael's unfunded liability – tally of pension monies owed and not covered by assets – ended the study period at $136.200 million and as such represents 112.1% of the City's unrestricted fund balance as of June 30, 2014. This former amount produces a funded ratio of 72% based on market value. It also reflects an overall improvement of 13% in the funded ratio over the preceding four-year period.[31]

San Rafael's unfunded pension liability has decreased over the last four years of the study period by (8%) and ended the term at $136.200 million; the equivalent of a 72% funded ratio (market).

[29] According to the United States Department of Labor the overall inflation rate in the San Francisco Bay Area region between 2010 and 2014 tallied 10.77%.
[30] San Rafael's covered annual payroll in 2013-2014 totaled $31.4 million.
[31] Pension information for 2009-2010 is not available.

San Rafael's Pension Trends
Table 4.46 | Source: MCERA and Marin LAFCO

	Unfunded Liability	Funded Ratio
2009-2010	n/a	n/a
2010-2011	$148,300,000	64.07%
2011-2012	$169,300,000	61.33%
2012-2013	$143,241,000	68.00%
2013-2014	$136,200,000	72.36%
Four-Year Average	**$149,260,250**	**66.44%**
Four-Year Trend	**(8.16%)**	**12.94%**

Amounts above are show in market form and reflects the immediate and short term values of the pension with respect to assets and liabilities (i.e., here and now).

7.4 Revenue to Expense Trends

A review of SRSD's overall actual revenues and expenses during the last four years of the study period and specific to 2010-2011 to 2013-2014 shows operating surpluses in each year. Overall actual revenues averaged $14.010 million over the 48 month period compared to $10.353 million in actual expenses; a difference of more than one-third or 35.32%. The referenced separation, however, has been narrowing with the growth rate of expenses at 17.57% outpacing the growth rate of revenues at 12.94% over the 48 month period.

SRSD's overall revenues have outgained overall expenses in each of the last four years of the study period with an average monetary separation of $3.656 million – or 26.1%. Nonetheless, this separation has narrowed over the same period with expenses outpacing revenues by more than one-third.

SRSD's revenue ledger consists of five distinct categories with sewer service charges accounting on average for 90.53% of the total. Another 8.80% of the revenue average has been drawn from property taxes. The remaining revenue total – 0.67% – has been drawn and in proportional magnitude from investment earnings, connection fees, and intergovernmental contributions. SRSD's expense ledger also consists of five distinct categories with contract costs with CMSA for treatment and disposal services accounting for the single largest resource demand and on average over the 48 months tallying 54.15% of the total. Operation and maintenance of the collection system on average has tallied another 30.36% of the resource demand total and followed in magnitude by capital

Top Revenue Categories:
1) Sewer Charges @ 90.5%
2) Property Taxes @ 8.8%

Top Expense Categories
1) CMSA Contract @ 54.2%
2) Collection System @ 34.4%

depreciation, general administration, and interest expenses at 12.43%, 2.85%, and 0.21%, respectively.

SRSD Actual Revenue Trends| Study Period
Table 4.47 | Source: SRSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Sewer Charges	n/a	12.220	12.368	12.413	13.732	12.37%	12.683	90.53
Property Taxes	n/a	1.214	1.192	1.177	1.345	10.74%	1.232	8.80
Intergovernmental	n/a	0.006	0.006	0.056	0.022	240.44%	0.023	0.17
Interest	n/a	0.59	0.24	0.17	0.23	(59.97%)	0.031	0.22
Connection Fees	n/a	0.002	0.018	0.007	0.128	>1000%	0.039	0.28
	n/a	**13.504**	**13.614**	**13.672**	**15.251**	**12.94%**	**14.010**	**100.00**

amounts in millions

SRSD Actual Expense Trends| Study Period
Table 4.48 | Source: SRSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Collection System	n/a	2.978	3.010	3.12	3.460	16.18%	3.143	30.36
CMSA Contract	n/a	5.228	5.567	5.395	6.234	19.26%	5.606	54.15
Depreciation	n/a	1.137	1.327	1.325	1.355	19.14%	1.286	12.43
Administration	n/a	0.252	0.280	0.322	0.326	29.45%	0.295	2.85
Interest Expenses	n/a	0.080	0.005	0	0	100.00%	0.021	0.21%
	n/a	**9.677**	**10.190**	**10.169**	**11.378**	**17.57%**	**10.353**	**100.00**
Net	**n/a**	**3.826**	**3.423**	**3.503**	**3.873**			

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C. ROSS VALLEY SANITARY DISTRICT

1.0 OVERVIEW

County Sanitary District No. 1 or the Ross Valley Sanitary District (RVSD) as it is more commonly known was established in 1899 and encompasses an approximate 19.7 square mile jurisdictional boundary within east-central Marin County. Governance is provided by an independent five-member Board of Directors whose members are elected at-large to staggered four-year terms. Seven local land use authorities overlap RVSD's jurisdictional boundary and headlined by the County of Marin, which covers 41% of all jurisdictional lands and includes the unincorporated communities of Greenbrae, Kentfield, and Sleepy Hollow. The rest of RVSD's jurisdictional boundary is divided between the City of San Anselmo at 26%, Town of Fairfax at 20%, Town of Ross at 7%; City of Larkspur at 5%; and Cities of San Rafael Mill Valley with each less than 1%.

Bon Air Shopping Center

Courtesy / Visit Marin

RVSD is currently organized as a single-purpose agency with municipal operations limited to wastewater collection though it is empowered – subject to LAFCO approval – to provide solid waste (including collection), recycled water, and storm drainage services. RVSD maintains an approximate 202-mile collection system with its own personnel while contracting – and as a signatory – with the Central Marin Sanitation Agency (CSMA) for wastewater treatment and disposal services. RVSD's adopted operating budget at the term of the study period was set at $14.4 million and with funding dedicated for the equivalent of 38 fulltime employees. The year-end unrestricted fund balance was $10.6 million with an associated days-cash ratio totaling 315; i.e., the amount of cash on hand the District can cover operating expenses based on 2013-2014 actuals.

Ross Valley Sanitary District	
Formation Date:	1899
Principal Act:	Health and Safety Sections 6400-6982
Service Categories:	Wastewater Collection
Service Population	40,809
Governance Type	Independent

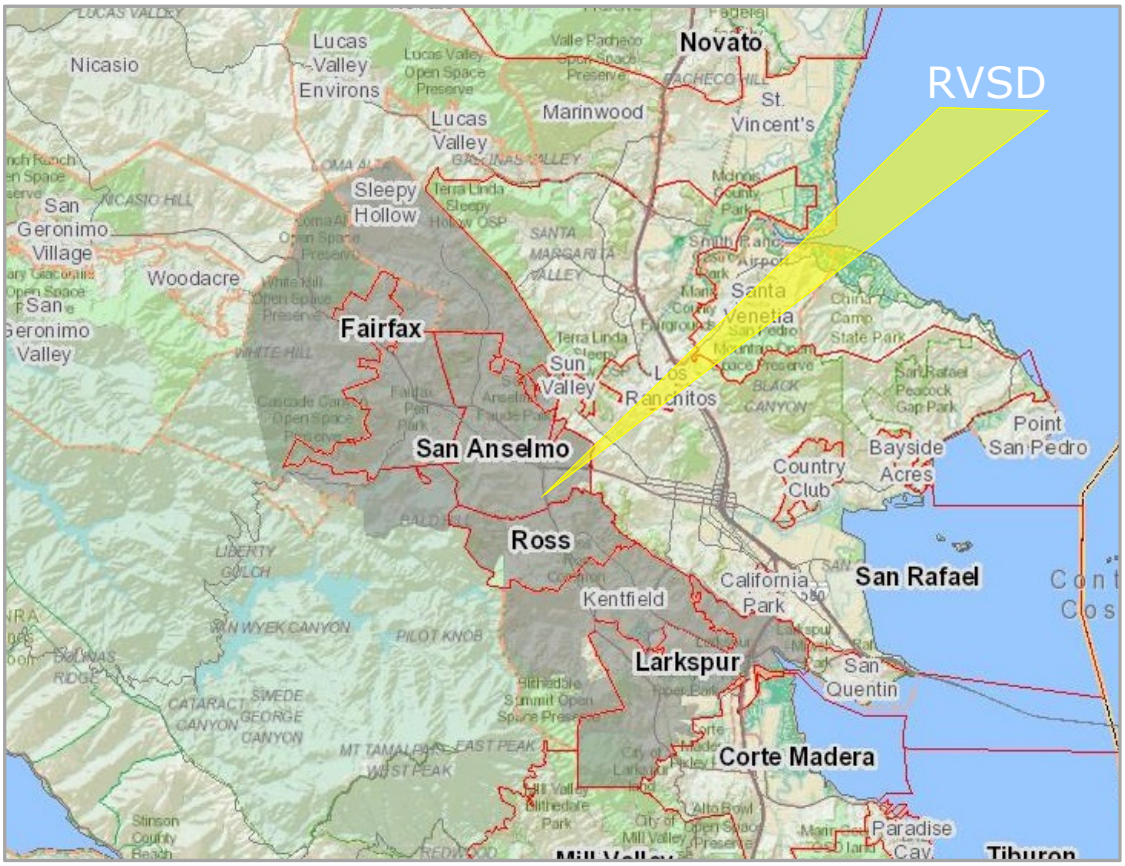
The Commission independently estimates the resident service population within RVSD totals 40,809 as of the term of this study period (2014). It is also projected RVSD's population growth rate over the five-year study period totaled 3.4% or 0.69% annually with the underlying change primarily attributed to the projected increase of 630 new housing units. The substantive result of these Commission estimates is the projected addition of 1,356 residents in RVSD between 2010 and 2014. Overall it is also estimated by the Commission nearly 73% of the jurisdictional boundary has already been developed and or improved – though not necessarily at the highest density. This means 27% of the jurisdictional boundary remains entirely undeveloped, and this includes 827 existing unbuilt and privately owned parcels that are zoned for some type of urban use.[32]

2.0 BACKGROUND

2.1 Community Development

It appears RVSD's central service area – Ross Valley – began its present-day development in the mid-1800s when Mexican land grants were established in California following Mexico's independence from Spain in 1821. During this period, records show that Ross Valley was a small agrarian community of loggers and ranchers. Ross Valley's footprint began to change away from agrarian uses in 1840 when the area was gifted by Mexico to Englishman John Rodgers Cooper as part of an approximate 9,000 land grant known as the "Rancho Punta de Quentin Canada de San Anselmo." Cooper subsequently became a Mexican citizen, married a sister of General Mariano Vallejo, and changed his name to Juan Bautista Cooper. In 1857, James Ross purchased a large segment of the Cooper land grant for $50,000. Originally from Scotland, Ross ventured to California in 1849 and ran a wholesale wine and liquor business in San Francisco until his purchase of the rancho. Upon Ross' death in 1862, large portions of his land holdings were sold off as new landowners settled in what was to be known as "Ross Valley."

[32] Additional analysis is needed to assess the actual development potential of these 827 unbuilt parcels.



The advancement of urban development in Ross Valley arose upon the completion of the North Pacific Railroad (NPC) in 1875 and its arterial rail-line connecting Sausalito and San Rafael. It was estimated at the time of the NPC opening rail service that Ross Valley had less than 1,000 in total population. The railroad hub, referred to as the Junction, was located in the heart of Ross Valley in San Anselmo and allowed riders to reach San Francisco byway of ferry from the station within an hour. As a result of the new passage, an incoming flux of inhabitants settled in Ross Valley as more lots were subdivided due to the new accessibility of the area and spurring the establishment of the communities of San Anselmo and Ross followed later by Fairfax.

Towards the end of the 1890s the continued transition of Ross Valley from agrarian to urban uses and marked by an estimated population of nearly 2,000 proved overwhelming for local creeks to handle the resulting wastewater runoff. Dry months became particularly problematic as water quality worsened and – among other considerations – began to adversely affect the San Anselmo Creek, which had recently become a supply

source for the region's expanding water provider, Marin County Water Company.[33] These discussions ultimately led community leaders to the Legislature and make use of a relatively new law established almost 10 years earlier to facilitate a planned development in Fresno County known as the Sanitary District Act of 1891.

2.2 Formation Proceedings

RVSD's formation was petitioned by area landowners directly to the State Legislature and subsequently confirmed by voters in 1899. Formation proceedings preceded RVSD constructing a public sewer main to collect and convey raw wastewater generated from private and community conduits from Fairfax to Greenbrae and into the opening slough of the Corte Madera Creek.

2.3 Post Formation Activities

A summary of notable activities undertaken by RVSD and/or affecting the District's service area following formation in 1899 is provided below.

- The City of San Anselmo was incorporated in April 1907.
- The Town of Ross was incorporated in August 1908.
- RVSD constructs its first wastewater facility in 1922 in Greenbrae to provide basic screening of wastewater before discharging into Corte Madera Creek.
- The Town of Fairfax was incorporated in March 1931.
- RVSD constructs a second wastewater facility in 1945 at the Larkspur Landing in partnership with the City of Larkspur and County Sanitary District No. 2 to provide secondary treatment before discharging into Corte Madera estuary.

[33] The Marin County Water Company and its water rights were purchased in conjunction with the formation of the Marin Municipal Water District in 1912.

- In 1979 – and following the enactment of the Clean Water Quality Act and associated regulations with discharges into open water bodies – RVSD becomes a signatory member in creating CMSA with County Sanitary District No. 2, City of Larkspur, and the San Rafael Sanitation District.

- RVSD deactivates the Larkspur Landing facility in 1984 in conjunction with redirecting all wastewater flows to CMSA's new wastewater facility.

- RVSD requests and receives approval by the Commission in 1993 to annex the City of Larkspur and assumes wastewater collection responsibilities thereafter.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

RVSD's jurisdictional boundary spans approximately 19.7 square miles in size and covers 12,627 total acres (parcels and right-of-ways). There are seven land use authorities overlapping the jurisdictional boundary. The County of Marin is the single largest land use authority in terms of acreage with an estimated 41% of all RVSD lands lying in the unincorporated area and headlined by the inclusion of the Kentfield and Greenbrae communities. Another 26% and 20% of RVSD lands fall under the land use authorities of the City of San Anselmo and Town of Fairfax, respectively. The remaining portion of RVSD lands are distributed under the land use authorities of Town of Ross at 7%, City of Larkspur at 5%, City of San Rafael at 0.4%, and City of Mill Valley at 0.1%.

RVSD's jurisdictional boundary spans 20 square miles and overlaps seven land use authorities with the County of Marin being the largest with the unincorporated area covering 41% of all District lands.

Total assessed value (land and structure) in RVSD is currently calculated at $13.4 billion and translates to a per acre value of $1.1 million. This former amount – $13.4 billion – further represents a per capita value of $0.328 million based on an estimated service population of 40,809. RVSD's set allocation of property tax proceeds – i.e., its share of the 1% – is 7.79%.

Assessed land values in RVSD totals $13.4 billion, and based on receiving 7.79% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $10.438 million.

RVSD Boundary Breakdown: Land Use Authorities
Table 4.49 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	3,850	40.9%	5,128	5,253
Town San Anselmo	2,436	25.9%	5,466	6,264
Town of Fairfax	1,904	20.2%	3,173	3,900
Town of Ross	676	7.2%	847	883
City of Larkspur	511	5.4%	2,418	3,486
City of San Rafael	35	0.4%	44	40
City of Mill Valley	1	0.1%	1	0
	9,415	**100**	**17,077**	**19,826**

As provided in the preceding table there are 17,077 overall assessor parcels currently within RVSD and collectively add up to 9,415 acres as of June 2016.[34] Almost three-fourths – or 73% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density.[35] This existing development is highlighted by the standing construction of 19,826 residential units and divided between single-family and multi-family on a 75 to 25% split. The remaining one-fourth plus – or 27% – of the current assessor parcel acreage within RVSD is undeveloped/unimproved. This includes 827 un-built and privately owned assessor parcels that combine to total 790 acres. (Additional analysis would be needed to determine the actual development potential of these unbuilt

Almost three-fourths of RVSD's jurisdictional boundary has already been developed/improved – though not necessarily at the highest allowable density. This means one-fourth of the boundary remains entirely undeveloped, and this includes 827 un-built and privately owned parcels zoned for some type of urban use.

34 The remaining 3,212 jurisdictional acreage within RVSD are tied to public right-of-ways and waterways.

35 This portion of developed acreage includes parcels dedicated as common areas.

assessor parcels.) The remaining undeveloped/unimproved assessor acreage within RVSD – or 1,756 acres – is publicly owned and generally dedicated to municipal or open space uses.

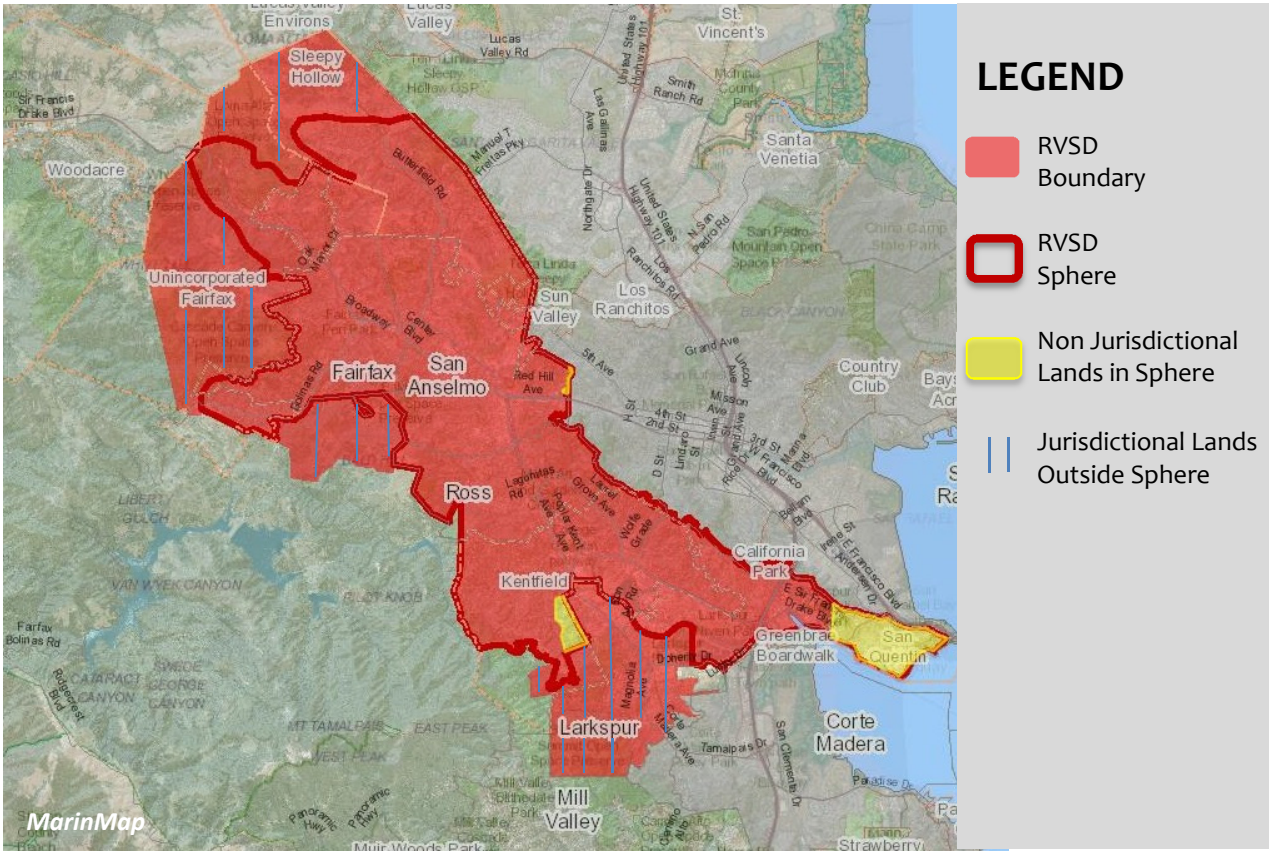
RVSD Boundary Breakdown: Land Use Features
Table 4.50 | Source: Marin LAFCO

% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
73.0	19,826	74.8	827	790

3.2 Sphere of Influence

RVSD's sphere of influence was initially established by the Commission in 1985 and last reviewed and updated in 2006. The sphere spans approximately 8,774 acres or 13.7 square miles in size. The sphere is nearly one-third – or 30% – smaller than RVSD's actual jurisdictional boundary. Most notably, there are three distinct areas within RVSD that lie outside the sphere – south Larkspur, unincorporated Fairfax, and north Sleepy Hollow – and collectively tally 3,853 acres. There are also non-jurisdictional lands that are included in the sphere totaling 56 acres (parcels and right-of-ways) and as such are immediately eligible for annexation or outside service extension subject to Commission approval. This includes 112 assessor parcels with 100% being privately owned and zoned for some type of urban use with the majority lying in Murray Park.

RVSD's sphere of influence includes two unique features. First, the sphere excludes almost one-third of the jurisdictional boundary covering 3,853 acres concentrated in three areas: south Larkspur, unincorporated Fairfax, and north Sleepy Hollow. Second, the sphere includes 56 acres of non-jurisdictional land – including all parcels located within the Murray Park and San Quentin Sewer Maintenance Districts.



4.0 DEMOGRAPHICS

4.1 Population Estimates

RVSD's resident population within its jurisdictional boundary is independently estimated by the Commission at 40,809 as of the term of the study. This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents

LAFCO estimates there are 40,809 total residents within RVSD that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated RVSD has experienced an overall population increase of 1,356 over the preceding five-year period, resulting an in annual growth rate of 0.69%. New and occupied housing units over the same period within RVSD totaled 694 with a net change in persons per household – i.e., an intensity measurement – of (4.5%).

15.7% of the estimated countywide population.[36] It is also projected RVSD has experienced an overall population growth rate of 3.44% over the preceding five-year period or 0.69% annually. The net effect of the population change in RVSD over the study period is the addition of an estimated 1,356 persons. Underlying this projected increase is the addition of an estimated 694 new and occupied housing units within the jurisdictional boundary despite a corresponding deintensification of household sizes over the span of the five-year period starting at 2.22 in 2010 and ending at 2.21 in 2014; the latter being a net intensity decrease of (4.5%). Overall projected growth within RVSD during the study period is one-tenth above the concurrent annual change estimated for the entire county – 0.62%.[37]

RVSD Resident Population: Past and Current Estimates
Table 4.51 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
b) Total Housing Units	18,873	19,029	19,186	19,344	19,503
b) Local Occupancy Rate	94.39	93.27	94.29	94.29	94.90
e) Occupied Housing Units	17,814	17,745	18,089	18,238	18,508
f) Projected Household Size	2.215	2.212	2.210	2.207	2.205
Estimated Population	**39,454**	**39,261**	**39,974**	**40,259**	**40,809**

** rounded for reporting purposes*

With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate with RVSD will generally match the preceding five-year period with an overall yearly population change of 0.687%. The substantive result of this assumption would be an overall increase in RVSD's resident population of 2,893 and produce a net total of 43,702 by 2024. This growth rate, similarly, would generate the addition of 1,268 new and occupied housing units within RVSD through 2024 assuming the preceding five-year average ratio of 2.21 persons for every one occupied housing unit holds. These collective projections going forward are summarized below.

[36] Marin LAFCO's resident service population for RVSD is independently calculated and premised on occupied housing driving resident estimates based on data collected within the seven affected census tracts in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to RVSD over the study period include a weighted an annual housing unit change of 0.818% and a weighted annual household size change of (0.111%). The annual weighted population change is 0.687%.

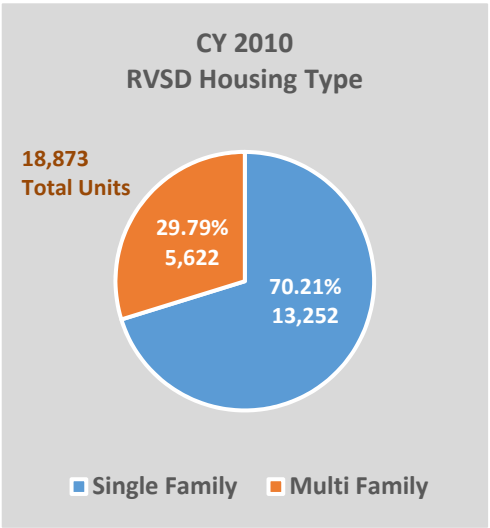
[37] Marin County's estimated population as of January 1, 2014 totaled 260,750 based on information published by the United States Census and marks a 3.01% increase over the preceding five-year period.

RVSD Resident Population: Future Estimates
Table 4.52 | Source: Marin LAFCO

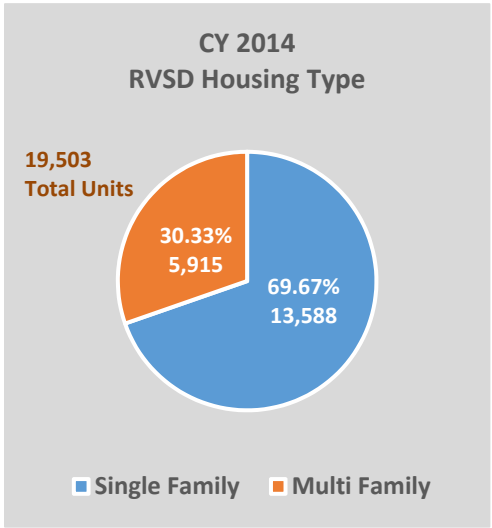
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**40,809**	**41,372**	**41,943**	**42,521**	**43,108**	**43,702**
Occupied Housing Units	18,508	18,772	18,980	19,242	19,507	19,776
- residents to housing units	2.20	2.21	2.21	2.21	2.21	2.21
	baseline year					

4.2 Residency Type

The Commission projects RVSD's residential unit total of 19,503 (occupied and unoccupied) as of the study term being divided between single family and multi-family use at 69.67% (13,588) and 30.33% (5,915), respectively. These totals produce an estimated ratio of 2.30 to 1 with respect to the number of single-family units for each one multi-family unit within the jurisdictional boundary. The overall stock of housing type has experienced an inversing change with single-family unit totals decreasing by (0.78%) while multi-family unit totals increasing by 1.83% over the corresponding 60-month period. The substantive change in the residency type ratio (i.e., single-family to multi-family units) has been (2.56%) from 2.36 to 1 in 2010.



Single Family to Multi Family:
2.36 to 1



Single Family to Multi Family:
2.30 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the RVSD jurisdictional boundary for the study period shows fulltime residents are relatively in better economic positions compared to countywide averages. This information is drawn from census data collected between 2010 and 2014 and shows area residents' average median household income is close to one-fifth above the countywide amount of $91,529 at $108,510. Area resident averages also fall measurably below countywide amounts with respect to unemployment and poverty rates. (Albeit the former referenced category – unemployment – did experience a 50% increase over the preceding five-year data collection period and presumably helps to explain the dual increase in mean travel time to work - 7% - and decrease in prime working age – (10%). Notable social indictors show RVSD residents have significantly higher levels of formal education with 65.8% possessing a bachelor's degree and is more than double the countywide rate. Also recent averages show RVSD residents are less ethnically diverse with 13.8% being non-native speakers and is nearly double less the countywide rate.

RVSD's fulltime residents are generally more affluent than most of the county populace and highlighted by a median household income average over the study period of $108,510. Also of note there has been sizeable amount of transition in RVSD over the last 40 years with only 12% of RVSD household owners having resided in their homes before the enactment of Proposition 13 in 1979.

RVSD: Resident Trends in Social and Economic Indicators
Table 4.53 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$105,455**	**$108,510**	**2.9%**	**$91,529**
Median Age	45.36	46.27	2.0%	45.10
Prime Working Age (25-64)	58.10	52.12	(10.30%)	55.28%
Unemployment Rate (Labor Force)	3.20%	4.79%	49.5%	4.70%
Persons Living Below Poverty Rate	6.24%	6.45%	3.40%	8.80%
Mean Travel to Work	29.02 min	31.05 min	7.0%	29.4 min
Working at Home (Labor Force)	10.3%	11.0%	6.7%	2.50%
Adults with Bachelor Degrees or Higher	61.48%	65.80%	7.0%	30.80%
Non English Speaking	14.56%	13.82%	5.1%	23.50%
Householder Pre Proposition 13 (1979)	17.32%	12.37%	(28.60%)	12.80%

* Amounts represent the result of a weighted calculation by estimated population performed by Marin LAFCO taking into proportional account of all seven census tracts underlying RVSD.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

RVSD's governance authority is established under the Sanitary District Act of 1923 ("principal act") and codified under Public Health and Safety Code Sections 6400-6982. This principal act was originally enacted in 1891 and empowers RVSD to provide a moderate range of municipal services upon approval by LAFCO. As of date, RVSD is authorized to provide only one municipal service: (a) wastewater. All other latent powers enumerated under the principal act would need to be formally activated by LAFCO before RVSD would be allowed to initiate. Similarly, should it ever seek to divest itself of directly providing wastewater services, RVSD would also need to seek LAFCO approval. A list comparing RVSD's active and latent powers follows.

Active Service Powers	Latent Service Powers
Wastewater	Solid Waste (Includes Collection)
	Recycled Water
	Storm Drainage

RVSD has been governed since its formation in 1899 as an independent special district with registered voters comprising a five-member governing board. Members are either elected or appointed in lieu of consented elections to staggered four-year terms with a rotating president system. Members receive a $314 meeting per diem. The Board regularly meets on the third Wednesday each month at the Central Marin Police Authority's Community Room located at 250 Doherty Drive in Larkspur. A current listing of RVSD Board of Directors along with respective backgrounds and years served on the District follows.

Current RVSD Board Roster
Table 4.54 | Source: RVSD

Member	Position	Background	Years on Board
Mary Sylla	President	Public Health	4
Thomas Gaffney	Treasurer	Finance Consultant	2
Michael Boorstein	Secretary	Computer Engineer	2
Doug Kelly	Member	Business	1
Pamela Meigs	Member	Nurse	6
		Average Years of Board Experience	**3.0**

5.2 Administration

RVSD appoints an at-will General Manager to oversee all District operations. The current General Manager – Greg Norby – was appointed by the Board in 2013 and is fulltime. The General Manager oversees 37 other full-time employees and this includes three senior management support positions: Operations and Maintenance Manager; Infrastructure Assets Manager; and Business and Administrative Services Manager. RVSD contracts for human resources and legal services with Regional Government Services Authority (Carmel Valley) and Downey Brand (Sacramento), respectively.

RVSD Administrative Offices
2960 Kerner Boulevard
San Rafael, California 94901

Courtesy: RVSD

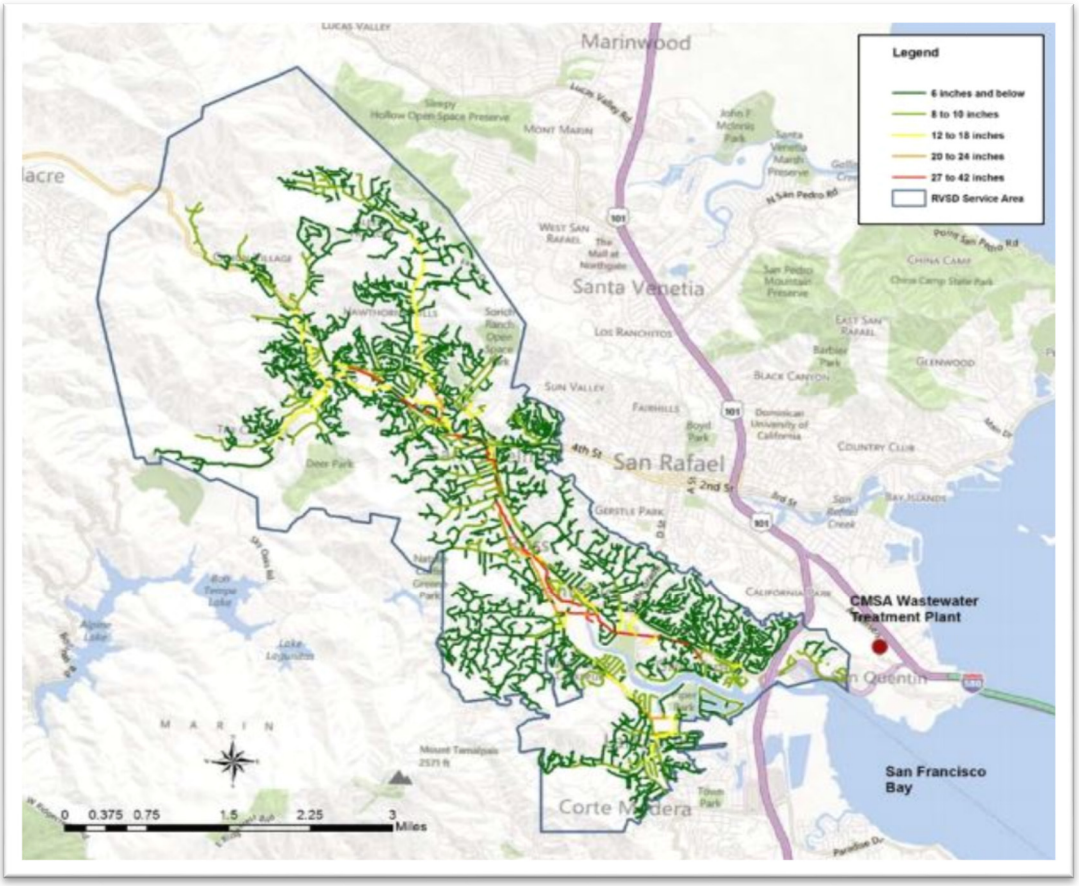
6.0 WASTEWATER SERVICES

6.1 System Structure

RVSD directly provides wastewater collection services through its own infrastructure headlined by an approximate 202 mile collection system that includes 19 pump stations. The collection system is divided between 194 miles of gravity lines and 8 miles of force mains. RVSD reports the average of the entire collection system is around 60 years old with an expected service life between 50 to 75 years. As of the study term RVSD's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – is 30 years and represents a 20% improvement over the corresponding 60-month period.[38] Other integral aspects of wastewater service – and specifically treatment and disposal – are provided by contract to RVSD by CMSA and separately reviewed as part of this study.

RVSD's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory –as of the study term is 30 years.

[38] The equipment replacement ratio has been calculated by LAFCO and drawn from RVSD's 2013-2014 audit.



6.2 Wastewater Demands

Generators | Service Connections and Resident Population

RVSD reports service to 15,324 active wastewater service connections as of the term of the study period. This connection total is divided into two billing categories: (a) residential at 97.2%; (b) and commercial at 2.8% connections. The connection totals have experienced a relative increase of 0.38% within the five-year study period with relatively noticeable fluctuations between the years 2012 and 2014 and attributed to residential billing updates that have resulted in the removal of discontinued/merged accounts. Overall, residential connections for RVSD have consistently comprised no less than 95% of the total in any year during the study period as shown below.

Service connection totals within RVSD have remained relatively unchanging over the study period and total 15,324 at the term. Residential users on average have accounted for 97.1% of all active connections.

RVSD: Service Connection Type Breakdown
Table 4.55 | Source: RVSD

Category	Residential	Commercial	Net
2010	14,821	445	15,266
2011	14,656	440	15,096
2012	14,656	452	15,085
2013	14,951	410	15,361
2014	14,900	424	15,324
Overall Change	**0.53%**	**(4.72%)**	**0.38%**

RVSD's current resident to residential connection ratio is 2.75 as of the term date of this study.

As detailed in the preceding section the Commission independently estimates RVSD's total resident service population at 40,809 as of the study term. This estimate – which is based on a weighted factor of occupied housing units within the affected census tracts and multiplied by a projected household size – produces a population growth rate for RVSD of 3.44% during the five-year study period. The substantive result when aligning the two demand generators – service connections and resident population – is an average ratio of 2.70 persons for every residential connection. The ratio at the study term tallied 2.75. A breakdown of this ratio over the entire study period follows.

RVSD: Resident to Connection Ratio Breakdown
Table 4.56 | Source: Marin LAFCO

Category	Residential Connection	Estimated Resident Population	Resident to Connection Ratios
2010	14,821	39,454	2.66
2011	14,656	39,261	2.68
2012	14,656	39,974	2.73
2013	14,951	40,259	2.69
2014	14,821	40,809	2.75
Overall Change	**(0%)**	**3.43%**	**3.38%**

Recent Measurements | Wastewater Collection System Flows

RVSD's average annual wastewater collection demand generated over the study period as reported in the current term by the District and for ultimate treatment and disposal by CMSA has totaled approximately 1.602 billion gallons. This average amount, which serves as a macro overview of system demands and includes flows from Murray Park Sewer Maintenance District (MPSMD), represents a daily average flow of 5.5 million gallons. It also translates to an estimated 136.0 gallons per day for each resident or 284.4 gallons per day for each occupied housing unit; it also translates to 355.9 gallons per day for each service connection projected within MPSMD.

Average annual wastewater flows generated within RVSD during the study period have produced the daily equivalent of totaled 5.5 million gallons; and amount that further translates to 135 and 284.4 daily gallons for every person and occupied housing unit. Amounts include flows collected on behalf of the Murray Parks Sewer Maintenance District.

With respect to trends, annual demands within the five-year study period have fluctuated each year and capped with a 23.2% decrease over the span of the affected 60 months. The high demand point for the collection system during the study period occurred in 2010 with annual flow equaling 2.281 billion gallons. This high demand year translates to an estimated 157.7 gallons per day for every resident or 331.2 gallons per day for every housing unit; it also translates to 407.0 gallons per day for each service connection. A breakdown of annual and daily wastewater collection flows over the study period in relation to population and housing is shown below.

Annual wastewater flows within RVSD have decreased by slightly one-fourth over the study period's 60-month point-to-point index; a difference of 529.3 million gallons.

RVSD: Recent Annual and Average Daily Flows Breakdown
Table 4.57 | Source: Marin LAFCO and RVSD

	2010	2011	2012	2013	2014	Average	Trend
Annual Flow Totals	2.281 bg	2.135 bg	1.843 bg	1.935 bg	1.752 bg	1.602 bg	(23.2%)
Daily Average	6.3 mg	5.9 mg	5.1 mg	5.3 mg	4.8 mg	5.5 mg	(23.2%)
- Daily Per Resident	157.7	148.3	125.7	131.0	117.1	136.0	(25.8%)
- Daily Per Housing Unit	331.2	307.4	263.2	274.0	246.1	284.4	(25.7%)
- Daily Per Connection	407.0	385.3	332.8	343.0	311.4	355.9	(23.5%)

Table includes flows and related data for Murray Park Sewer Maintenance District
"bg" refers to billion gallons per day
"mg" refers to millions gallons per day
Per resident as estimated by the Commission
Per housing unit refers to occupied status as estimated by the Commission

Along with average annual wastewater flow three other more micro measurements are tracked with respect to RVSD's collection system and provide additional context to assessing demand. These measurements are (a) dry weather flow, (b) wet-weather flow, and (c) peak-day flow and summarized below.

Dry-Weather Day Flows

Average dry-weather wastewater flows over the study period have totaled 3.8 million gallons. This flow is recorded between May and October and most recently tallied 3.8 million gallons as of the study term. The overall average dry-weather tally translates to 94.2 gallons per day for every resident or 197 gallons per day for every occupied housing unit; it also translates to 246.8 gallons per connection during the affected 60 months. This measurement has decreased by (2.56%) during the term. A breakdown of dry-weather flows during the study period follows.

RVSD: Recent Dry Weather Day Flows
Table 4.59 | Source: Marin LAFCO and RVSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	3.9 mg	98.4	206.6	254.0
2011	3.4 mg	86.2	178.7	223.9
2012	3.9 mg	97.1	203.3	257.0
2013	3.9 mg	96.4	201.6	252.4
2014	3.8 mg	92.7	194.8	246.6
Average	**3.78 mg**	**94.2**	**197.0**	**246.8**
Trend	**(2.56%)**	**(5.82%)**	**(5.71%)**	**(2.93%)**

Incorporates flows and related data from the Murray Park Sewer Maintenance District
"mg" refers to million gallons

Wet-Weather Day Flows

Average wet-weather day wastewater flows over the study period have totaled 7.1 million gallons. This flow typically is recorded between November and April and most recently tallied 5.8 million gallons during the study term. The overall average wet-weather day tally translates to 177.8 gallons per day for every resident or 371.8 gallons for every housing unit; it also translates to 465.1 gallons for every service

connection during the affected 60 months. This measurement has decreased overall during the study period by (32.6%) A breakdown of wet-weather flows during the study period follows.

RVSD: Recent Wet Weather Day Flows
Table 4.60 | Source: Marin LAFCO and RVSD

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	8.6 mg	217.0	455.7	560.1
2011	8.3 mg	210.4	436.2	546.6
2012	6.2 mg	154.4	323.2	408.6
2013	6.7 mg	165.6	346.4	433.7
2014	5.8 mg	141.4	297.4	376.3
Average Trend	**7.1 mg (32.6%)**	**177.8 (34.8%)**	**371.8 (34.7%)**	**465.1 (32.8%)**

Incorporates flows and related data from the Murray Park Sewer Maintenance District
"mg" refers to million gallons

Peak-Day Flows

Average peak-day wastewater flows over the study period amounts have totaled 45.7 million, and as such translates to a peaking factor relative to average day totals of 12 to 1. The average peak-day flow – which represents the highest volume during a 24-hour period for the affected year and typically is recorded during storm events – most recently tallied 35.7 million gallons as of the study term. The overall average wet-weather peak day tally translates to 1,139.6 gallons per day for every resident or 2,384.2 gallons per day for every housing unit; it also translates to 2,983.0 per day gallons for each service connection during the corresponding 60 months. This measurement has decreased overall during the study period by (33.0%). A breakdown of peak-day flows during the study period follows.

RVSD: Recent Peak Day Flows
Table 4.61 | Source: Marin LAFCO and RVSD

Year	Peak Day System Total	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection	System Peaking Factor
2010	53.3 mg	1,344.7	2,824.1	3,471.2	13.7
2011	42.5 mg	1,077.4	2,233.4	2,798.8	12.5
2012	42.9 mg	1,068.1	2,236.0	2,827.2	11.0
2013	54.1 mg	1,337.3	2,796.7	3,501.6	13.9
2014	35.7 mg	870.6	1,830.5	2,316.2	9.4
Average Trend	**45.7 mg (33.0%)**	**1,139.6 (35.3%)**	**2,384.2 (35.2%)**	**2,983.1 (33.3%)**	**12.1 (31.3%)**

Incorporates flows and related data from the Murray Park Sewer Maintenance District
"mg" refers to million gallons per day

Projected Measurements | Wastewater Collection System Flows

> The Commission independently estimates RVSD's annual wastewater demands will continue to decrease over the succeeding 10-year period at an average rate of 10.8 based on regression analysis performed on recorded rates during the study period.

Going forward – and specifically for purposes of this study – it appears reasonable to assume RVSD's wastewater flows will generally follow trends over the study period. (This includes flows generated from MPSMD.) It is estimated, accordingly and using linear regression to control for variances in the most recent yearend totals, the system will ultimately experience an overall decrease in annual wastewater flows of 0.896 billion gallons over the succeeding 10-year period finishing in 2024; a difference of (51.13%) or (5.11%) annually. This projection continues RVSD's overall annual flows reduction incurred during the study period at a similar rate. It is also estimated – in using regression analysis relative to recent recording - the system's peak-day flows will ultimately decrease over the succeeding 10-year period by 8.4 million gallons or (23.5%) and resulting in a peaking factor of 6.2. The following table summarizes these and related projections through 2024.

RVSD: Projected Wastewater Flows
Table 4.62 | Source: Marin LAFCO

Year	Annual Flows	Average-Day Flows	Dry-Weather Flows	Wet-Weather Flows	Peak-Day Flows
2014	1.752 bg	4.8 mg	3.8 mg	5.8 mg	35.7 mg
2015	1.645 bg	4.5 mg	4.0 mg	5.0 mg	40.1 mg
2016	1.560 bg	4.3 mg	4.0 mg	4.5 mg	38.7 mg
2017	1.474 bg	4.0 mg	4.1 mg	4.0 mg	37.3 mg
2018	1.387 bg	3.8 mg	4.1 mg	3.5 mg	35.9 mg
2019	1.301 bg	3.6 mg	4.2 mg	3.0 mg	34.5 mg
2020	1.213 bg	3.3 mg	4.2 mg	2.4 mg	33.1 mg
2021	1.125 bg	3.1 mg	4.3 mg	1.9 mg	31.7 mg
2022	1.036 bg	2.8 mg	4.3 mg	1.4 mg	30.2 mg
2023	0.946 bg	2.6 mg	4.4 mg	0.828 mg	28.7 mg
2024	0.856 bg	2.3 mg	4.4 mg	0.285 mg	27.3 mg
Average Trend	**1.254 bg (51.13%)**	**3.4 mg (51.13%)**	**4.2 mg 15.95%**	**2.7 mg (95.08%)**	**33.8 mg (23.53%)**

Incorporates flows and related data from the Murray Park Sewer Maintenance District
"bg" refers to billion gallons per day
"mg" refers to million gallons per day

6.3 Wastewater Capacities

Constraints | Contractual Provisions

As referenced, RVSD contracts with CMSA to provide treatment and disposal services for all collected wastewater services generated within the District. This contract was established in 1979 with CMSA's treatment facility going online in 1984. The current contract does not establish any limitations or related constraints on total volume of wastewater conveyed to CMSA of its member agencies.

RVSD is under no contractual constraints with respect the volume of wastewater the District conveys to CMSA for treatment and disposal.

Constraints | Infrastructure and Facilities

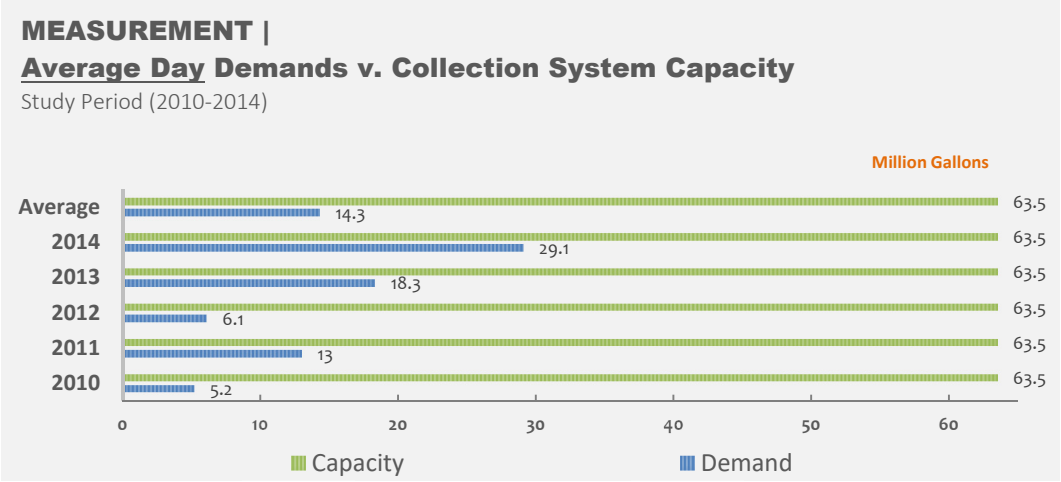
RVSD's collection system is approximately 202 miles in total length and divided between 194 and 8 miles of gravity and force lines, respectively. The percentage of gravity line to force mains is 4.3% and increased by 0.13% during the 60-month study period. The majority of the gravity lines are between 4 and 42 inches in diameter and supported by 19 strategically placed public pump stations that ultimately convey flows north to directly connect RVSD to CMSA. RVSD's largest pump serving the central trunk line connecting District flows to CMSA can reportedly handle up to 63.2 million gallons per day. For purposes of this review this reported amount – 63.2 million gallons – is deemed the maximum daily capacity of the RVSD collection system. [39]

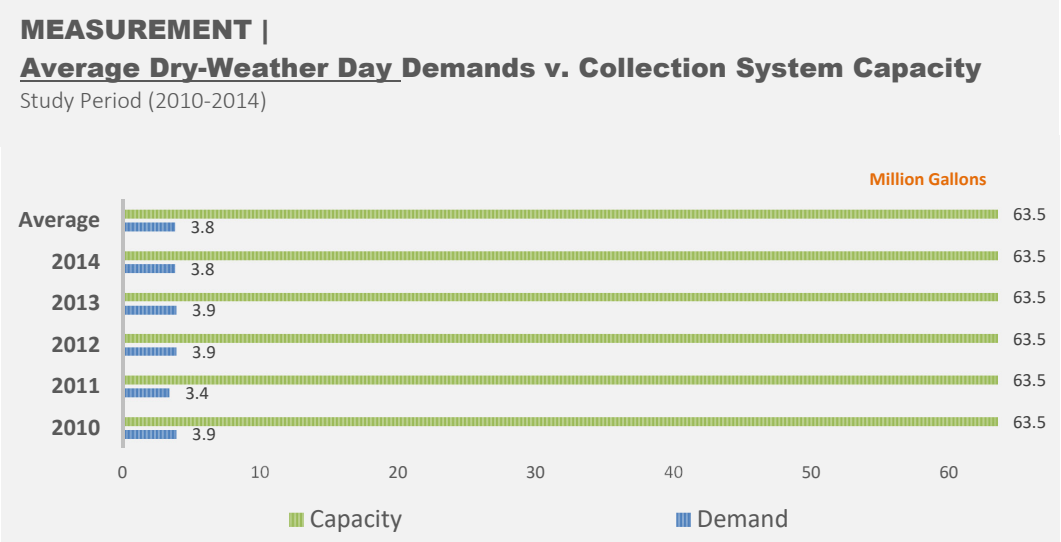
RVSD's collection system's daily capacity to convey flows to CMSA is estimated at 63.2 million gallons.

[39] As context RVSD's Sanitary Sewer Hydraulic Evaluation and Capacity Assurance Plan of 2006 evaluated the capacity of the collection system with respect to a design storm event given that the District's increase in peak flows were mainly attributed to infiltration and inflow (I/I) of storm water runoff and groundwater into the system. The model determined the system would have high peak demands under an intense wet weather event possibly resulting in overflows. The model also examined that all of RVSD's pump stations have sufficient capacity to handle the predicted 5-year design storm peak demand event during normal pump operation, but faced the potential for SSOs during large storm events.

6.4 Demand to Capacity Relationships

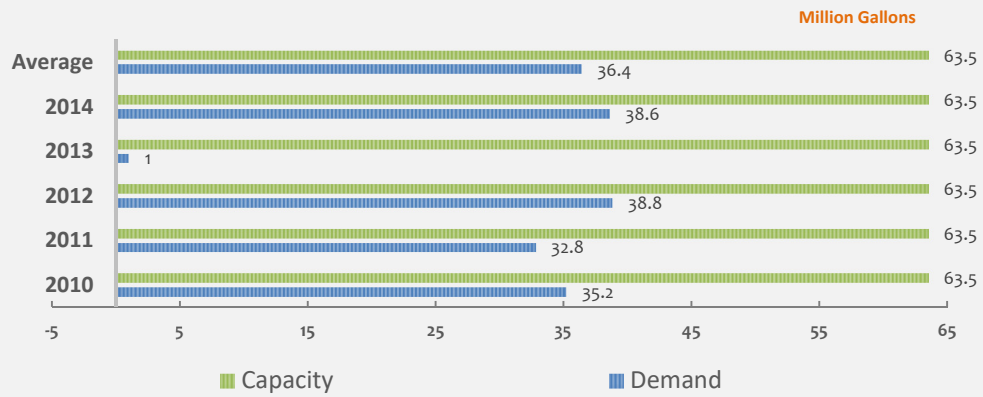
Study period flows averages show RVSD has sufficient available capacities within its collection system to accommodate current and projected demands over the succeeding 10-year period. Average annual demands over the study period equal 22.5% of the collection system capacity. Average dry-weather demands during the same period tally 6.0% of the collection system capacity. Average peak-day demands represent the biggest tax on the collection system and account over the study period to equal 57.3% of the collection system capacity.[40] None of the capacity ratios are expected to significantly and adversely change over the succeeding 10-year period with the exception that average day demands are projected to rise to 69.6% of capacity by 2024.





[40] Amount based on the average peak-day demand collected between 2010, 2011, 2012, and 2014.

MEASUREMENT |
Average Peak-Day Demands v. Collection System Capacity
Study Period (2010-2014)



6.5 Performance

Measurement | Sanitary Sewer Overflows

The State Water Resources Control Board (SWRCB) requires all public agencies that own or operate sanitary collection systems that are one mile or more in length and convey to a public owned treatment facility comply with the reporting requirements codified in Order No. 2006-0003. This order mandates all subject agencies to develop and implement a system-specific sewer system management plan that includes a spill response plan as well as requiring immediately reporting to the SWRCB of all sanitary sewer overflows, or SSOs. The ultimate purpose of the SSO reporting process is to provide a uniform means to evaluate system reliability, source control, and operation and maintenance of wastewater systems in California. SSOs are defined as any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, and include any of the following occurrences:

a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

b) Overflows or releases of untreated or partially treated wastewater that do not reach water of the United States; and

c) Wastewater backups into buildings and on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

The total number of SSOs recorded by RVSD during the study period was 172 with an overall spillage volume of 3.35 million gallons. The most recent year experienced 29 SSOs. The majority of the SSOs, a total of 108, were classified by the SWRCB as a Category 3, a spill of less than 1,000 gallons to not reach the surface water. RVSD experienced 54 SSOs classified as a Category 1 in which wastewater reached the surface water threatening public safety and environmental health. The average response time for SSOs during the study period was 45 minutes with the longest response time noted at 1 hour in 2011. A review of each accompanying report incident suggests the main factors resulting in discharges were structural, indicating system repairs and planned maintenance are needed in the future to prevent spillage and maintain system flows. The majority of SSOs that were repeat occurrences could be attributed to roots, debris and structural issues, signifying more system maintenance is needed.[41]

RVSD experienced 172 total SSOs during the five-year study period, and involved the unauthorized overflow of 3.35 million gallons.

RVSD: Sanitary Sewer Overflows
Table 4.64 | Source: SWRQB

Year	Category 1		Category 2		Category 3		Total	
	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons
2010	6	0.002	1	0.001	27	0.004	34	0.008
2011	20	2.986	3	0.008	34	0.003	57	2.998
2012	4	0.010	2	0.002	17	0.003	23	0.015
2013	13	0.179	2	0.017	14	0.001	29	0.198
2014	11	0.123	2	0.003	16	0.004	29	0.130
	54	**3.302**	**10**	**0.032**	**108**	**0.017**	**172**	**3.351**

"gallons" are listed in millions

[41] As related context RVSD's Sewer System Management Plan of 2014 has established the following process in order for the District to be notified of the occurrence of an SSO; (1) observation by the public (2) receipt of an alarm and (3) Observation by District staff during the normal course of their work. Once notification of an SSO is received, calls are routed to either Senior Supervisor during business hours or to a standby service in which employees will be alerted by phone or employee pager. If needed, a dispatch collections crew is called and is instructed to follow protocols as well as outline how to respond and communicate with the customer. In the event of pump failure, an alarm will sound and either wastewater will be pumped into a vacuum truck for disposal in a nearby manhole or pumped into the wastewater system to prevent overflows.

Measurement | System Maintenance

System maintenance for purposes of this study includes both corrective and preventative maintenance. Corrective maintenance, is performed when signals indicate a fault, so an asset can be restored to its operational condition. Preventative maintenance, conversely, is initiated according to a predetermined schedule rather than in response to failure. A summary of both measurements follow.

Corrective Maintenance

RVSD's corrective maintenance is reflected in the number of service calls received to resolve, correct, or assist a particular situation. During the 60-month study period this number totaled 335, in which the majority being attributed to a public SSO. The number of service calls spiked 523% during the last year of the study period, indicating either more volumes in service issues or a better notification system.

RVSD: Number of District Service Calls
Table 4.65 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
General	n/a	n/a	n/a	n/a	44
Public SSO	34	57	28	29	29
Private SSO	n/a	n/a	n/a	n/a	72
Odor Complaints	n/a	n/a	n/a	n/a	18
Noise Complaints	n/a	n/a	n/a	n/a	7
Pump Station Alarms	n/a	n/a	n/a	n/a	24
Non-District Incidents	n/a	n/a	n/a	n/a	18
	34	**57**	**23**	**29**	**212**

Preventive Maintenance

RVSD's preventative maintenance was reported in its planned cleaning activities during the 60-month study period, which averaged to 100% of all planned work orders completed. According to RVSD, maintenance is prioritized by the cleaning of high frequency sewer issues such as blockages or SSOs. The District cleans the entire sewer system approximately every 12 to 18th months and cleans specific portion with known problems on a more frequent basis. RVSD uses staff to clean out the system. RVSD schedules to clean on a preventative maintenance timetable in 6 to 12 month

intervals, depending on the history of the individual line segment. During the 60-month study period, Marin LAFCO is unable to determine the number of blocked sewer pipes per 100 miles RVSD encountered. During the same period, RVSD did experience 1 pump station failure in 2011.

RVSD uses a database to keep records of service calls and generates automatic work orders for regular and 6-month maintenance schedules. RVSD's mainline sewer condition assessment program includes closed-circuit televising (CCTV) inspection of main line pipes to determine cleaning issues. RVSD notes, if an SSO resulted from a structural deficiency, repairs or replacements are made within one month of the reported SSO to prevent future overflows. The District has initiated during the study period a trunk line cleaning program and quality assurance and quality control (QA/QC) protocol to measure the effectiveness of cleaning operations.

RVSD is currently working on developing a rehabilitation and replacement plan to identify and prioritize rehabilitation efforts to address system deficiencies. RVSD has based the priority of rehabilitation projects on the number and nature of pipeline defects and if they are expected to be replaced by segments, lining, or full pipe replacement. At the end of the study year, RVSD identified rehabilitation projects that account for over 20 miles of main line sewer pipelines and are estimated a total costs of $24.8 million. During the study period, RVSD's entire collection system was CCTV inspected. The level of infrastructure reinvestment the District achieved during the entire study period came in at 52% byway completing 47,357 feet of the planned 90,234 feet of line replacement.

PLANNED CLEANING ACTIVITIES COMPLETED

Year	Planned Feet	Actual Feet
2010	n/a	774,581
2011	n/a	824,738
2012	1,000,000	1,243,453
2013	1,295,463	1,301,197
2014	1,485,220	1,485,220
TOTAL	3,780,683	5,629,189
Planned Work Orders Completed		**100%**

PLANNED LINE REPLACEMENT COMPLETED

Year	Planned Feet	Actual Feet
2010	3,600	156
2011	19,000	16,089
2012	22,300	7,305
2013	13,900	0
2014	17,424	17,645
TOTAL	90,324	47,357
Planned Work Orders Completed		**52%**

6.6 User Charges and Fees

Most single-family customers in RVSD currently pay $797 a year for wastewater services. Customers in Larkspur pay one-third more due to a zone adjustment at $1,067 a year.

RVSD bills one fee to its customers in recovering the District's wastewater service costs. This fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and contracted treatment/disposal expenses. The service charge is also filtered through two billing zones to account for different revenue outlays: a) Larkspur and b) Ross Valley; with the latter comprising more than nine-tenths of all District customers. Single-family residential customers currently pay $797 in Ross Valley and $1,067 in Larkspur per unit. Multi-family customers pay slightly less than single-family users in both zones with Ross Valley billed at $714 and Larkspur billed at $955.[42] There are no voter-approved special assessments.[43]

7.0 AGENCY FINANCES

7.1 Financial Statements

RVSD contracts with an outside accounting firm (Moss, Levy and Hartzheim) to prepare an annual report for each fiscal year to review the District's financial statements in accordance with established governmental accounting standards. This includes vetting RVSD's statements with respect to verifying overall assets, liabilities, and equity. These audited statements provide the Commission with quantitative measurements in assessing RVSD's short and long-term fiscal health.

[42] Commercial users in Ross Valley and Larkspur are annually billed $797 and $1,067, respectively for each equivalent dwelling unit as determined by RVSD.

[43] A dual connection fee is also collected by RVSD in step with initiating new services. The connection fee presently totals $10,798 for each connection. The total service operating and capital costs are divided between 81% to cover the buy-in costs to the collection system and 19% to cover the capital costs therein.

RVSD's most recent financial statements for the study period were issued for 2013-2014 and shows the District experienced a moderate and positive change over the prior fiscal year as its overall equity or fund balance increased by 4.84% from $62.192 to $65.204 million. Underlying this most recent change in equity standing is the result of a sizeable rise in current assets and aided by a sharp increase in connection and inspection fees in 2013-2014. A summary of year-end totals and trends over the study period follows.

End of Study Term Financial Statements	
Assets	$85.566 m
Liabilities	$20.362 m
Equity	$65.204 m

Agency Assets

RVSD's audited assets at the end of 2013-2014 totaled $85.566 million; more than 15% higher than the five-year average sum generated over the course of the study period. As of the study term assets classified as current with the expectation they could be liquidated within a year represented less than one-fifth of the total amount and tied to cash and investments and have drawn down by (36.52%) over the 60 month period. Assets classified as non-current make up the remaining four-fifths of the asset total as of the study term, and predominately comprise of capital infrastructure with 65% of depreciation tied to sewer lines, which has increased by 52.93% over the preceding 60 months.

RVSD Assets | Study Period
Table 4.66 | Source: RVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	20.571	10.865	6.9000	7.278	13.059	(36.52%)	11.735
Non-Current	47.412	59.657	67.002	65.634	72.506	52.93%	62.442
	67.983	70.522	73.902	72.912	72.912	25.86%	74.177

amounts in millions

Agency Liabilities

RVSD's audited liabilities at the end of 2013-2014 totaled $20.362 million; close to 30% higher than the five-year average sum generated over the course of the study period. As of the study term liabilities classified as current representing obligations owed in the near-term represented slightly more than one-tenth and tied to accounts payable and have overall decreased by (62.20%) over the preceding 60 months. Liabilities classified as non-current make up the remaining and approximate four-fifths of the sum and predominately attributed to the sale of 30-year revenue bonds in 2013 totaling $17.780 million to fund sewer line replacements and underlie the 79.36% increase over the 60 month period.

RVSD Liabilities | Study Period
Table 4.67 | Source: RVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	6.548	4.564	5.325	1.893	2.475	(62.20%)	4.161
Non-Current	9.972	11.140	9.932	8.826	17.886	79.36%	11.551
	16.520	15.704	15.258	10.720	20.362	23.25%	15.713

amounts in millions

Agency Equity / Net Assets

RVSD's audited equity / net assets at the end of 2013-2014 totaled $65.204 million and represent the difference between the District's total assets and total liabilities. This amount has increased by 26.70% over the study period and primarily attributed to capital investments. The unrestricted portion of the net assets as of the study term totals $10.610 million and translates to a per capita reserve ratio of $260 based on a corresponding and projected resident total of 40,809.

RVSD's net assets have increased by 26.70% over the study period and largely driven by capital investments. The unrestricted fund balance as of the study term total of $10.610 million equates to a per capita reserve ratio of $260.

RVSD Net Assets | Study Period
Table 4.68 | Source: RVSD

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Unrestricted	12.543	5.475	1.202	5.664	10.610	(15.41%)	7.099
Restricted	38.919	49.341	57.483	56.527	54.593	40.27%	51.373
	51.463	54.817	58.685	62.192	65.204	26.70%	58.472

amounts in millions

7.2 Measurements / Liquidity, Capital, Margin, and Structure

A review of the audited financial statement issuances by RVSD covering the study period and specifically fiscal years 2009-2010 through 2013-2014 shows the District finished the term with relatively good liquidity. This includes noting RVSD's current ratio finished the term with a ratio of over 5 to 1 as well as over ten months – or 315 days – of cash on hand to cover operating expenses. RVSD also finished the study term with relatively good and stable levels of capital with less than one-quarter of its net assets being tied to long-term debt financing. RVSD also generated positive total margins in all five subject years with an average net income of 16.25%. However, and in contrast, operating margins finished each year in a deficit with a study period average of (4.76%) along with trending higher and reflect the dependency on non-service related revenues to fund the wastewater system. This latter statement is reflected in RVSD's earned income ratio average – i.e., the percent of direct service fees relative to annual revenues – of 73.46% for the study period. A summary of year-end liquidity, capital, margin, and structure ratios are show in the following table.

RVSD: Financial Measurements | Study Period
Table 4.69 | Source: RVSD Financials and Marin LAFCO

Fiscal Years	Current Ratio	Days' Cash	Debt Ratio	Total Margin	Operating Margin	Earned Income Ratio
2009-2010	3.14	480.73	24.30%	16.22%	(11.28%)	73.56%
2010-2011	2.38	253.88	22.27%	16.17%	(9.28%)	74.46%
2011-2012	1.29	153.39	20.65%	17.51%	(5.96%)	75.34%
2012-2013	3.84	184.95	14.70%	17.24%	(8.35%)	73.59%
2013-2014	5.27	315.19	23.80%	14.13%	(14.04%)	70.36%
Average	**3.187**	**277.62**	**21.14%**	**16.25%**	**(9.78%)**	**73.46%**
Trend	**67.93%**	**(34.44%)**	**(2.07%)**	**(12.89%)**	**24.52%**	**(4.34%)**
		Liquidity	**Capital**		**Margin**	**Structure**

Notes

Current Ratio (liquidity) relates to the ability of the agency to pay short-term obligations (current liabilities) relative to the amount of available cash and cash equivalents (current assets). Higher is better.

Days' Cash (liquidity) measures the number of days' worth of average operating expenses the agency can meet with cash on hand. Higher is better.

Debt Ratio (capital) measures the portion of agency's total assets that are directly tied to debt financing. Lower is better.

Total Margin (profit) represents the year-end profit level of the agency and includes all revenues and expenses. Higher is better.

Operating Margin (profit) represents the year-end profit level of the agency specific to its normal and reoccurring revenues and expenses tied to service provision. Higher is better.

Earned Income (structure) measures the portion of annual revenues that are directly tied from fees for services. Higher is better for enterprise agencies.

7.3 Pension Obligations

RVSD provides a defined benefit plan to its employees through an investment risk-pool contract with the California Public Employees Retirement Systems (CalPERS). This pension contract provides employees with specified retirement benefits and includes disability benefits, annual cost-of-living adjustments, and death benefits to members and their beneficiaries. Actual pension benefits are based on the date of hire. Employees hired before January 1, 2013 are termed "Category One" while employees hired afterwards are termed "Category Two." Additional details of the pension program based on actuarial valuations issued by CalPERS follows.

Participants | Pension Formulas

As of the study period's term (2014) there are a total of 74 participants within RVSD's pension program. This total amount – which represents an overall increase of 6% in participants since 2012 – is further divided between enrollee type (i.e., active, separated, transferred, retired) and marked by a worker-to-retiree ratio of 1.8 to 1 as of the study term. Category One participants represent 93% – or 69 – of the total program enrollees and are eligible to receive one of two types of retirement payments. The first and predominate tier within Category One is based on a 2.7 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 54% of their highest three years of salary beginning at age 55 and continuing each year thereafter. The second tier is based on a 2.0 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 55 and continuing each year thereafter. Category Two participants account for the remaining 7% – or 5 – of the total program enrollee amount as of the study period's term and are subject to a flat 2.0% at 62 pension formula. This tier provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 62 and continuing annually thereafter.

Most RVSD employees receive one of two types of defined pensions based on either a 2.7 @ 55 or 2.0 @ 55 formula. Employees hired after January 1, 2013 receive a 2.0 @ 62 pension formula.

RVSD's Pension Enrollee Information
Table 4.70 | Source: CalPERS and Marin LAFCO

Type	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Active	n/a	n/a	34	36	35
Transferred	n/a	n/a	7	8	8
Separated	n/a	n/a	11	9	12
Retired	n/a	n/a	18	19	19
Total Enrollees	**n/a**	**n/a**	**70**	**72**	**74**
Worker-to-Retiree Ratio	**n/a**	**n/a**	**1.8 to 1**	**1.9 to 1**	**1.8 to 1**

Annual Contributions

RVSD's total annual pension contributions as of the study period's term tallied $0.796 million. This amount represents an overall increase over the five-year study period of 78% and is more seven-fold greater than the corresponding inflation rate calculated for the San Francisco Bay Region.[44] The most recent annual pension contribution by RVSD for the study period marked 24% of the District's total annual payroll for the corresponding fiscal year (2013-2014).[45]

RVSD's pension contributions have increased by 78% over the five-year study period, and as of 2013-2014 account for 24% of total payroll.

RVSD's Pension Contributions
Table 4.71 | Source: CalPERS and Marin LAFCO

2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
$448,391	$547,918	$702,054	$778,004	$796,725
			Average	**$654,618**
			Trend	**77.68%**

Funded Status

RVSD's unfunded liability – tally of pension monies owed and not covered by assets – ended the study period at $3.990 million and as such represented 37.6% of the District's unrestricted fund balance as of June 30, 2014. This former amount produces a funded ratio of 78% based on market value. It also reflects an

RVSD's unfunded pension liability has increased over the last four years of the study period by 7% and ended the term at $3.990 million; the equivalent of a 77.5% funded ratio.

[44] According to the United States Department of Labor the overall inflation rate in the San Francisco Bay Area region between 2010 and 2014 tallied 10.77%.
[45] RVSD's covered annual payroll in 2013-2014 totaled $3.287million.

overall improvement of 7% over the preceding four-year period.[46]

RVSD's Pension Trends
Table 4.72 | Source: CalPERS and Marin LAFCO

	Unfunded Liability	Funded Ratio
2009-2010	n/a	n/a
2010-2011	$3,895,131	72.3%
2011-2012	$4,672,282	68.5%
2012-2013	$4,308,867	73.0%
2013-2014	$3,990,836	77.5%
Average	**$4,216,779**	**72.8%**
Trend	**2.45%**	**7.1%**

Amounts above are show in market form and reflects the immediate and short term values of the pension with respect to assets and liabilities (i.e., here and now).

7.4 Revenue to Expense Trends

A review of RVSD's overall actual revenues and expenses during the study period and specific to fiscal years 2009-2010 to 2013-2014 shows revenue surpluses in each year. Overall actual revenues averaged $21.018 million over the study period compared to $17.602 million in actual expenses; a difference of nearly one-fifth or 16.25%. The referenced gap, however, has been decreasing with the growth rate of expenses at 6.17% nearly doubling the growth rate of revenues at 3.58% over the 60 month period.

RVSD's overall revenues have outgained overall expenses in all five years of the study period with an average monetary separation of $3.415 million – or 16.25%. This separation is narrowing, however, with recent expenses outpacing revenues by nearly double.

RVSD's revenue ledger consists of six distinct categories with sewer service charges accounting on average for 73.23% of the total. Another 25.23% of the revenue average is drawn from property taxes. The remaining average revenue collection – specifically 1.54% - is derived from investment earnings, connection fees, and other miscellaneous sources. Comparatively RVSD's expense ledger consists of eight distinct categories with operation and maintenance costs

Top Revenue Categories:
3) Sewer Charges @ 73.2%
4) Property Taxes @ 25.2%

Top Expense Categories
3) Operations @ 27.9%
4) CMSA Contract @ 25.0%

[46] Pension information for 2009-2010 is not available.

accounting for the single largest resource demand and on average tallying 27.88% of the total. Contract costs with CMSA for treatment and disposal services represents on average RVSD's second largest expense, and on average, consumed another 25.00% of the outlay total. The remaining average expenses – specifically 47.12% - is derived in magnitude from administrative, debt service, depreciation, interest expense, and other miscellaneous expenditures.

RVSD Actual Revenue Trends| Study Period
Table 4.73 | Source: RVSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Sewer Charges	15.116	15.418	16.615	14.926	14.884	(1.54%)	15.392	73.23
Inspection Fees	0.025	0.032	0.031	0.039	0.118	374.17%	0.049	0.24
Other	0.038	0.008	0.140	0.008	0.008	(78.32%)	0.040	0.19
Property Taxes	5.221	5.139	2.174	2.236	5.771	10.54%	5.303	25.23
Investments	0.157	0.130	0.121	0.103	0.085	(45.99%)	0.119	0.57
Connection Fees	0.024	0.020	0.040	0.023	0.453	>1000%	0.112	0.53
	20.584	**20.749**	**22.097**	**20.338**	**21.321**	**3.58%**	**21.018**	**100.00**

RVSD Actual Expense Trends| Study Period
Table 4.74 | Source: RVSD Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
CMSA	4.749	4.854	4.270	4.180	3.951	(16.79%)	4.401	25.00
Debt Service	3.139	3.137	2.897	2.511	2.504	(20.21%)	2.838	16.12
O/M	3.119	5.144	5.020	5.255	6.000	92.39%	4.908	27.88
Administration	4.612	2.483	4.229	2.416	2.666	(42.18%)	3.281	18.64
Depreciation	1.272	1.272	1.369	1.860	1.995	56.79%	1.554	8.83
Disposal of Capital	0	0	0	0.180	0.004	-	0.037	0.21
Bond Issue Costs	0	0	0	0	.350	-	.070	0.40
Interest Expenses	0.354	0.502	0.440	0.426	0.835	135.82%	0.511	2.91
	17.246	**17.395**	**18.228**	**16.831**	**18.309**	**6.17%**	**17.602**	**100.00**

Net	**3.338**		**3.354**	**3.868**	**3.506**	**3.011**
	16.22%		**16.17%**	**17.51%**	**17.24%**	**14.13%**

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D. COUNTY SANITARY DISTRICT NO. 2

1.0 OVERVIEW

Corte Madera Community Park

Courtesy / Town of Corte Madera

County Sanitary District No. 2 (CSD No. 2) was formed in 1901 and encompasses an approximate 3.8 square mile jurisdictional boundary in east-central Marin County. Governance is provided dependently by the Town of Corte Madera's Town Council whose members are elected at-large to staggered four year-terms. This governance relationship was established in 1969 when CSD No. 2 was officially reorganized into a subsidiary agency of the Town of Corte Madera as allowed under State law given – and among other qualifications – the Town included 70% of both the District's jurisdictional boundary and registered voters. Four local land use authorities overlap CSD No. 2's jurisdictional boundary and headlined by Corte Madera, which presently accounts for three-fifths – or 56% – of the subject lands. The rest of CSD No. 2's jurisdictional boundary is divided between the County of Marin's unincorporated area – and marked by Greenbrae – at 23%, Town of Tiburon at 19% and City of Larkspur at 2%.

CSD No. 2 is currently organized as a single-purpose agency with municipal operations limited to wastewater collection though it is empowered – subject to LAFCO approval – to provide solid waste, recycled water, and storm drainage services. Service activities directly performed by CSD No. 2 and byway of Corte Madera's Public Works Department focus on engineering aspects of the District's approximate 49-mile collection system along with cost-recovery through the setting and collection of charges and fees. Public Works also provides routine and emergency cleaning and maintenance of the collection system, and design and construction of capital improvements to the gravity and force mains and pump stations. CSD No. 2 – and as a signatory – contracts with the Central Marin Sanitation Agency (CMSA) for wastewater treatment and disposal services; a secondary contract with CSMA also provides maintenance for CSD No. 2's pump stations

located throughout the District's jurisdictional boundary. CSD No. 2's adopted operating budget at the term of the study period was $7.102 million and with funding dedicated for the equivalent of three fulltime employees. The unrestricted fund balance was $3.235 million with an associated days-cash ratio totaling 524; i.e., the amount of cash on hand the District can cover operating expenses based on 2013-2014 actuals.

County Sanitary District No. 2	
Formation Date:	1901
Principal Act:	Health and Safety Sections 6400-6982
Service Categories:	Wastewater Collection
Service Population	9,874
Governance Type:	Dependent

The Commission independently estimates the resident service population within CSD No. 2 is 9,874 as of the term of this study period (2014). It is also projected CSD No. 2's population growth rate over the five-year study period has averaged 0.175% annually and primarily tied to an increase in occupancy levels; the substantive result being the net addition of 86 persons. Overall it is also estimated by the Commission nearly four-fifths of the jurisdictional boundary has already been developed and or improved – though not necessarily at the highest density. This means one-fifth of the boundary area remains entirely undeveloped, and this includes 138 existing unbuilt and privately owned parcels that are zoned for some type of urban use.[47]

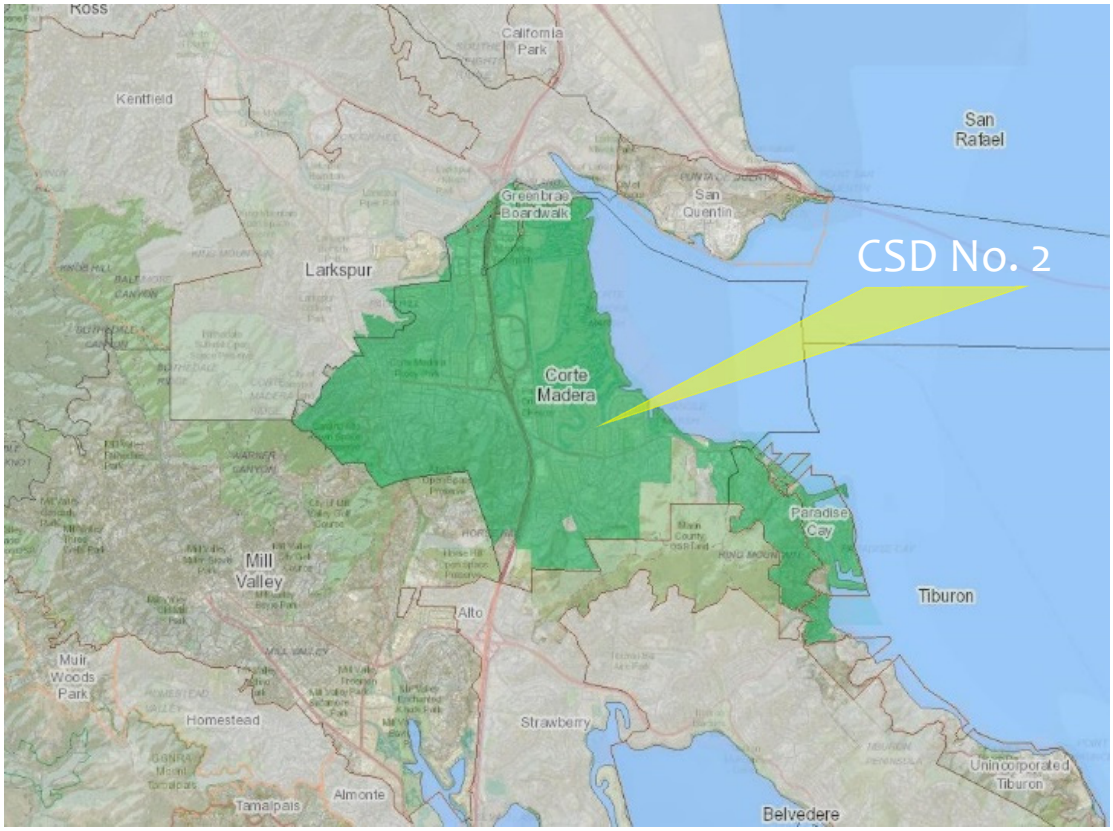
2.0 OVERVIEW

2.1 Community Development

It appears CSD No. 2's present day service area began its development in 1834 with the land grant of Rancho Corte Madera del Presidio to early California European settler, John Reed, by Mexican Governor Jose Figueroa, totaling 7,845 acres or 12.2 square miles. Reed proceeded with renaming the area Corte Madera, meaning in Spanish "to chop wood," and constructed a sawmill to produce lumber out of redwood trees supplying the ongoing construction of San Francisco and by way of transporting through Corte Madera Creek. Cattle grazing and orchard farming followed as the area took an agrarian form

[47] Additional analysis is needed to assess actual development potential of the 138 unbuilt parcels within CSD No. 2.

towards mid-century. Once California joined the Union in 1850 a nominal number of settlers were recorded living in Corte Madera by the time of the first census. Ten years later in 1860 and in step with the State's second official census only a few dozen residents were reportedly residing in the area.[48]



Seminal to Corte Madera's present day development was the completion of the North Pacific Coast Railroad in 1875 and its allowance

for San Franciscans to reach Sausalito by ferries and continue their travels north and throughout Marin County by rail. This included the placement of a railroad along current-day Montecito Drive with the construction of a train station near the intersection of Tamalpais Drive by 1885. A commercial area, accordingly, began to develop around the train station – later termed "Old Downtown" – with the construction of nearby residences to house shopkeepers as well as an emerging group of day-labors who would travel into San Francisco.

[48] Census data reports Marin County's entire population in 1860 at 3,334; the second lowest total among the nine Bay Area counties and only higher than San Mateo at 3,214.

Corte Madera's development accelerated in the 1890s when Emma Catherine Pixley - widowed sister-in-law of New England lawyer Frank Pixley and later publisher of the magazine the *Argonaut* - received a 136-acre parcel from her late husband's family estate. Ms. Pixley and her sons, notably, began subdividing and selling small undeveloped tracts of lots from her 136-acre parcel of land and marketed in local newspapers as summer residences for San Franciscans given the area's warmer climate. The lots were located on the northern slope of the Corte Madera Ridge near the railroad station and subsequently known as Christmas Tree Hill with starting prices at $50; the adjusted equivalent of $1,200 in 2016. Sales proved successful and by the end of the century Corte Madera began its steadfast transition from agrarian to residential with a population reaching a reported 300 by 1900.

2.2 Formation Proceedings

CSD No. 2's formation was petitioned by area landowners to manage and coordinate the collection and disposal of raw sewage flows from Old Downtown and the Christmas Tree Hill development. Proceedings were influenced by the establishment two years earlier of neighboring County Sanitary District No. 1 – also known as the Ross Valley Sanitary District – and led to a successful election and formation therein of CSD No. 2 in 1901 as an independent governmental agency with its own directly elected five-person board.

2.3 Post Formation Activities

A summary of notable activities undertaken by CSD No. 2 and/or affecting the District's service area following formation in 1901 is provided below.

- The City of Larkspur was incorporated in March 1908.
- The Town of Corte Madera was incorporated in June 1916.
- In 1969 CSD No. 2 was reorganized into a dependent subsidiary district of the Town of Corte Madera with LAFCO approval as a means to formalize the Town's existing – albeit informal – management of the District.

- CSD No. 2 became an original signatory in the creation of CMSA in 1979; a joint powers authority created for the purposes of planning, constructing, and operating wastewater treatment and disposal services for its member-agencies with the latter achieved through a deep-water outfall to the San Francisco Bay.

- CSMA completed construction and initiated operation of a wastewater treatment facility on the north side of Point San Quentin Point in 1985.

- CSD No. 2 prepared its first formal Sewer System Master Plan in 2008. This document was most recently updated in 2013.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

CSD No. 2's jurisdictional boundary spans approximately 3.8 square miles in size and covers 2,435 total acres (parcels and right-of-ways). There are four land use authorities overlapping the jurisdictional boundary. Corte Madera is the single largest land use authority in terms of acreage with an estimated 56% of all CSD No. 2's assessor lands lying in the Town. Another 23% and 19% of jurisdictional lands fall under the land use authorities of the County – and most notably portions of Kentfield – and Tiburon respectively. The remaining portion of CSD No. 2 lands – which total 2% of the District total – are located within Larkspur and specifically in and around the Cost Plus Plaza.

CSD No. 2's jurisdictional boundary spans 3.8 square miles and overlaps four land use authorities with Corte Madera being the largest with the Town covering 56% of all District lands.

The total assessed value (land and structure) within CSD No. 2 is currently calculated at $3.6 billion and translates to a per acre value of $1.4 million. This former amount – $3.6 billion – further represents a per capita value of $0.365

Assessed land values in CSD No. 2 totals $3.6 billion, and based on receiving 1.47% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $0.528 million.

million based on an estimated service population of 9,874. CSD No. 2's set allocation of property tax proceeds – i.e., its share of the 1% taxed on property owners – is 1.468%.

CSD No. 2 Boundary Breakdown: Land Use Authorities
Table 4.75 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
Corte Madera	896.9	56.1	3,390	3,910
County of Marin	372.6	23.3	398	125
Tiburon	298.9	18.7	442	435
Larkspur	31.0	1.9	104	94
	1,599.4	**100**	**4,334**	**4,564**

As provided in the preceding table there are 4,334 overall assessor parcels currently within CSD No. 2 and collectively add up to 1,599 acres as of June 2016.[49] Almost four-fifths – or 79% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density.[50] This existing development is highlighted by the standing construction of 4,564 residential units and divided between single-family and multi-family on an 82% to 18% split. The remainder – or 21% – of the current assessor parcel acreage in CSD No. 2 is undeveloped/unimproved. This includes 131 un-built and privately owned assessor parcels that combine to total 68 acres. The remaining undeveloped/unimproved assessor acreage in CSD No. 2 – or 268 acres – is publicly owned and generally dedicated to municipal or open space uses.

> Almost four-fifths of CSD No. 2's jurisdictional boundary has already been developed/improved – though not necessarily at the highest allowable density. This means one-fifth of the boundary remains entirely undeveloped. This includes 138 un-built and privately owned parcels zoned for some type of urban use.

CSD No. 2 Boundary Breakdown: Land Use Features
Table 4.76 | Source: Marin LAFCO

% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
79.0	4,564	81.5	131	68

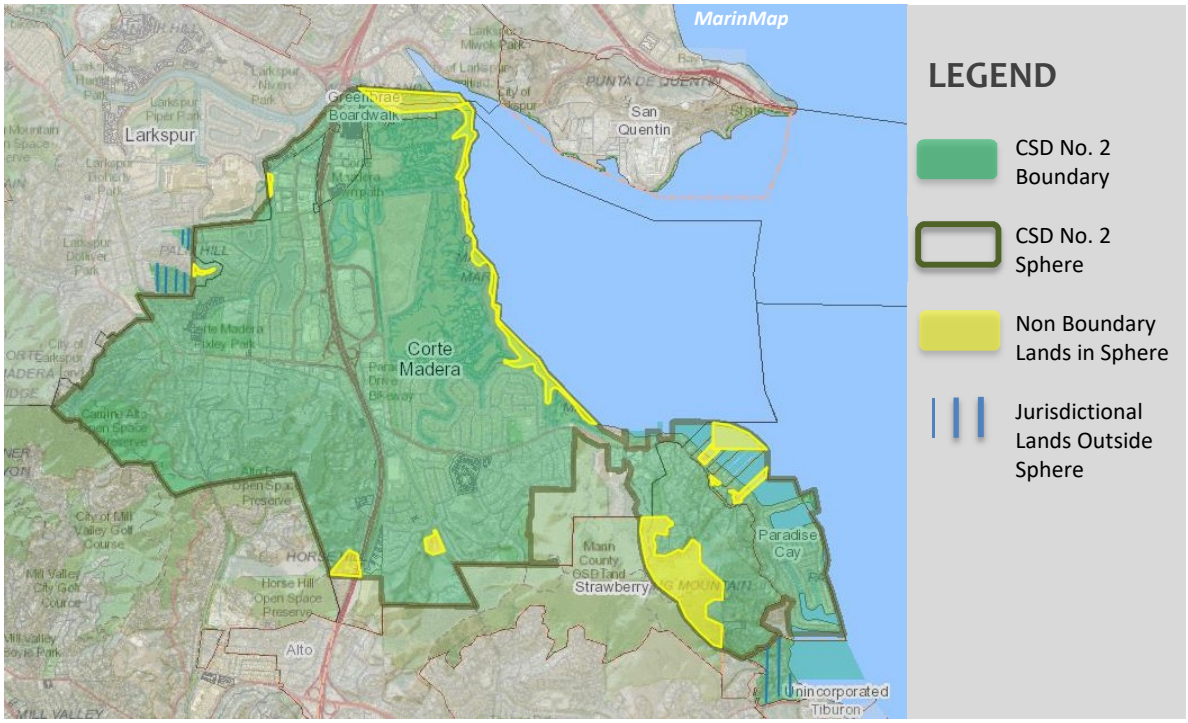
49 The remaining 836 jurisdictional acreage within CSD No. 2 are tied to public right-of-ways and waterways.

50 This portion of developed acreage includes parcels dedicated as common areas.

3.2 Sphere of Influence

CSD No. 2's sphere of influence was initially established by the Commission in 1983 and last reviewed and updated in 2006. The sphere spans approximately 2,471 acres or 3.8 square miles in size. The sphere is close to matching – or 98% – equal to CSD No. 2's jurisdictional boundary net size although with several notable deviations therein. This includes excluding approximately 44 acres – or 2% – of CSD No. 2 jurisdictional lands and highlighted by the omission of District territory in north Tiburon and south Larkspur. Non-jurisdictional lands included in the sphere total approximately 80 acres (parcels and right-of-ways) and as such are immediately eligible for annexation or outside service extension subject to Commission approval. This includes 37 assessor parcels with 90% – or 33 – being privately owned and zoned for some type of urban use with the majority lying within unincorporated Paradise Cay.

> CSD No. 2's sphere of influence nearly matches its jurisdictional boundary with two notable exceptions. First, the sphere excludes approximately 44 acres of the jurisdictional boundary in south Larkspur and north Tiburon. Second, the sphere includes 80 acres on non-jurisdictional lands with the majority located in the unincorporated community of Paradise Cay.



4.0 DEMOGRAPHICS

4.1 Population Estimates

CSD No. 2's resident population within its jurisdictional boundary is independently estimated by the Commission at 9,874 as of the term of the study. This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents 3.8% of the estimated countywide population.[51] It is also projected CSD No. 2 has experienced an overall population growth rate of 0.88% over the preceding five-year period or 0.175% annually. The net effect of the population change in CSD No. 2 over the study period is the addition of an estimated 86 persons. This projected increase in population has been generated by the addition of an estimated 87 new and occupied housing units within the jurisdictional boundary while also taking into account a deintensification of household sizes over the span of the five-year period starting at 2.25 in 2010 and ending at 2.20 in 2014; the latter being a net intensity decrease of (11.1%). Overall projected growth within CSD No. 2 falls more than three times below the concurrent annual change estimated for the entire county – 0.62% –.[52]

LAFCO estimates there are 9,874 total residents within CSD No. 2 that are explicitly served by the District's wastewater collection system as of the term of the study. It is further estimated CSD No. 2 has experienced an overall population increase of 86 over the preceding five-year period, resulting an in annual growth rate of 0.175%.

CSD No. 2 Resident Population: Past and Current Estimates
Table 4.77 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
a) Total Housing Units	4,466	4,482	4,499	4,545	4,531
b) Local Occupancy Rate	97.63	96.47	97.52	97.52	98.16
g) Occupied Housing Units	1,360	4,324	4,387	4,403	4,448
h) Projected Household Size	2.245	2.239	2.232	2.226	2.220
Estimated Population	**9,788**	**9,678**	**9,794**	**9,802**	**9,874**

[51] Marin LAFCO's resident service population for CSD No. 2 is independently calculated and premised on occupied housing driving resident estimates based on data collected within the four affected census tracts in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to CSD No. 2 over the study period include a weighted an annual housing unit change of 0.361% and a weighted annual household size change of (0.279%). The annual weighted population change is 0.175%.

[52] Marin County's estimated population as of January 1, 2014 totaled 260,750 based on information published by the United States Census and marks a 3.01% increase over the preceding five-year period.

** rounded for reporting purposes*

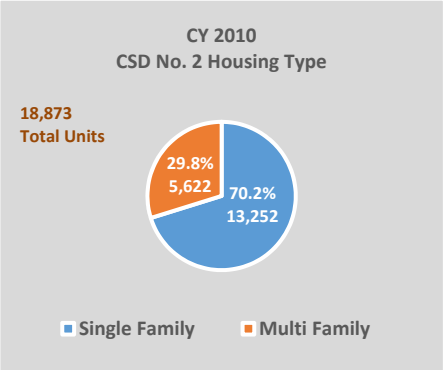
With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate with CSD No. 2 will generally match the preceding five-year period with an overall yearly population change of 0.175%. The substantive result of this assumption would be an overall increase in CSD No. 2's resident population of 174 and produce a total of 10,048 by 2024. This growth rate would similarly presume to generate the addition of 53 new and occupied housing units within CSD No. 2 through 2024 assuming the preceding five-year average ratio of 2.232 persons for every one occupied housing unit holds. These collective projections going forward are summarized below.

CSD No. 2 Resident Population: Future Estimates
Table 4.78 | Source: Marin LAFCO

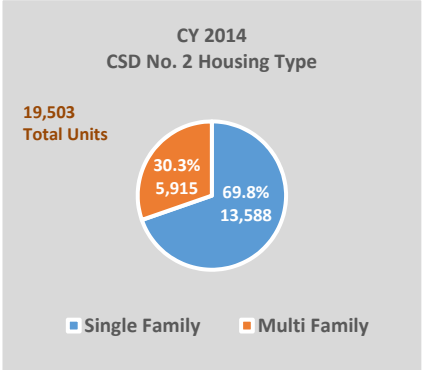
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**9,874**	**9,909**	**9,943**	**9,978**	**10,013**	**10,048**
Occupied Housing Units	4,448	4,439	4,454	4,470	4,485	4,501
- residents to housing units	2.220	2.232	2.232	2.232	2.232	2.232
	Baseline					

4.2 Residency Type

The Commission projects CSD No. 2's residential unit total (occupied and unoccupied) of 4,531 as of the study term is divided between single family and multi-family uses at 74.43% (3,373) and 25.57% (1,159), respectively. These totals produce an estimated ratio of 2.91 to 1 with respect to single-family to multi-family units. The overall stock of housing type has experienced a subtle change with single-family unit totals decreasing by (0.43%) while multi-family unit totals increasing by 1.28% over the corresponding 60 month period. The substantive change in the residency type ratio (i.e., single-family to multi-family units) has been (1.69%) from 2.96 to 1 in 2010.



Single Family to Multi Family: 2.96 to 1



Single Family to Multi Family: 2.91 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the CSD No. 2 jurisdictional boundary for the study period shows fulltime residents are relatively in better economic positions compared to countywide averages and marked by high incomes and low unemployment and poverty rates. This information is drawn from census data collected between 2010 and 2014 and shows area residents' average median household income is close to one-fifth above the countywide amount of $91,529 at $108,934. Area resident averages – and similar to RVSD – also fall measurably below countywide amounts with respect to unemployment and poverty rates, albeit both measurements have significantly increased compared to the preceding five-year average data collection. Notable social indictors show CSD No. 2 residents have significantly higher levels of formal education with 65.7% possessing a bachelor's degree and is more than double the countywide rate. Also notably – and compared to its immediate neighbor to the east with similar economic factors in RVSD – CSD No. 2 is far more ethnically diverse with non-native speakers equally 21.3% and close to the countywide amount.

> CSD No. 2's fulltime residents are generally more affluent than most of the county populace and highlighted by a median household income average over the study period of $108,934. Also there has been sizeable amount of transition with only 13% of household owners having resided in their homes before Proposition 13 in 1979.

CSD No. 2: Resident Trends in Social and Economic Indicators
Table 4.79 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$100,121**	**$108,934**	**8.80%**	**$91,529**
Median Age	44.78	44.98	0.46%	45.10
Prime Working Age (25-64)	58.07%	52.93%	(8.84%)	55.28%
Unemployment Rate (Labor Force)	2.44%	3.66%	50.20%	4.70%
Persons Living Below Poverty Rate	2.49%	4.80%	92.60%	8.80%
Mean Travel to Work	27.78 min	30.40 min	8.12%	29.4 min
Working at Home (Labor Force)	6.40%	9.40%	47.91%	2.50%
Adults with Bachelor Degrees or Higher	62.45%	65.70%	5.21%	30.80%
Non English Speaking	23.28%	21.13%	(9.23%)	23.50%
Householder Pre Proposition 13 (1979)	16.82%	12.90%	(8.84%)	12.80%

* Amounts represent the result of a weighted calculation by estimated population performed by Marin LAFCO taking into proportional account of all four census tracts underlying CSD No. 2.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

CSD No. 2's governance authority is established under the Sanitary District Act of 1923 ("principal act") and codified under Public Health and Safety Code Sections 6400-6982. This principal act was originally enacted in 1891 and empowers CSD No. 2 to provide a moderate range of municipal services upon approval by LAFCO. As of date, CSD No. 2 is authorized to provide only one municipal service: (a) wastewater. All other latent powers enumerated under the principal act would need to be formally activated by LAFCO before CSD No. 2 would be allowed to initiate. Similarly, should it ever seek to divest itself of directly providing wastewater services, CSD No. 2 would also need to seek LAFCO approval. A list of active and latent powers under the principal act follows

Active Service Powers	Latent Service Powers
Wastewater	Solid Waste; Including Collection
	Recycled Water
	Storm Drainage

CSD No. 2 was initially formed as an independent sanitary district in 1901 with its own directly elected five-member board of directors among registered voters residing with the District. CSD No. 2 was governed accordingly in this manner until 1969 when the Town of Corte Madera successfully proposed reorganization of the District as a subsidiary to the Town.[53] As a result of the reorganization, the Corte Madera Town Council acts as *ex officio* of the CSD No. 2 Board and incorporates the District's business as part of the Town's regular meeting schedule. The Town Council's members are elected at large to staggered four-year terms with a rotating mayor appointment process – hold regular meetings every first and third Tuesdays of each month at 7:30 P.M. at Town Hall, 300 Tamalpais Drive, Corte Madera. A current listing of CSD No. 2 Board of Directors along with respective backgrounds and years served on the District follows.

THE TOWN OF CORTE MADERA
MARIN COUNTY CALIFORNIA

[53] As added context the reorganization was allowed under State law given Corte Madera represented no less than 70% of both the District's total boundary and registered voters at the time of the proceedings.

Current CSD No. 2 Board Roster
Table 4.80 | Source: CSD No. 2

Member	Position	Background	Years on Board
Sloan Baily	President	Attorney	n/a
Diane Furst	Vice President	Accounting/Finance	n/a
James Andrews	Director	Financial Analyst	n/a
Carla Condon	Director	Government	n/a
Michael Lappert	Director	Business Owner	n/a

5.2 Administration

CSD No. 2 Administrative Offices
300 Tamalpais Drive
Corte Madera, California 94925

Courtesy / Town of Corte Madera

Under Town Ordinance Corte Madera's Town Manager serves as General Manager for CSD No. 2 and as such oversees all District activities with primary delegation to the Public Works Director. The current General Manager – Todd Cusimano – assumed administrative oversight of CSD No. 2 in September 2016. Service activities directly performed by CSD No. 2 and byway of Public Works staff focuses on engineering aspects of the District's approximate 49 mile collection system along with cost-recovery through the setting and collection of charges and fees.[54] Legal services for CSD No. 2 are provided by contract with the Renne Sloan Holtzman Sakai Law Group (San Francisco).

6.0 WASTEWATER SERVICES

6.1 System Structure

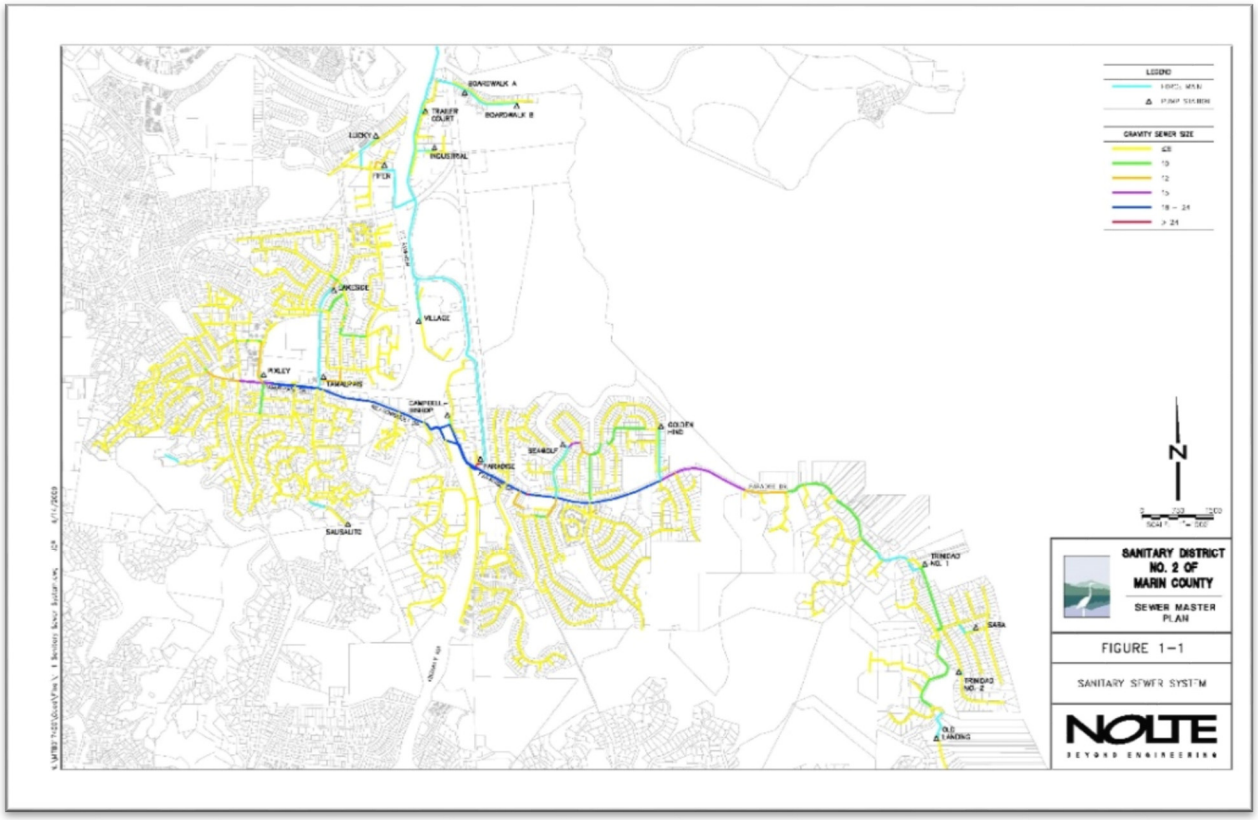
CSD No. 2 directly provides wastewater collection services through its own infrastructure headlined by an approximate 49 mile collection system and 19 public pump stations. The current infrastructure dates back as early as 1923 with the collection system divided between 44 and 5 miles of gravity and force lines, respectively. CSD No. 2 reports close

[54] Public Works also provides routine and emergency cleaning and maintenance of the collection system with a budgeted allocation of three fulltime equivalent employees to perform on behalf of CSD No. 2 for the study term. All other services – including maintaining CSD's No. 2's pump stations as well as treatment and disposal services – are provided to the District byway of CMSA through a standing joint-powers agreement initially established in 1979.

to 60% of the collection system is less than 50 years in service.

As of the study term CSD No. 2's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – is 12 years and represents a 14% negative change over the corresponding 60 month period.[55] Other key aspects of wastewater service – and specifically treatment and disposal – are provided by contract to CSD No. 2 by CMSA and separately reviewed as part of this study.

CSD No. 2's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – as of the study term is 12 years.



[55] The equipment replacement ratio has been calculated by LAFCO and drawn from CSD No. 2's 2013-2014 audit.

6.2 Wastewater Demands

Generators | Service Connections and Resident Population

CSD No. 2 reports service to 3,934 active wastewater service connections as of the term of the study period. This connection total is divided into three broad billing categories: (a) residential at 95.6%; (b) commercial at 3.61%; and (c) other at 0.76% (e.g. industrial, public, etc.). The connection totals have experienced small fluctuations within the five-year study period and attributed to residential billing updates that have resulted in the removal of discontinued/merged accounts. This activity helps to explain the overall 0.58% decrease in service connections over the past five year period; a net loss of (23). Nevertheless, residential connections have consistently comprised no less than 96% of the total in any year as shown below.

Service connection totals within CSD No. 2 have remained relatively stagnant over the study period and total 3,934 at the term. Residential users on average have accounted for 95.76% of all active connections.

CSD No. 2: Service Connection Type Breakdown
Table 4.81 | Source: CSD No. 2

Category	Residential	Commercial	Other	Net
2010	3,781	147	29	3,957
2011	3,798	144	15	3,957
2012	3,763	137	20	3,920
2013	3,758	140	31	3,929
2014	**3,762**	**142**	**30**	**3,934**
Overall Change	**(0.50%)**	**3.40%**	**3.45%**	**(0.58%)**

As detailed in the preceding section the Commission independently estimates CSD No. 2's total resident service population at 9,874. The substantive result when aligning the two demand generators – service connections and resident population – is an average ratio of 2.59 persons for every residential connection. The ratio at the study term tallied 2.62. A breakdown of service connection to resident population ratios over the study period follows.

CSD No. 2's current resident to residential connection ratio is 2.62 as of the term date of this study.

CSD No. 2: Resident to Connection Ratio Breakdown
Table 4.82 | Source: Marin LAFCO

Category	Residential Connection	Estimated Resident Population	Resident to Connection Ratios
2010	3,781	9,788	2.56
2011	3,798	9,678	2.55
2012	3,763	9,794	2.60
2013	3,758	9,802	2.60
2014	**3,762**	**9,874**	**2.62**
Overall Change	**(0.50%)**	**0.86%**	**2.34%**

Recent Measurements / Wastewater Collection System Flows

CSD No. 2's average annual wastewater collection demand generated over the study period as reported by the District and for ultimate treatment and disposal by CMSA has been approximately 426.3 million gallons. This average amount – which serves as a macro overview of system demands – represents a daily average flow of 1.17 million gallons. It also translates to an estimated 119.3 gallons per day for each resident or 266.4 gallons per day for each occupied housing unit projected within CSD No. 2, and 260.1 gallons for each service connection.

Average daily wastewater flows generated within CSD No. 2 during the study period totaled 1.17 million gallons and translates to use ratio of 119 and 266 daily gallons for every person and occupied housing unit, respectively, within the District.

With respect to trends, annual flows within the five-year study period have remained relatively consistent each year and ultimately produced a (0.80%) decrease over the span of the affected 60 months. The high demand point for the collection system during the study period occurred in 2010 with annual flow equaling 456.3 million gallons. This high demand year translates to an estimated 127.7 gallons per day for each resident or 286.7 gallons per day for each occupied housing unit; it also translates to 315.9 gallons per day for each service connection. A breakdown of annual and daily wastewater flows follows.

Annual wastewater flows within CSD No. 2 have decreased by less than (5%) over the study period's 60 month point-to-point index; a difference of 23.1 million gallons.

CSD No. 2: Annual and Average Daily Flows Breakdown
Table 4.83 | Source: Marin LAFCO and CSD No. 2

	2010	2011	2012	2013	2014	Average	Trend
Annual Flow	456.3 mg	407.0 mg	449.0 mg	366.8 mg	452.6 mg	426.3 mg	(0.80%)
Daily Average	1.3 mg	1.1 mg	1.2 mg	1.0 mg	1.2 mg	1.2 mg	(0.80%)
- Daily Per Resident	127.7	115.2	125.6	102.5	125.6	119.3	(1.66%)
- Daily Per Housing Unit	286.7	257.9	280.4	228.3	278.8	266.4	(2.72%)
- Service Connection	315.9	281.8	132.0	256.0	315.2	260.1	(0.22%)

"mg" refers to million gallons
Per resident as estimated by the Commission
Per housing unit refers to occupied status as estimated by the Commission

Along with average annual wastewater flow three other more micro measurements are tracked with respect to CSD No. 2's collection system and provide additional context to assessing demand. These measurements are (a) dry weather flow, (b) wet-weather flow, and (c) peak-day flow and summarized below.

Dry-Weather Day Flows

Average dry-weather day wastewater flows over the study period have totaled 0.94 million gallons. This flow is recorded between May 1st and October 31st and most recently tallied 0.93 million gallons as of the study term. The overall average dry-weather day tally translates to 96 gallons for every resident and 214 gallons for every occupied housing unit during the affected 60 months. This measurement has increased overall during the study period by 6.90%. A breakdown of dry-weather flows during the study period follows.

CSD No. 2: Dry Weather Day Flows
Table 4.84 | Source: Marin LAFCO and CSD No. 2

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit
2010	0.87 mg	88.9	199.5
2011	0.93 mg	96.1	215.1
2012	0.98 mg	100.1	223.4
2013	0.99 mg	101.0	224.8
2014	0.93 mg	94.2	209.1
Average	**0.94 mg**	**96.0**	**214.4**
Trend	**6.90%**	**5.96%**	**4.81%**

"mg" refers to million gallons

Wet-Weather Day Flows

Average wet-weather day wastewater flows over the study period have totaled 1.39 million gallons. This flow is recorded between November 1st and April 30th and most recently tallied 1.55 million gallons as of the study term. The overall average wet-weather day tally translates to 143 gallons for every resident and 4,664 gallons for every occupied housing unit during the affected 60 months. This measurement has decreased overall during the study period by (4.91%). A breakdown of wet-weather flows during the study period follows.

CSD No. 2: Wet Weather Day Flows
Table 4.85 | Source: Marin LAFCO and CSD No. 2

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit
2010	1.63 mg	166.5	199.5
2011	1.30 mg	134.3	215.1
2012	1.48 mg	151.1	337.3
2013	1.02 mg	104.1	300.6
2014	1.55 mg	156.9	373.8
Average	**1.39 mg**	**142.6**	**318.4**
Trend	**(4.91%)**	**(5.16%)**	**87.37%**

"mg" refers to million gallons

Peak-Day Flows

Average peak-day wastewater flows over the study period have totaled 5.192 million gallons producing a peak-factor relative to average day totals of 5.6. The average peak-day flow – which represents the highest volume during a 24-hour period for the affected year and typically is recorded during storm events – most recently tallied 8.85 million gallons as of the study term. The overall average peak-weather day tally translates to 530 gallons for every resident and 1,182 gallons for every occupied housing unit during the affected 60 months. This measurement has increased overall during the study period by 64.80%. A full breakdown of peak-day flows follows.

CSD No. 2: Peak Day Flows
Table 4.86 | Source: Marin LAFCO and CSD No. 2

Year	Peak Day System Total	Gallon Per Resident	Gallon Per Housing Unit	Peaking Factor
2010	5.37 mg	548.6	1,231.6	6.2
2011	4.41 mg	455.6	1,019.9	4.7
2012	5.53 mg	564.6	1,260.5	5.6
2013	1.80 mg	183.6	408.8	1.8
2014	8.85 mg	896.3	1,989.8	9.5
Average	**5.19 mg**	**529.8**	**1,182.1**	**5.6**
Trend	**64.80%**	**63.43%**	**61.56%**	**54.17%**

"mg" refers to million gallons

Projected Measurements | Wastewater Collection System Flows

> The Commission independently estimates CSD No. 2's annual wastewater demands will reserve course and increase over the succeeding 10-year period at an average rate of 0.46%. This will result in the average day demand equaling 1.3 million gallons in 2024.

Going forward – and specifically for purposes of this study – it appears reasonable to assume CSD No. 2's wastewater flows will follow trends over the study period. It is estimated, accordingly and using linear regression to control for variances in the most recent yearend totals, the system will ultimately experience an overall increase in annual wastewater flows of 21.0 million gallons over the succeeding 10-year period finishing in 2024; a difference of 4.64% or 0.46% annually. This projection differs from CSD No. 2's overall annual flows decrease incurred during the study period. It is also estimated – in using regression analysis - the system's peak-day flows will ultimately increase over the succeeding 10-year period by 1.04 million gallons or 11.79% and resulting in a peaking factor of 7.6; the latter representing a rise in peak day flows relative to average day amounts by one-fourth. The following table summarizes these and related projection flows through 2024.

CSD No. 2: Projected Wastewater Flows
Table 4.87 | Source: Marin LAFCO and CSD No. 2

Year	Average Annual Flows	Average-Day Flows	Dry-Weather Flows	Wet-Weather Flows	Peak-Day Flows
2014	456.2 mg	1.25 mg	0.93 mg	1.55 mg	8.9 mg
2015	445.6 mg	1.22 mg	0.95 mg	1.50 mg	7.1 mg
2016	448.7 mg	1.23 mg	0.95 mg	1.51 mg	7.4 mg
2017	451.8 mg	1.24 mg	0.95 mg	1.53 mg	7.7 mg
2018	454.9 mg	1.25 mg	0.95 mg	1.55 mg	8.0 mg
2019	458.0 mg	1.25 mg	0.95 mg	1.56 mg	8.3 mg
2020	461.1 mg	1.26 mg	0.95 mg	1.58 mg	8.6 mg
2021	464.2 mg	1.27 mg	0.95 mg	1.60 mg	8.9 mg
2022	467.3 mg	1.28 mg	0.95 mg	1.61 mg	9.3 mg
2023	470.5 mg	1.29 mg	0.95 mg	1.63 mg	9.6 mg
2024	473.6 mg	1.30 mg	0.96 mg	1.65 mg	9.9 mg
Average	**459.6 mg**	**1.26 mg**	**0.95 mg**	**1.57 mg**	**8.5 mg**
Trend	**4.64%**	**4.64%**	**2.75%**	**6.33%**	**11.79%**

6.3 Wastewater Capacity

Constraints / Contractual Provisions

As referenced, CSD No. 2 contracts with CMSA to provide treatment and disposal services for all collected wastewater services generated within the District. This contract was established in 1979 with CMSA's treatment facility going online in 1984. The current contract does not establish any limitations or related constraints on total volume of wastewater conveyed to CMSA by CSD No. 2 or any of the other members.

CSD No. 2 is under no contractual constraints with respect to the volume of wastewater the District conveys to CMSA for treatment and disposal.

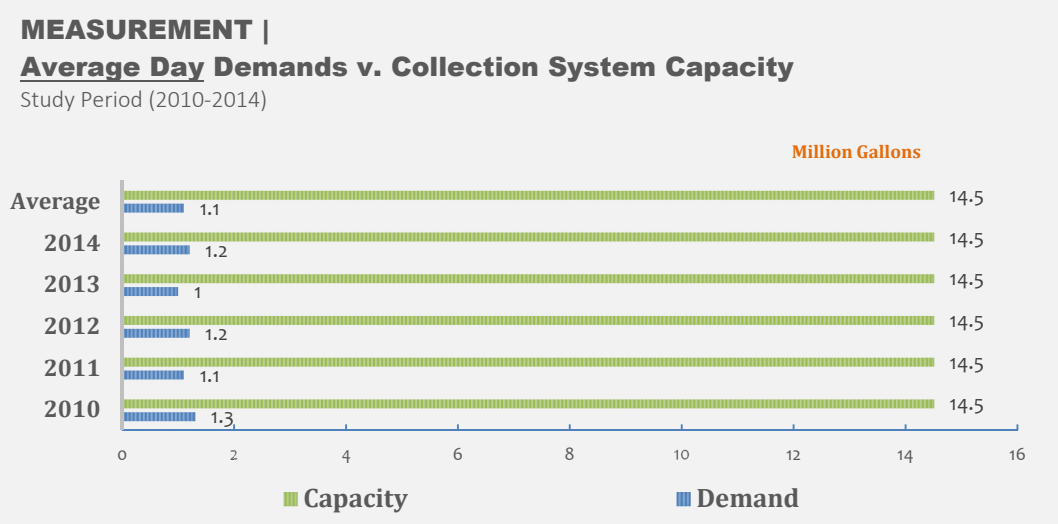
Constraints / Infrastructure and Facilities

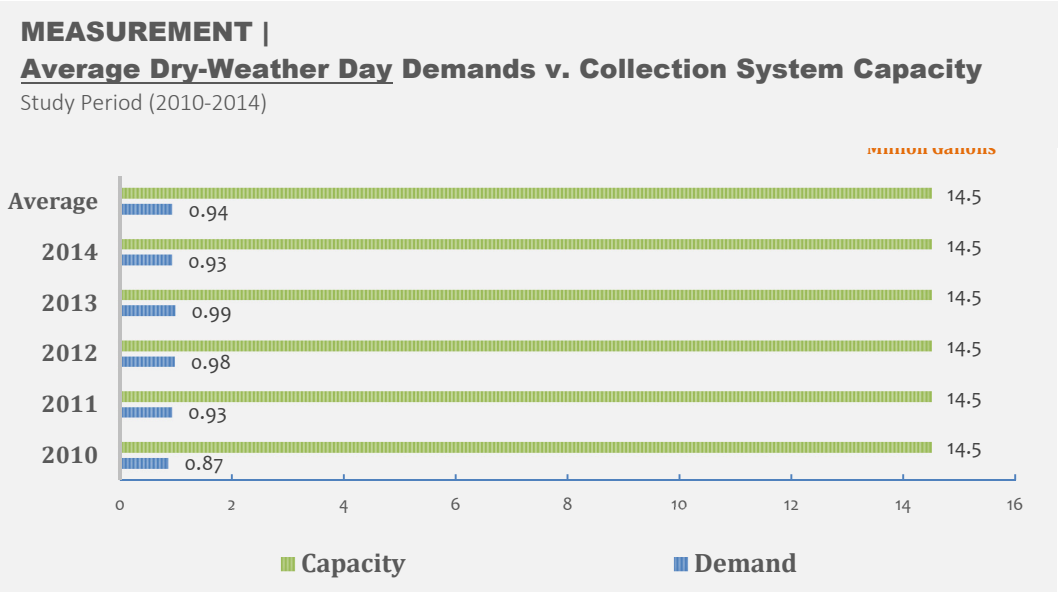
Capacity within CSD No. 2 is premised on an approximate 49-mile collection system divided between 44 and 5 miles of gravity and force lines, respectively. The percentage of force mains to gravity flow pipelines for the most recent study period year was at 12%, and increased by 33.3% from the start of the period. CSD No. 2 has 14 lift stations and 5 force mains. The majority of the gravity lines are less than eight inches in size and supported by 19 strategically placed public pump stations that ultimately convey flows north to the Paradise Force Main, which is 22 inches in size and continues through to the 54-inch Ross Valley Interceptor for subsequent treatment and disposal services. This central force main is directly supported by its own pump station (Paradise) that is powered by five pumps with design capacities ranging from 1,500 (two pumps) to 4,250 (three pumps) gallons per minute. The operational capacity within the central force main is set at 14.5 million gallons per day and is estimated on the peak capacity of the Paradise Pump Station. For purposes of this review, this reported amount – 14.5 million gallons – is deemed the maximum daily capacity of the collection system.

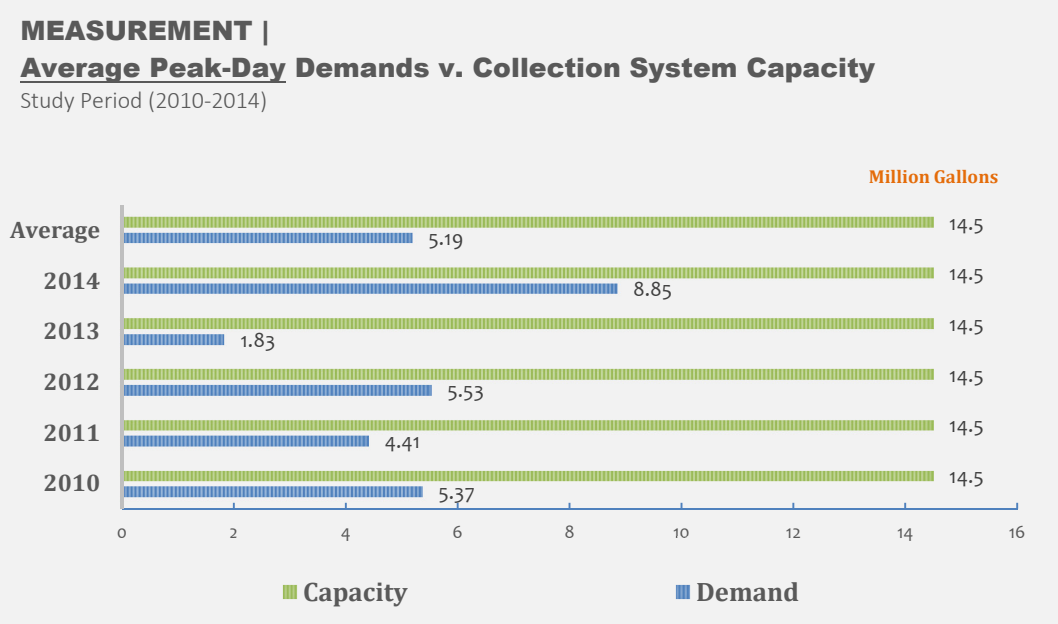
CSD No. 2's collection system's daily capacity to convey flows to CMSA is estimated at 14.5 million gallons.

6.4 Demand to Capacity Relationships

Study period flows averages show CSD No. 2 has sufficient available capacities within its collection system to accommodate current and projected demands over the succeeding 10-year period. Average annual demands over the study period equal 7.6% of the collection system capacity. Average dry-weather demands during the same period tally 6.5% of the collection system capacity. Average peak-day demands represent the biggest tax on the collection system and account over the study period to equal 35.8% of the collection system capacity. None of the ratios are expected to significantly and adversely change over the succeeding 10-year period with the quasi exception of peak-day demands, which are projected to reach 58.6% capacity by 2024.







6.4 Performance

Measurement | Sanitary Sewer Overflows

The State Water Resources Control Board (SWRCB) requires all public agencies that own or operate sanitary collection systems that are one mile or more in length and convey to a public owned treatment facility comply with the reporting requirements codified in Order No. 2006-0003. This order mandates all subject agencies to develop and implement a system-specific sewer system management plan that includes a spill response plan as well as requiring immediately reporting to the SWRCB of all sanitary sewer overflows, or SSOs. The ultimate purpose of the SSO reporting process is to provide a uniform means to evaluate system reliability, source control, and operation and maintenance of wastewater systems in California. SSOs are defined as any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system, and include any of the following occurrences:

a) Overflows or releases of untreated or partially treated wastewater that reaches waters of the United States;

b) Overflows or releases of untreated or partially treated wastewater that do not reach water of the United States; and

c) Wastewater backups into buildings and on private property caused by blockages or flow conditions within the publicly owned portion of a sanitary sewer system.

CSD No. 2 experience relatively few SSOs during the study period with the actual total tallying eight with an associated spill volume of 222 gallons. The majority of the SSOs during the study period were classified by the SWRCB as a Category 3, a spill of less than 1,000 gallons to not reach the surface water. CSD No. 2 experienced two SSOs classified as a Category 1 in which wastewater reached the surface water with the potential of threatening public safety and environmental health. The average response time for SSOs during the study period was less than 30 minutes and as fast as seven-minutes, providing adequate time for appropriate response actions, based on the District's policies. A review of each accompanying report incident suggests the main factors resulting in discharges were from roots and debris, with 6.7% of SSOs caused by fats, oil and grease (FOG) and 13.3% due to structural issues. There were no repeat SSO occurrences.

CSD No. 2 experienced 8 total SSOs during the five-year study period, and involved the unauthorized overflow of 222 gallons.

CSD No. 2: Sanitary Sewer Overflows
Table 4.88 | Source: SWRQB

Year	Category 1		Category 2		Category 3		Total	
	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons	Overflows	Gallons
2010	0	0	0	0	5	170	5	170
2011	0	0	0	0	1	15	1	15
2012	0	0	0	0	1	5	1	5
2013	2	22	0	0	0	0	2	22
2014	0	0	0	0	0	0	0	0
	2	**22**	**0**	**0**	**7**	**190**	**8**	**222**

Measurement | System Maintenance

System maintenance for purposes of this study includes both corrective and preventative maintenance. Corrective maintenance, is performed when signals indicate a fault, so an asset can be restored to its operational condition. Preventative maintenance, conversely,

is initiated according to a predetermined schedule rather than in response to failure. A summary of both measurements follow.

Corrective Maintenance

CSD No. 2's corrective maintenance is noted in the number of district service calls received to resolve, correct or assist a particular situation. During the entire 60-month study period this number was 9. The District reported no service calls for the last term (2014). According to CSD No. 2, all of the 9 calls reported were placed to notify the District of a public SSO.

CSD No. 2: Number of District Service Calls
Table 4.89 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
General	0	0	0	0	0
Public SSO	5	1	1	2	0
Private SSO	0	0	0	0	0
Odor Complaints	0	0	0	0	0
Noise Complaints	0	0	0	0	0
Pump Station Alarms	0	0	0	0	0
Non-District Incidents	0	0	0	0	0
	5	**1**	**1**	**2**	**0**

Preventive Maintenance

CSD No. 2's preventative maintenance was reported in its planned cleaning activities during the 60-month study period, which averaged 91% of all planned work orders completed. CSD No. 2 reports inspections are overseen by outside contractors and follow the protocols specified by the National Association of Sewer Service Companies Pipeline Assessment & Certification Program. The District attempts to clean the entire 44-mile gravity sewer system every 18-24 months, with specific portions of the system cleaned between 3 to 6 month intervals. CSD No. 2 reports all pump stations are checked daily and emergency or routine repairs are performed by staff or a contractor. No pump stations failed during the 60-month study period.

CSD No. 2 uses a database of recurrent grease buildups in which a three-month priority maintenance schedule is implemented for flushing or rodding the sewer lines. CSD No. 2 utilizes closed-circuit televising (CCTV) to verify causes of grease problems as part of its rehabilitation plan, and modifications are made once information on the causes are received to make repairs and minimize grease-related SSOs. CSD No. 2 provides public outreach in the form of flyers or newsletters to inform its service customers to keep FOGs out of the sewer system. Overall, the agency experienced a total of 30 blocked sewer pipes every 100 miles during the study period in which none were repeats. CSD No. 2 is currently working on developing a rehabilitation and replacement plan to identify and prioritize rehabilitation efforts to address system deficiencies, which would include TV inspections, conditional ranking of sewer lines, and rehabilitation scheduling that focuses on at risk or frequently blocked pipes. The level of infrastructure reinvestment the District achieved during the entire study period came in at 100% byway completing all of the 24,073 feet of the planned line replacement.

PLANNED CLEANING ACTIVITIES COMPLETED

Year	Planned Feet	Actual Feet
2010	90,277	90,277
2011	141,801	130,918
2012	125,311	121,635
2013	136,825	132,176
2014	133,595	130,060
2010	128,194	129,758
TOTAL	228,840	207,162
Planned Work Orders Completed		**91%**

PLANNED LINE REPLACEMENT COMPLETED

Year	Planned Feet	Actual Feet
2010	14,000	156
2011	4,220	16,089
2012	1,210	7,305
2013	4,643	0
2014	0	0
TOTAL	24,073	24,073
Planned Work Orders Completed		**100%**

6.6 User Charges and Fees

CSD No. 2 bills one fee to its customers in recovering the District's wastewater service costs. The fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and contracted treatment and disposal expenses. All residential customers are billed $500 for each unit. [56] Non-residential users are charged a user fee based on an estimated flow usage. The user fee was last updated in 2015. There are no voter approved special assessments.[57]

Most single-family customers in CSD No. 2 currently pay $500 a year for wastewater services. An additional $500 charge applies for every additional unit.

7.0 AGENCY FINANCES

7.1 Financial Statements

CSD No. 2 contracts with an outside accounting firm (Cropper Accountancy Corporation) to prepare an annual report for each fiscal year to review the District's financial statements in accordance with established governmental accounting standards. This includes vetting CSD No. 2's statements with respect to verifying overall assets, liabilities, and equity as stated in a balance sheet. These audited statements provide the Commission with provide quantitative measurements in assessing CSD No. 2's short and long-term fiscal health.

CSD No. 2's most recent financial statements for the study period were issued for 2013-2014 and shows the District experienced a moderate and downturn change over the prior fiscal year as its overall equity or fund balance decreased by (8.04%)% from $21.137 to $19.438 million. Underlying this most recent change is the result of CSD No. 2 booking a legal

End of Study Term Financial Statements	
Assets	$21.785 m
Liabilities	$2.346 m
Equity	$19.438 m

[56] This includes a $2.00 processing fee.

[57] A dual connection fee is also collected in step with initiating new services. The connection fee presently totals $7,966 for each residential connection and divided between 26% ($2,103) going to cover the buy-in costs to the collection system and 74% ($5,863) to cover the buy-in costs to the treatment/disposal facilities operated by CMSA. The connection fee for non-residential users may also include additional charges tallying up to $1,224 per connection.

settlement with a private property owner over a sewer spill. A summary of year-end totals and trends therein over the study period less 2009-2010 follows.

Agency Assets

CSD No. 2's audited assets at the end of 2013-2014 totaled $21.785 million; an amount more than 4% higher than the average sum generated over the course of the study period's prior four years (2009-2010 was not reviewed). Assets classified as current with the expectation they could be liquidated within a year represented nearly one-fourth of the total amount with the majority tied to cash and investments, and have increased by 26.41% over the corresponding 48 months. Assets classified as non-current represented the remaining three-fourths with the largest portion associated with utility infrastructure and have decreased by (1.21%).

CSD No. 2 Assets | Study Period
Table 4.90 | Source: CSD No. 2

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	n/a	4.207	4.526	5.109	5.317	26.41%	4.790
Non-Current	n/a	16.669	16.141	16.292	16.467	(1.21%)	16.392
	n/a	**20.876**	**20.668**	**21.401**	**21.785**	**4.35%**	**21.183**

amounts in millions

Agency Liabilities

CSD No. 2's audited liabilities at the end of 2013-2014 totaled $2.346 million; an amount that represents a collective increase of more than four-fold – or 482.98% – over the study period's 48 month period. Current liabilities representing obligations owed in the near-term account for the entire amount and generally tied as of the study term to a legal settlement payment with the remainder involving accounts payable. CSD No. 2 booked no long-term liabilities throughout the 48 month period.

CSD No. 2 Liabilities | Study Period
Table 4.91 | Source: CSD No. 2

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	n/a	0.402	0.471	0.264	2.346	482.98%	0.871
Non-Current	n/a	0.0	0.0	0.0	0.0	0.0	0.0
		0.402	**0.471**	**0.264**	**2.346**	**482.98%**	**0.871**

amounts in millions

Agency Equity | Net Assets

CSD No. 2's audited equity / net assets at the end of 2013-2014 totaled $19.438 million and represent the difference between the District's total assets and total liabilities. This referenced amount has decreased by (5.06%) over the 48 month period and primarily attributed to margin losses and highlighted therein in the most recent term year. The ending equity amount includes $3.235 million in unrestricted funds and translates to a per capita reserve ratio of $328 based on an estimated resident population of 9,874.

CSD No. 2's net assets have decreased by (5.06%) over the study period. The unrestricted fund balance as of the study term total of $3.235 million equates to a per capita reserve ratio of $328.

CSD No. 2 Equity | Study Period
Table 4.92 | Source: CSD No. 2

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Unrestricted	n/a	3.843	4.093	4.883	3.235	(15.82%)	4.013
Restricted (Capital)	n/a	16.630	16.103	16.254	16.202	(2.57%)	16.297
Total:	**n/a**	**20.473**	**20.196**	**21.137**	**19.438**	**(5.06%)**	**20.311**

7.2 Measurements / Liquidity, Capital, Margin, and Structure

A review of the audited financial statement issuances by CSD No. 2 covering four of the five years comprising the study period and specifically fiscal years 2010-11 through 2013-2014 shows the District finished each year in relatively good health with respect to liquidity and capital. This includes CSD No. 2 finishing the study period with an estimated current ratio of over 2 to 1 and the net effect of having more than double the amount of available cash resources to cover near-term debt. Similarly CSD No. 2 finished the study period with over 17 months – or 524 days – of cash on hand to cover daily operating expenses. Further CSD No. 2 finished with a modest portion of its assets – 10.77% – being financed by debt and as such has relatively high capital potential to assume new debt obligations. Conversely margin measurements show CSD No. 2 have generally fallen short with respect to achieving profit. Total margin – i.e., all revenues and expenses – experienced an average loss of (2.34%) over the study period while operating margin – i.e., only operational revenues and expenses – averaged a larger loss of (65.36%). Last, and with respect to structure, CSD No. 2's earned income ratio

averaged a relatively low 54.80%, and as such shows almost half of the District's annual revenue is tied to things other than direct service fees. A summary of year-end liquidity, capital, margin, and structure ratios are show in the following table.

CSD No. 2: Financial Measurements | Study Period
Table 4.93 | Source: CSD No. 2 Financials and Marin LAFCO

Fiscal Years	Current Ratio	Days' Cash	Debt Ratio	Total Margin	Operating Margin	Earned Income Ratio
2009-2010	n/a	n/a	n/a	n/a	n/a	n/a
2010-2011	10.45 to 1	422.96	1.93%	10.20%	(58.58%)	56.45%
2011-2012	9.60 to 1	378.05	2.28%	(5.20%)	(85.96%)	56.23%
2012-2013	19.35 to 1	550.50	1.23%	16.29%	(51.97%)	52.73%
2013-2014	2.27 to 1	523.80	10.77%	(30.65%)	(64.93%)	53.81%
Average	**10.41 to 1**	**468.83**	**4.05%**	**(2.34%)**	**(65.36%)**	**54.80%**
Trend	**(78.32%)**	**23.84%**	**458.66%**	**(400.35%)**	**10.83%**	**(4.67%)**
		Liquidity	**Capital**		**Margin**	**Structure**

Notes

Current Ratio (liquidity) relates to the ability of the agency to pay short-term obligations (current liabilities) relative to the amount of available cash and cash equivalents (current assets). Higher is better.

Days' Cash (liquidity) measures the number of days' worth of average operating expenses the agency can meet with cash on hand. Higher is better.

Debt Ratio (capital) measures the portion of agency's total assets that are directly tied to debt financing. Lower is better.

Total Margin (profit) represents the year-end profit level of the agency and includes all revenues and expenses. Higher is better.

Operating Margin (profit) represents the year-end profit level of the agency specific to its normal and reoccurring revenues and expenses tied to service provision. Higher is better.

Earned Income (structure) measures the portion of annual revenues that are directly tied from user fees for services. Higher is better for enterprise agencies.

7.3 Pension Obligations

CSD No. 2 through the Town of Corte Madera provides a defined benefit plan to its employees through an investment risk-pool contract with the California Public Employees Retirement Systems (CalPERS). This pension contract provides employees with specified retirement benefits and includes disability benefits, annual cost-of-living adjustments, and death benefits to members and their beneficiaries. Actual pension benefits are based on the date of hire. Employees hired before January 1, 2013 are termed "Category One" while employees hired afterwards are termed "Category Two." Additional details of the pension program based on actuarial valuations issued by CalPERS follows.

Participants | Pension Formulas

Most Corte Madera employees receive one of two types of defined pensions based on either a 2.5 @ 55 or 2.0 @ 55 formula. Employees hired after January 1, 2013 receive a 2.0 @ 62 pension formula.

As of the study period's term (2014) there are a total of 149 participants within Corte Madera's miscellaneous (non-public safety) pension program. This total amount – which represents an overall decrease of (1%) in participants since 2012 – is further divided between enrollee type (i.e., active, separated, transferred, retired) and marked by a worker-to-retiree ratio of 0.4 to 1 as of the study term. Category One participants represent 99% – or 148 – of the total program enrollees and are eligible to receive one of two types of retirement payments. The first and predominate tier within Category One is based on a 2.5 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 50% of their highest one year of salary beginning at age 55 and continuing each year thereafter. The second tier is based on a 2.0 at 55 formula, and as such provides eligible retirees with 20 years of total service credit 40% of their highest one year of salary beginning at age 55 and continuing each year thereafter. Category Two participants' account for the remaining 1% of the total program enrollee amount as of the study period's term and are subject to a flat 2.0% at 62 pension formula. This tier provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 62 and continuing annually thereafter.

Corte Madera's Pension Enrollee Information | Miscellaneous
Table 4.94 | Source: CalPERS and Marin LAFCO

Type	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Active	n/a	n/a	33	30	31
Transferred	n/a	n/a	23	18	17
Separated	n/a	n/a	16	18	16
Retired	n/a	n/a	79	83	85
Total Enrollees	**n/a**	**n/a**	**151**	**149**	**149**
Worker-to-Retiree Ratio	**n/a**	**n/a**	**0.42 to 1**	**0.36 to 1**	**0.36 to 1**

Annual Contributions

Corte Madera's total annual pension contributions as of the study period's term tallied $1.591 million. This amount represents an overall increase over the five-year study period of 1% and is significantly less than the corresponding inflation rate calculated for the San Francisco Bay Region.[58] The most recent annual pension contribution by Corte Madera for the study period marked 64% of the Town's total annual payroll for the corresponding fiscal year (2013-2014).[59]

Corte Madera's pension contributions have increased by 1% over the five-year study period, and as of 2013-2014 account for 64% of total payroll.

Corte Madera's Pension Contributions
Table 4.95 | Source: CalPERS and Marin LAFCO

2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
$1,577,757	$1,502,381	$1,734,141	$1,420,037	$1,591,599
			Five-Year Average	**$1,565,183**
			Five-Year Trend	**0.88%**

Funded Status

Corte Madera's unfunded liability – tally of pension monies owed and not covered by assets – ended the study period at $6.083 million and as such represented 188% of the Town's unrestricted fund balance as of June 30, 2014. This former amount produces a funded ratio of 76% based on market value. It also reflects an overall improvement of 7% over the preceding four-year period.[60]

Corte Madera's unfunded pension liability has decreased over the last four years of the study period by (2%) and ended the term at $6.083 million; the equivalent of a 76.44% funded ratio.

Corte Madera's Pension Trends
Table 4.96 | Source: CalPERS and Marin LAFCO

	Unfunded Liability	Funded Ratio
2009-2010	n/a	n/a
2010-2011	$6,191,083	71.52%
2011-2012	$7,233,572	67.72%
2012-2013	$6,495,434	72.24%
2013-2014	$6,083,058	76.44%
Four-Year Average	**$6,500,786**	**71.98%**
Four-Year Trend	**(1.74%)**	**6.88%**

[58] According to the United States Department of Labor the overall inflation rate in the San Francisco Bay Area region between 2010 and 2014 tallied 10.77%.
[59] Corte Madera's covered annual payroll in 2013-2014 totaled $2.488 million.
[60] Pension information for 2009-2010 is not available.

Amounts above are show in market form and reflects the immediate and short term values of the pension with respect to assets and liabilities (i.e., here and now).

7.4 Revenue to Expense Trends

A review of CSD No. 2's actual revenues and expenses during the study period and specific to fiscal years 2010-11 to 2013-2014 shows a fluctuating budget structure in which significant surpluses and deficits were generated each year. Overall actual expenses outpaced actual revenues over the 48 month period by (2.3%) with the former averaging $5.608 million compared to the latter averaging $5.484 million. The referenced budget gap has also been widening with the growth rate of actual expenses increasing 10 to 1 over the growth rate of actual revenues with maintenance costs leading the overall rise.

On average CSD No. 2's annual revenue totals have fallen short of annual expense totals by (2.26%) over the last four years of the study period. This gap is also increasing relative to the last 48 months on a 10 to 1 ratio.

CSD No. 2's annual budget reflects six distinct categories within both its revenue and expense ledgers. With respect to revenue categories sewer service charges and property taxes collectively average nearly all CSD No. 2 income totals for the 48 month period at 54.75% and 42.48%, respectively. The remaining amount is generally tied to collection fees and interest earned on investments. Comparatively – and with respect to expenses – payment to CMSA for treatment and disposal services and CSD No. 2's own costs to maintain the collection system make up more than one-half of all expenditures with period averages at 28.60% and 25.85%, respectively. The remainder have been drawn from depreciation, administration, and pump station costs.

Top Revenue Categories:
1) Sewer Charges @ 54.8%
2) Property Taxes @ 42.5%

Top Expense Categories
3) CMSA Contract @ 28.6%
4) Collection System @ 25.9%

CSD No. 2 Actual Revenue Trends| Study Period

Table 4.97 | Source: CSD No. 2 Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
Sewer Charges	n/a	2.983	2.998	3.044	2.983	0.01%	3.002	54.75%
Property Taxes	n/a	2.260	2.282	2.307	2.469	9.25%	2.329	42.48%
Connection Fees	n/a	0.002	8.412	0.361	0.042	>1000%	0.103	1.89%
Interest Earnings	n/a	0.014	0.009	0.021	0.009	(33.24%)	0.013	0.25%
Other	n/a	0.024	0.033	0.038	0.039	62.50%	0.033	0.63%
Totals	**n/a**	**5.285**	**5.332**	**5.773**	**5.544**	**4.91%**	**5.484**	**100%**

CSD No. 2 Actual Expense Trends| Study Period

Table 4.98 | Source: CSD No. 2 Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	% of Average
CMSA	n/a	1.617	1.696	1.568	1.531	(5.29%)	1.603	28.60%
Collection System	n/a	1.293	1.924	1.106	1.473	13.90%	1.449	25.85%
Depreciation	n/a	1.113	1.238	1.275	1.256	12.89%	1.221	21.77%
Administration	n/a	0.404	0.452	0.567	0.421	4.10%	0.461	8.23%
Pump Stations	n/a	0.314	0.296	0.314	0.279	(11.34%)	0.301	5.37%
Other	n/a	0.002	0.001	0.0	2.281	>1000%	0.571	10.18%
Totals	**n/a**	**4.745**	**5.609 m**	**4.833 m**	**7.243**	**52.63%**	**5.608**	**100%**
Net	**n/a**	**0.539**	**(0.277)**	**0.940**	**(1.699)**			
		10.20%	**(5.20%)**	**16.29%**	**(30.65%)**			

E. MURRAY PARK SEWER MAINTENCE DISTRICT

1.0 OVERVIEW

The Murray Park Sewer Maintenance District (MPSMD) was formed in 1949 and encompasses an approximate 0.1 square mile jurisdictional boundary within east-central Marin County. Governance is dependently provided by the County of Marin and through its five-member Board of Supervisors. MPSMD is entirely located within an unincorporated area and part of the Kentfield community. MPSMD is also part on the Ross Valley Watershed.

Murray Lane | Murray Park

Courtesy / Google Maps

MPSMD is organized as a limited-purpose agency with municipal operations statutorily limited to wastewater services; no other service powers are permissible under the principal act. Beginning in 1975, MPSMD has contracted collection and routine maintenance of the District's approximate 5,500 foot collection system to outside agencies; first with the City of Larkspur and more recently County Sanitary District No. 1 ("Ross Valley Sanitary"). MPSMD retains responsibility to fund capital improvements as well as setting service charges and authorizing new connections. MPSMD's adopted operating budget at the term of the study period was $0.121 million; all of which was dedicated to services and supplies. The unrestricted fund balance was $0.042 million with an associated days-cash ratio totaling 129; i.e., the amount of cash on hand the District can cover operating expenses based on 2013-2014 actuals.

Murray Park Sewer Maintenance District	
Formation Date:	1949
Principal Act:	Health and Safety Sections 4860-4927
Service Categories:	Wastewater
Service Population	191
Governance Type	Dependent

The Commission independently estimates the resident service population within MPSMD totals 191 as of the term of this study period (2014). It is also projected MPSMD's population growth rate over the five-year study period totaled 9.0% or 1.8% annually with the underlying change primarily attributed to the addition of one new occupied housing unit coupled with an intensification of household sizes. The substantive result of these estimates is the projected addition of 16 residents in MPSMD between 2010 and 2014. Overall it is also estimated 68% of the jurisdictional boundary has already been developed and or improved – though not necessarily at the highest density. This means 32% of the jurisdictional boundary remains entirely undeveloped, and this includes 15 existing unbuilt and privately owned parcels that are zoned for some type of urban use under the County General Plan.

2.0 BACKGROUND

2.1 Community Development

Records show MPSMD's current development began in the late 1910s with the construction of several small residences along Fern Road and to the immediate west of the City of Larkspur. This initial development – which incrementally tallied up to one dozen lots by 1940 – transitioned towards more planned growth by the mid-1940s as the County of Marin began approving a series of one-quarter lot subdivisions along Murray Lane and Briar Road. This latter development led to the construction of nearly 30 residential lots by the end of the 1940s with an estimated population of 75.

2.2 Formation Proceedings

MPSMD's formation was approved by the County of Marin's Board of Supervisors in 1949 and as a means for landowners to self-tax themselves for purposes of constructing and operating a community wastewater collection system. Records show an initial collection system for MPSMD was constructed by early 1951 with the County Public Works Department overseeing all operational and maintenance activities therein.

2.3 Post Formation Activities

A summary of notable activities undertaken by MPSMD and/or affecting the District's service area following formation in 1949 is provided below.

- MPSMD entered into a service agreement with the City of Larkspur in March 1975. This service agreement transferred operational management of MPSMD's collection system and wastewater flows therein to Larkspur and in exchange for an annual service fee based on the number of dwelling units within the District. The agreement was subsequently amended in 1978 and 1980.

- RVSD became successor to the City of Larkspur's agreement to provide operational management of MPSMD's collection system and wastewater flows therein in August 1993. This transfer was the result of RVSD annexing and assuming management of Larkspur's collection system earlier that same year.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

MPSMD's jurisdictional boundary spans approximately 0.1 square miles in size and covers 59 total acres (parcels and right-of-ways). The jurisdictional boundary is entirely in the land use authority of the County of Marin and part of the unincorporated community of Kentfield.

MPSMD's jurisdictional boundary spans 0.1 square miles and is entirely overlapped by the County of Marin's land use authority.

Total assessed value (land and structure) within MPSMD is calculated at $79.7 million and translates to a per acre value ratio of $1.350 million. This former amount – $79.7 million – further represents a per capita value of $0.417 million based on the estimated service population of 191. MPSMD's set allocation of property tax proceeds – i.e., its share of the 1% collected on all assessor parcels by-way of Proposition 13 – is 0.615%.

Assessed land values in MPSMWD totals $79.7 million, and based on receiving 0.6% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $0.004 million.

MPSMD Boundary Breakdown: Land Use Authorities
Table 4.99 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	35	100%	107	92
	34	**100%**	**107**	**92**

As provided in the preceding table there are overall 107 assessor parcels currently within MPSMD and collectively add up to 35 acres as of June 2016.[61] Close to three-fourths – or 71% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density.[62] This existing development is highlighted by the standing construction of 92 residential units and divided between single-family and multi-family on a 96% to 4% split. The remainder – or 29% – of the current assessor parcel acreage within MPSMD is undeveloped/unimproved. This includes 15 un-built and privately owned assessor parcels designated for an urban-type use.[63] Additional analysis would be needed to more fully assess actual development potential among these unbuilt assessor parcels.

Almost three-fourths of MPSMD's jurisdictional boundary has already been developed/improved – though not necessarily at the highest allowable density. This means approximately one-fourth – or 10 acres – of the assessor acreage in the boundary remains entirely undeveloped, and this includes 15 un-built and privately owned parcels zoned for some type of urban use.

[61] The remaining 24 jurisdictional acreage within MPSMD are tied to right-of-ways and related public dedications.
[62] This portion of developed acreage includes parcels dedicated as common areas.
[63] All 15 unbuilt and privately owned assessor parcels are zoned for residential uses. Seven of the subject lots are at least 0.15 acres in size with one of these lots being 5.0 acres.

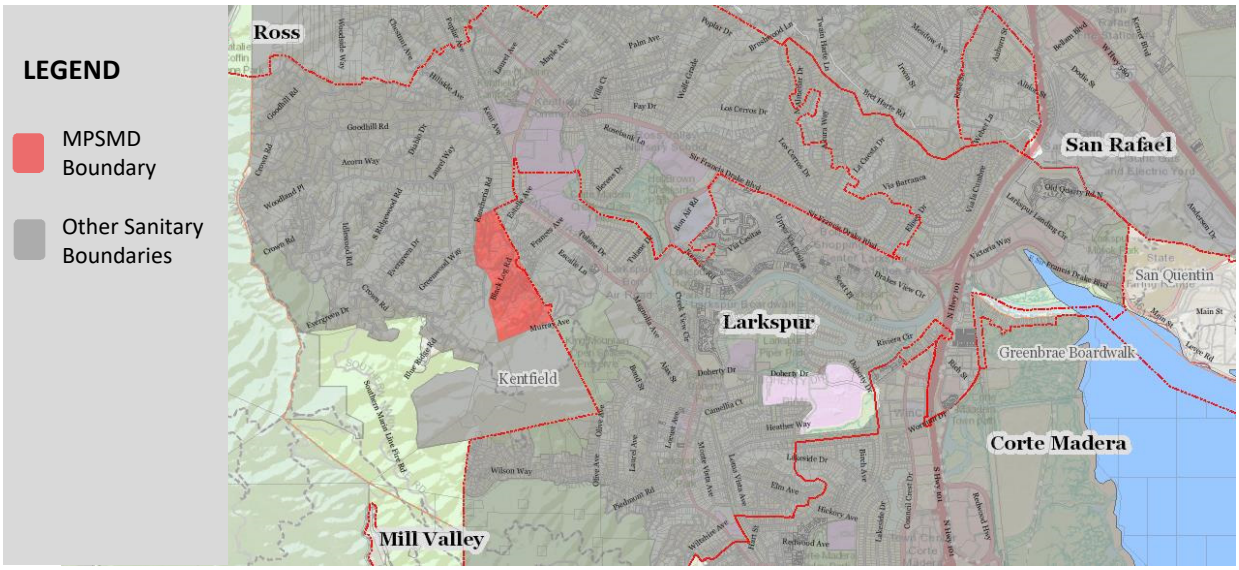
MPSMD Boundary Breakdown: Land Use Features
Table 4.100 | Source: Marin LAFCO

% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
71.2	92	97.8	15	10.2

3.2 Sphere of Influence

The Commission has not established a sphere of influence designation for MPSMD. It appears – though not substantiated in any identified document – this is the result of an earlier determination that MPSMD falls outside the Commission's authority. Commission staff has revisited this matter as part of this study and concludes MPSMD and more specifically sewer maintenance districts formed under Public Health and Safety Code Section 4860-4927 are subject to LAFCO, and as such a sphere designation is ultimately needed for the District.[64]

MPSMD does not have an established sphere of influence from the Commission at this time.



[64] Reference to State of California Attorney General Opinion 64-130.

4.0 DEMOGRAPHICS

4.1 Population and Housing

MPSMD's resident population within its jurisdictional boundary is independently estimated by the Commission at 191 as of the term of the study. This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents 0.07% of the estimated countywide population.[65] It is also projected MPSMD has experienced an overall growth rate of 9.03% over the preceding five-year period or 1.81% annually; all of which generated an estimated net add of 16 persons. This projected increase has been generated by the addition of an estimated one new and occupied housing unit within the jurisdictional boundary paired – and most notably – with an intensification of household sizes over the span of the five-year period starting at 2.023 in 2010 and ending at 2.170 in 2014; the latter being a net intensity increase of 7.09%. Overall projected growth within MPSMD lies significantly above the concurrent annual change estimated for the entire county – 0.60.[66]

LAFCO estimates there are 191 total residents within MPSMD that are explicitly served by the District's wastewater collection as of the term of the study. It is further estimated MPSMD has experienced an overall population increase of 16 over the preceding five-year period, resulting an in annual growth rate of 1.8%. Underlying this increase is a projected rise in persons per household – i.e., an intensity measurement – of 7.1%.

MPSMD Resident Population: Past and Current Estimates
Table 4.101 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
c) Total Housing Units	90	91	91	91	92
b) Local Occupancy Rate	95.58	94.44	95.48	95.48	96.10
i) Occupied Housing Units	87	86	87	87	88
j) Projected Household Size	2.023	2.058	2.095	2.132	2.170
Estimated Population	**175**	**176**	**182**	**186**	**191**

Baseline Year

[65] Marin LAFCO's resident service population for MPSMD is independently calculated and premised on occupied housing driving resident estimates based on data collected within the single census tract in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to MPSMD – and again drawing from its associated census tract – over the study period include a weighted an annual housing unit change of 0.268% and a weighted annual household size change of 1.74%. The annual weighted population change is 1.807%.

[66] Marin County's estimated population as of January 1, 2014 totaled 260,294 based on information published by the State of California's Department of Finance and marks a 3.12% increase over the preceding five-year period.

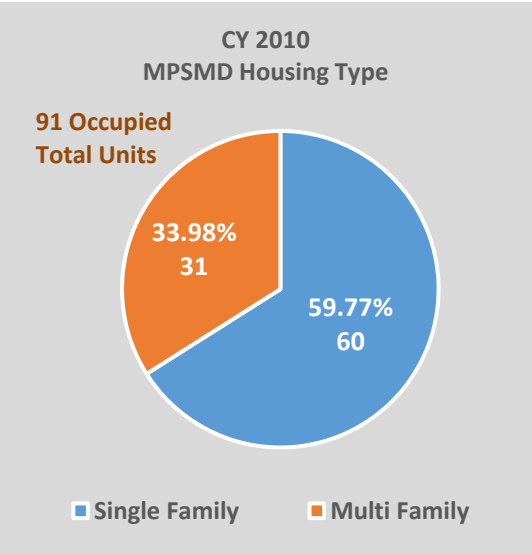
With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate with MPSMD will generally match the preceding five-year period with an overall yearly population change of 1.81%. The substantive result of this assumption would be an overall increase in MPSMD's resident population of 37 and produce a total of 228 by 2024. This growth rate, similarly, would generate the addition of 21 new and occupied housing units within MPSMD through 2024 assuming the preceding five-year average ratio of 2.094 persons for every one occupied housing unit holds. These collective projections going forward are summarized below.

MPSMPD Resident Population: Future Estimates
Table 4.102 | Source: Marin LAFCO

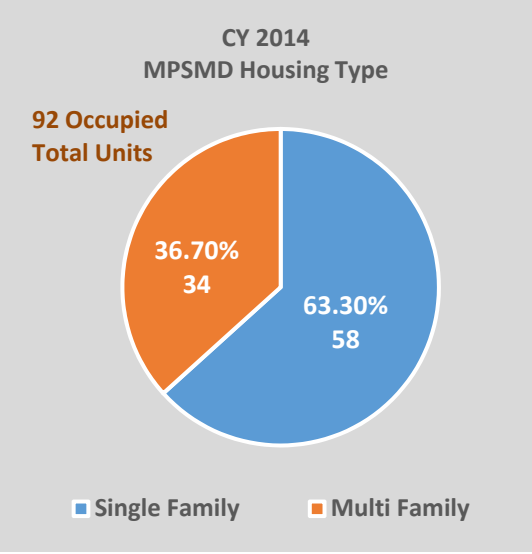
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**191**	**198**	**205**	**212**	**220**	**228**
Occupied Housing Units	88	94	98	101	105	109
- residents to housing units	2.170	2.094	2.094	2.094	2.094	2.094
	Baseline Year					

4.2 Residency Type

The Commission projects MPSMD's residential unit total of 92 as of the study term is divided between single family and multi-family use at 63.30% (58) and 36.70% (34), respectively. These totals produce an estimated ratio of 1.72 with respect to single-family to multi-family units within the jurisdictional boundary. The overall stock of housing type has experienced an inverse change with single-family unit totals decreasing by (4.13%) while multi-family unit totals increasing by 8.02% over the corresponding 60 month period. The substantive change in the residency type ratio (i.e., single-family to multi-family units) has been (11.24%) from 1.94 to 1 in 2010.



Single Family to Multi Family:
1.94 to 1



Single Family to Multi Family:
1.72 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the MPSMD jurisdictional boundary for the study period shows fulltime residents are relatively in better economic positions compared to countywide averages. This information is drawn from census data collected between 2010 and 2014 and shows area residents' average median household income is close to one-tenth above the countywide amount of $91,529 at $100,441. Area resident averages also fall measurably below countywide amounts with respect to unemployment and poverty rates, albeit the former has almost doubled compared to the preceding five-year average data collection. Notable social indictors show MPSMD residents have significantly higher levels of formal education with 68.7% possessing a bachelor's degree and is more than double the countywide rate. MPSMD residents are also relative newcomers to the community with an average of only 8.20% of occupied households arriving before Proposition 13 in 1979. This amount contrasts with the countywide average of 12.80%.

MPSMD's fulltime residents are generally more affluent than most of the county populace and highlighted by a median household income average over the study period of $100,441. Separately and relative to countywide conditions there has been a sizeable amount of turnover in the community in terms of household tenure with only 8% having been in place since the enactment of Proposition 13 in 1979; a ratio that is 56% lower than the countywide average.

MPSMD: Resident Trends in Social and Economic Indicators
Table 4.103 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$90,605**	**$100,441**	**10.86%**	**$91,529**
Median Age	46.5	48.4	4.09%	45.10
Prime Working Age (25-64)	60.05%	52.90%	(11.91%)	55.28%
Unemployment Rate (Labor Force)	2.70%	5.20%	92.59%	4.70%
Persons Living Below Poverty Rate	4.00%	3.00%	(25.00%)	8.80%
Mean Travel to Work	26.80 min	29.10 min	8.58%	29.4 min
Working at Home (Labor Force)	11.0%	11.60%	0.60%	2.50%
Adults with Bachelor Degrees or Higher	60.70%	68.70%	8.00%	30.80%
Non English Speaking	14.70%	18.50%	8.00%	23.50%
Householder Pre Proposition 13 (1979)	15.60%	8.20%	(11.91%)	12.80%

* Amounts represent the result of a weighted calculation by population performed by Marin LAFCO taking into proportional account of the single census tract (1200) underlying MPSMD.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

MPSMD's governance authority is established under the Sewer Maintenance District Act of 1933 and codified under Public Health and Safety Code Sections 4860-4927. This principal act empowers MPSMD to provide only one wastewater services, and specifically as it relates to handling, gathering, and disposing of sewage. Governance is dependently provided by the County of Marin and through its five-member Board of Supervisors that are elected by supervisorial district to staggered four-year terms. MPSMD holds meetings as needed and as part of regular meetings held by Supervisors. A current listing of Board of Supervisors along with respective backgrounds follows.

Current MPSMD Board Roster
Table 4.104 | Source: County of Marin

Member	Position	Background	Years on Board
Judy Arnold	President	Local/State Government	11
Damon Connolly	Member	Attorney	2
Katie Rice	Member	Local Government	6
Dennis J. Rodoni	Member	Contractor	1
Kathrin Sears	Member	Attorney	6
		Average Years of Board Experience	**5.2**

5.2 Administration

The County Board of Supervisors assigns the Public Works Director to serve as the MPSMD General Manager as provided under Public Health and Safety Code Section 4887. Key duties of Public Works performed on behalf of MPSMD includes proposing an annual budget, recommending changes to the fee schedule, and overseeing capital improvements. Day-to-day operation of MPSMD and its collection system is managed contractually by RVSD and highlighted by performing routine maintenance. Legal services are provided by County Counsel.

MPSMD Administrative Offices
3501 Civic Center Drive
San Rafael, California 94903

Courtesy: County of Marin

MPSMD Administration
Table 4.105 | Source: County of Marin

General Manager	Raul M. Rojas
Legal Counsel	Brian E. Washington
District Engineer	Pat Echols

6.0 WASTEWATER SERVICES

6.1 System Structure

MPSMD provides wastewater collection services through its own infrastructure headlined by an approximate 5,550 foot collection system with lines ranging in size from four to eight feet. The current infrastructure dates back to the early 1950s and is entirely gravity fed; there are no public pump stations. Through its contract with RVSD all wastewater generated from the collection system is conveyed for treatment to the Central Marin Sanitation Agency (CMSA). As of the study term there are 89 service connections with all but one serving residential uses. There have been no changes in the number of service connections in MPSMD over the preceding 6-month review period.

MPSMD does not independently track wastewater flows generated within its jurisdictional boundary. Effluent generated within MPSDM is incorporated directly into RVSD's system totals with no available means to quantify at this time.

All wastewater flows generated within MPSMD are collected and conveyed by RVSD. No independent data specific to MPSMD is available.

6.2 User Charges and Fees

MPSMD bills one fee to its customers in recovering the District's wastewater service costs. This fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and contracted costs with RVSD for maintenance that includes treatment through CMSA. Residential customers currently pay $472 each year for every dwelling unit. Non-residential customers pay a rate based on estimated flows. There are no voter-approved special assessments.

Most single-family customers in MPSMD currently pay $472 a year for wastewater services.

7.0 AGENCY FINANCES

7.1 Financial Statements

7.2 Pension Obligations

7.3 Revenue to Expense Trends

An abbreviated review of MPSMD's actual revenues and expenses during the study period and specific to fiscal years 2010-11 to 2013-2014 shows a fluctuating budget structure in which budgeted expenses range from a low of $0.095 million to a high of $0.159 million. Actual expenses consistency fell moderately to significantly below budgeted amounts during the 48-month period. Specific expense and revenue details are not available as of the draft report date. Additional analysis pending.

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F. SAN QUENTIN VILLAGE SEWER MAINTENANCE DISTRICT

1.0 OVERVIEW

The San Quentin Village Sewer Maintenance District (SQVSMD) was formed in 1962 and encompasses an approximate 0.01 square mile jurisdictional boundary within east-central Marin County. Governance is dependently provided by the County of Marin and through its five-member Board of Supervisors. SQVSMD is entirely located within the unincorporated area and serves a small residential community located immediately adjacent to the San Quentin State Prison. SQSMD is also part on the Ross Valley Watershed.

Main Street | San Quentin Village

Courtesy / Google Maps

SQVSMD is organized as a limited-purpose agency with municipal operations statutorily limited to wastewater services; no other service powers are permissible under the principal act.[67] SQVSMD contracts with the State of California to direct wastewater generated within the community into San Quentin's adjacent sewer collection system, which in turn pumps directly to the nearby Central Marin Sanitation Agency (CMSA) for treatment and disposal. As part of this arraignment CSMSA also provides routine maintenance on the SQVSMD collection system. SQVSMD retains responsibility to fund capital improvements as well as setting service charges and authorizing new connections within the community. SQVSMD's adopted operating budget at the term of the study period was $0.130 million; all of which was dedicated to services and supplies. The unrestricted fund balance cannot be determined at this time along with an associated days-cash ratio, i.e., the amount of cash on hand the District can cover operating expenses based on 2013-2014 actuals.

[67] SQVSMD is one of two sewer maintenance districts in Marin County; the other serving the Murray Park community.

San Quentin Sewer Maintenance District	
Formation Date:	1962
Principal Act:	Health and Safety Sections 4860-4927
Service Categories:	Wastewater
Service Population	89
Governance Type	Dependent

The Commission independently estimates the resident service population within SQVSMD totals 89 as of the term of this study period (2014). It is also projected SQVSMD's population growth rate over the five-year study period totaled (8.8%) or (1.8%) annually. This projected growth decrease has been generated by a net-zero addition in occupied housing units coupled with a deintensification of household sizes over the span of the five-year period. The substantive result of these estimates is the projected loss of 6 residents in SQVSMD between 2010 and 2014. Overall it is also estimated 100% of the jurisdictional boundary in terms of existing assessor parcels has already been developed and or improved – though not necessarily at the highest density.

2.0 BACKGROUND

2.1 Community Development

Records show SQVSMD's current development began in the 1870s with the construction of a small number of permanent residences located along Main Street. The construction of these residences supplemented and ultimately replaced temporary housing that had been previously established and in step with accommodating workers at the adjacent San Quentin State Prison.[68] The referenced transition from temporary to permanent housing incrementally continued thereafter and led to the construction of two dozen plus residences in the now-termed "San Quentin Village" by the end of the 1940s with an estimated fulltime population of 55.

[68] The San Quentin State Prison was opened in 1854.

2.2 Formation Proceedings

SQVSMD's formation was approved by the County of Marin's Board of Supervisors in 1962 and as a means for landowners to self-tax themselves for purposes of constructing and operating a community wastewater collection system. Records show an initial collection system for SQVSMD was constructed by 1965 with the County Public Works Department overseeing all operational and maintenance activities therein.

2.3 Post Formation Activities

A summary of notable activities undertaken by SQVSMD and/or affecting the District's service area following formation in 1962 is provided below.

- SQVSMD entered into a contract with the State of California in 1964 to direct wastewater flows directly into the adjacent State Prison's collection system for subsequent treatment and disposal.

- SQVSMD entered into an agreement with CMSA in May 2012 to directly oversee the day-to-day management of the District's collection system.

3.0 BOUNDARIES

3.1 Jurisdictional Boundary

SQVSMD's jurisdictional boundary spans approximately 0.01 square miles in size and covers eight total acres (parcels and right-of-ways). The jurisdictional boundary is entirely within the land use authority of the County of Marin and comprises the unincorporated community of San Quentin Village.

SQVSMD's jurisdictional boundary spans 0.01 square miles and is entirely overlapped by the County of Marin's land use authority.

Total assessed value (land and structure) within SQVSMD is calculated at $15.7 million and translates to a per acre value ratio of $1.962 million. This former amount – $15.7 million – further represents a per capita value of $0.176 million based on the estimated service population of 89. SQVSMD's set allocation of property tax proceeds – i.e., its share of the 1% collected on all assessor parcels under Proposition 13 – is 0.27%.

Assessed land values in SQVSMD totals $15.7 million, and based on receiving 0.3% of the 1% annual property tax the District's allocated share of the total less deductions and other exchanges is $424.

SQVSMD Boundary Breakdown: Land Use Authorities
Table 4.106 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	4	100%	41	45
	4	**100%**	**41**	**45**

As provided in the preceding table there are overall 41 assessor parcels currently within SQVSMD and collectively add up to 4.1 acres as of June 2016.[69] The entirety – 100% – of the current assessor parcel acreage has already been developed/improved to date, albeit not necessarily at the highest zoning density. This existing development is highlighted by the standing construction of 45 residential units and divided between single-family and multi-family on a 71% to 29% split.

SQVSMD's jurisdictional boundary with respect to existing assessor parcels is 100% built-out, albeit not necessarily at the highest zoning density. This includes the standing construction of 45 living units.

SQVSMD Boundary Breakdown: Land Use Features
Table 4.107 | Source: Marin LAFCO

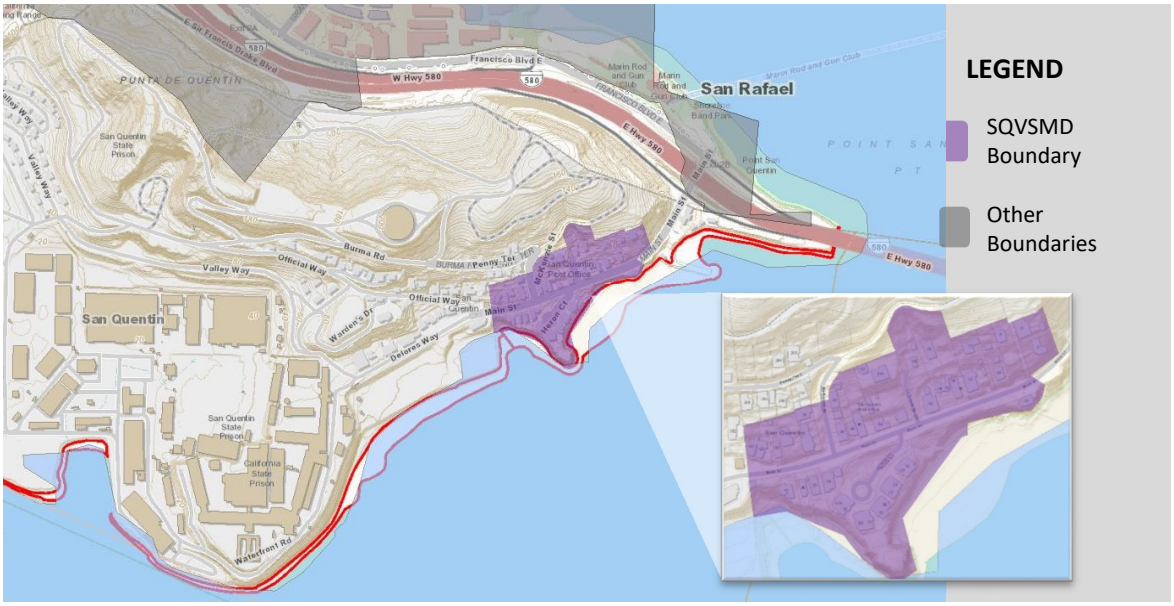
% Parcel Acres Already Developed	Residential Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
100.0	45	71.1	0	0

3.2 Sphere of Influence

The Commission has not established a sphere of influence designation for SQVSMD. It appears – though not substantiated in any identified document – this is the result of an earlier determination that SQVSMD falls outside the Commission's authority. Commission staff has revisited this matter as part of this study and concludes MPSMD and more specifically sewer maintenance districts formed under Public Health and Safety Code Section 4860-4927 are subject to LAFCO, and as such a sphere designation is ultimately needed.[70]

SQVSMD does not have an established sphere of influence from the Commission at this time.

[69] The remaining 4 jurisdictional acreage within SQVSMD are tied to right-of-ways and related public dedications.
[70] Reference to State of California Attorney General Opinion 64-130.



4.0 DEMOGRAPHICS

4.1 Population and Housing

SQVSMD's resident population within its jurisdictional boundary is independently estimated by the Commission at 89 as of the term of the study. This projection – which is anchored on a calculation of housing units, occupancy rates, and household sizes within the jurisdictional boundary and detailed in the accompanying footnote – represents 0.03% of the estimated countywide population.[71] It is also projected SQVSMD has experienced an overall growth rate of (8.84%) over the preceding five-year period or (1.77%) annually; all of which generated an estimated net loss of six persons. This projected decrease has been generated by a net-zero addition in occupied housing units coupled with a

> LAFCO estimates there are 89 total residents within SQVSMD that are explicitly served by the District's wastewater collection as of the term of the study. It is further estimated SQVSMD has experienced an overall population decrease of six persons over the preceding five-year period, resulting an in annual growth rate of (1.8%).

[71] Marin LAFCO's resident service population for SQVSMD is independently calculated and premised on occupied housing driving resident estimates based on data collected within the single census tract in the District. Four distinct calculations help produce the population estimates within each of the five subject years in the study period and involve identifying: a) total housing units; b) local occupancy rates; c) occupied housing units; and c) household sizes. Key calculations specific to SQVSMD over the study period include a weighted an annual housing unit change of (0.16%) and a weighted annual household size change of (2.32%). The annual weighted population change is (1.77%).

deintensification of household sizes over the span of the five-year period starting at 2.368 in 2010 and ending at 2.160 in 2014; the latter being a net intensity decrease of (8.78%). Overall projected growth within SQVSMD lies significantly below the concurrent annual change estimated for the entire county – 0.60.[72]

SQVSMD Resident Population: Past and Current Estimates
Table 4.108 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
d) Total Housing Units	45	45	45	45	45
b) Local Occupancy Rate	90.31	89.23	90.21	90.21	90.80
k) Occupied Housing Units	41	40	41	41	41
l) Projected Household Size	2.368	2.312	2.261	2.210	2.160
Estimated Population	**97**	**94**	**92**	**90**	**89**

With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate with SQVSMD will generally match the preceding five-year period with an overall yearly population change of (1.77%). The substantive result of this assumption would be an overall decrease in SQVSMD's resident population of (14) and produce a total of 74 by 2024. This growth rate, similarly, would generate the loss of 33 occupied housing units within SQVSMD through 2024 assuming the preceding five-year average ratio of 2.260 persons for every one occupied housing unit holds.

SQVSMD Resident Population: Future Estimates
Table 4.109 | Source: Marin LAFCO

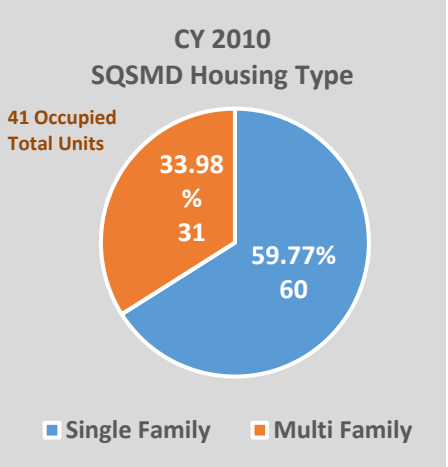
Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**89**	**85**	**82**	**80**	**77**	**74**
Occupied Housing Units	41	38	36	35	34	33
- residents to housing units	2.160	2.260	2.260	2.260	2.260	2.260

4.2 Residency Type

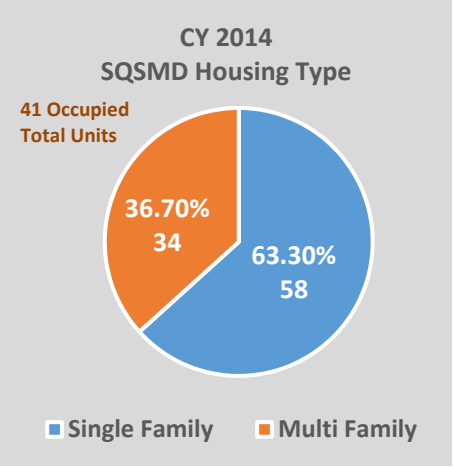
The Commission projects SQVSMD's residential unit total (occupied and unoccupied) of 45 as of the study term is divided between single family and multi-family use at 63.20% (29) and 36.84% (17), respectively. These totals produce an estimated ratio of 1.72 with respect to single-family to multi-family units within the jurisdictional boundary. The overall stock of housing type in SQVSMD has aided this ratio with single-family unit

[72] Marin County's estimated population as of January 1, 2014 totaled 260,294 based on information published by the State of California's Department of Finance and marks a 3.12% increase over the preceding five-year period.

totals increasing by 5.95% while multi-family unit totals increasing by (8.78%) over the corresponding 60 month period. The substantive result of this trend is a ratio increase (i.e., single-family to multi-family units) of 16.15% from 1.48 to 1 in 2010.



Single Family to Multi Family:
1.48 to 1



Single Family to Multi Family:
1.72 to 1

4.3 Social and Economic Indicators

A review of recent demographic information covering the SQVSMD jurisdictional boundary for the study period shows fulltime residents are relatively in less advantageous economic positions compared to countywide averages. This information is drawn from census data collected between 2010 and 2014 and shows area residents' average median household income is close to one-tenth below the countywide amount of $91,529 at $84,065. SQVSMD residents also experienced a widening of this economic gap over the preceding five -year collection period with respect to both median household income – which decreased by 6.7% – and a two-fold rise in unemployment from 1.80% to 6.30%, which is over one-third higher than the countywide amount. Notable social indictors show SQVSMD residents are generally younger with more formal education

SQVSMD's fulltime residents are generally less affluent than most of the county populace and highlighted by a median household income average over the study period of $84,065; an amount that is nearly one-tenth lower than the county average. Separately there has been a sizeable and increasing rate of turnover in the community in terms of household tenure with only 8% having been in place since the enactment of Proposition 13 in 1979; a ratio that is 56% lower than the countywide average.

compared to countywide averages with the latter category being nearly double the county rate. SQVSMD residents are also relative newcomers to the community with an average of only 8.40% of occupied households arriving before Proposition 13 in 1979. This contrasts with the countywide average of 12.80%.

SQVSMD: Resident Trends in Social and Economic Indicators
Table 4.110 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$90,053**	**$84,065**	**(6.65%)**	**$91,529**
Median Age	42.40%	42.30%	(0.24%)	45.10
Prime Working Age (25-64)	63.40%	56.20%	(11.44%)	55.28%
Unemployment Rate (Labor Force)	1.80%	6.30%	250.00%	4.70%
Persons Living Below Poverty Rate	2.50%	5.80%	132.00%	8.80%
Mean Travel to Work	27.60 min	29.00 min	1.40%	29.4 min
Working at Home (Labor Force)	8.80%	5.10%	(3.7%)	2.50%
Adults with Bachelor Degrees or Higher	50.30%	60.40%	10.10%	30.80%
Non English Speaking	29.60%	24.80%	(4.80%)	23.50%
Householder Pre Proposition 13 (1979)	16.30%	8.40%	(48.47%)	12.80%

* Amounts represent the result of a weighted calculation by population performed by Marin LAFCO taking into proportional account of the single census tract (1212) underlying SQVSMD.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

SQVSMD's governance authority is established under the Sewer Maintenance District Act of 1933 and codified under Public Health and Safety Code Sections 4860-4927. This principal act empowers SQVSMD to provide only one wastewater services, and specifically as it relates to handling, gathering, and disposing of sewage. Governance is dependently provided by the County of Marin and through its five-member Board of Supervisors that are elected by supervisorial district to staggered four-year terms. SQVSMD holds meetings as needed and as part of regular meetings held by the Board of Supervisors. A current listing of Board of Supervisors along with respective backgrounds follows.

Current SQVSMD Board Roster
Table 4.111 | Source: County of Marin

Member	Position	Background	Years on Board
Judy Arnold	President	Local/State Government	11
Damon Connolly	Member	Attorney	2
Katie Rice	Member	Local Government	6
Dennis J. Rodoni	Member	Contractor	1
Kathrin Sears	Member	Attorney	6
		Average Years of Board Experience	**5.2**

5.2 Administration

The County Board of Supervisors assigns the Public Works Director to serve as the SQVSMD General Manager as provided under Public Health and Safety Code Section 4887. Key duties of Public Works performed on behalf of SQVSMD includes proposing an annual budget, recommending changes to the fee schedule, and overseeing capital improvements. Day-to-day operation of SQVSMD and its collection system is managed contractually by CMSA and highlighted by performing routine maintenance. Legal services are provided by County Counsel.

SQVSMD Administrative Offices
3501 Civic Center Drive
San Rafael, California 94903

Courtesy: County of Marin

SQVSMD Administration
Table 4.112 | Source: MPSMD

General Manager	Raul M. Rojas
Legal Counsel	Brian E. Washington
District Engineer	Pat Echols

6.0 WASTEWATER SERVICES

6.1 System Structure

SQVSMD provides wastewater collection services through its own infrastructure headlined by an approximate 1,500 foot collection system. The current infrastructure dates back to the mid-1960s and largely gravity fed with the exception of one pump station to convey flows to the State Prison. As of the study term there are 37 service connections that are divided between 32 residential and 5 non-residential. There have been no changes in the number of service connections in SQVSMD over the preceding 60-month review period.

SQVSMD does not independently track wastewater flows generated within its jurisdictional boundary. Wastewater generated within SQVSDM is incorporated directly into the State Prison's collection system before directed to CMSA for treatment and disposal.

All wastewater flows generated within SQVSMD are collected and conveyed with State Prison sewer by CMSA. No independent data specific to SQVSMD is available.

6.2 User Charges and Fees

SQVSMD bills one fee to its customers in recovering the District's wastewater service costs. This fee is in the form of an annual service charge and is billed to landowners and collected on the property tax roll and recovers both collection and contracted costs with CMSA. Residential customers currently pay $472 each year for every dwelling unit. Non-residential customers pay a rate based on estimated flows. There are no voter-approved special assessments.[73]

Most single-family customers in SQVSMD currently pay $472 a year for wastewater services.

[73] SQVSMD's connection fee is *****.

7.0 AGENCY FINANCES

7.1 Financial Statements

7.2 Pension Obligations

7.3 Revenue to Expense Trends

An abbreviated review of SQVSMD's actual revenues and expenses during the study period and specific to fiscal years 2010-11 to 2013-2014 shows a fluctuating budget structure in which budgeted expenses range from a low of $0.057 million to a high of $0.138 million. Actual expenses consistency fell moderately to significantly below budgeted amounts during the 48-month period. Specific expense and revenue details are not available as of the draft report date. Additional analysis pending.

G. CENTRAL MARIN SANITATION AGENCY

1.0 OVERVIEW

Corte Madera Creek

Courtesy / Visit Marin

The Central Marin Sanitation Agency (CMSA) formed in 1979 to provide wastewater treatment and disposal services on behalf of its four-member agencies located in east-central Marin County. The four-member agencies are County Sanitation District No. 1, County Sanitation District No. 2, San Rafael Sanitation District, and City of Larkspur. Governance is provided by a six-person commission whose members are appointed and serve at the discretion of the appointing member agency. CMSA's contracted service area – which is the sum of its four-member agencies' jurisdictional boundaries – spans approximately 36.3 square miles and overlaps nine land use authorities with the County of Marin's unincorporated area accounting for 40% of all acreage. The remainder of CSMA's contracted service area in terms of land use authorities is divided by the City of San Rafael at 19%, City of San Anselmo at 15%, Town of Fairfax at 12%, Town of Corte Madera at 6%, Town of Ross at 4%, City of Larkspur at 3%, Town of Tiburon at 2%, and the City of Mill Valley at less than 1%.

CMSA is organized as a legally autonomous joint-powers authority (JPA) with the delegated powers from its four-member agencies to collect, treat, reclaim, and dispose of wastewater generated within the contracted service area. CSMA may provide additional municipal services so long as the subject services are authorized active powers of each of the member agencies and delegated therein limited by the Sanitary District Act of 1923. CMSA maintains its own employees with responsibilities headlined by managing a wastewater treatment and disposal facilities located in San Rafael along the North San Quentin Point. CMSA is also contracted by the State of California to treat and dispose wastewater received from nearby San Quentin State and therein also from the San

Quentin Village Sewer Maintenance District. CMSA's adopted operating budget was $10.082 million and with funding dedicated for the equivalent of 41 employees as of the study term (2014). The unrestricted fund balance was $14.201 million with an associated days-cash ratio totaling 448; i.e., the amount of cash on hand to cover operating expenses based on 2013-2014 actuals.

Central Marin Sanitary Agency	
Formation Date:	1979
Principal Act:	Government Code Sections 6500 et seq.
Service Categories:	Wastewater Treatment and Disposal
Service Population	95,428 (all) 4,088 (direct customers)
Governance Type:	Dependent

The Commission independently estimates the resident service population within CMSA's contracted service area is 95,428 as of the term of the study term.[74] It is also projected CMSA's contracted service area population growth rate over the five-year study period has averaged 0.61% annually. Overall it is also estimated by the Commission that nearly three-fourths of the contracted service boundary within the four member-agencies has been developed and or improved – though not necessarily at the highest density. This means the remaining one-fourth of the contracted service area remains entirely undeveloped with 1,596 existing unbuilt and privately owned parcels zoned for some type of urban use by one of the land use authorities.[75]

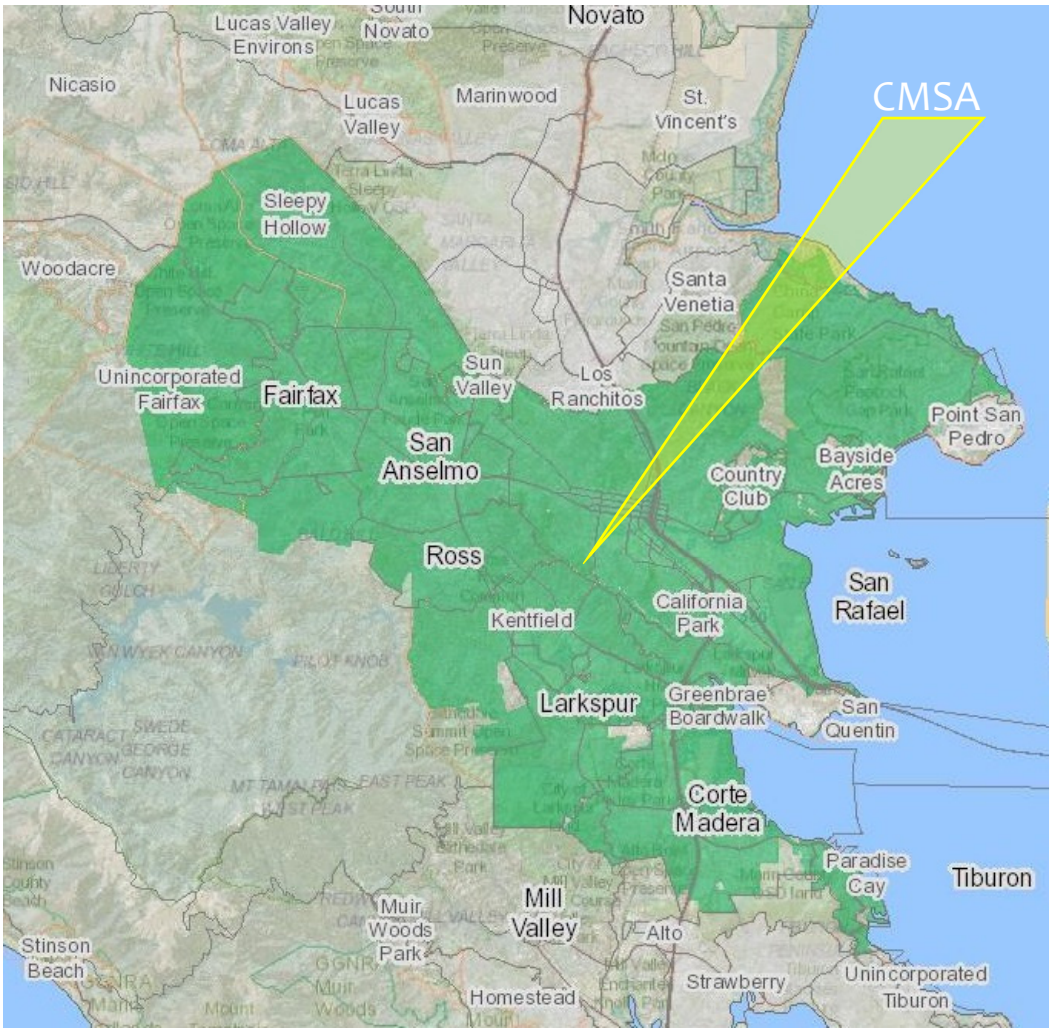
2.0 BACKGROUND

2.1 Community Development

CMSA's contracted service area began its collective transition from agrarian to urban development starting in the late 1800s and most intensely experienced in San Rafael. This transition was marked by the population within the affected communities nearly doubling from 6,274 in 1900 to 10,993 in 1920; a net change of 75% or 3.76% annually over the 20-year period. Increasing accessibility to the region as a result of transportation investments coupled with comparatively cheap land prices maintained

[74] The resident estimate includes the design housing capacity at San Quentin State Prison of 4,000.
[75] Additional analysis is needed to assess the actual development potential of the 1,596 unbuilt parcels.

and advanced the development of the affected communities heading towards mid-century with the estimated combined population reaching 20,968 by 1940; a net change of 92% or 4.59 annually over the preceding 20-year period.



In step with the ongoing development of the east-central region heading into the 1950s four separate wastewater agencies had been formed to handle the collection and disposal of sanitary flows for the affected communities. These four agencies – County Sanitary District No. 1, County Sanitary District No. 2, San Rafael Sanitation District, and the City of Larkspur – were all operating their own collection systems. Two of these agencies – County Sanitary District No. 2 and City of Larkspur contracted with County Sanitary District No. 1 to provide treatment and disposal of wastewater at the latter agency's

Larkspur Landing Facility. San Rafael Sanitation District owned and operated its own two treatment plants.

CSMA's future service area experienced a new level of growth and development following the transition into the second half of the 20th Century as the estimated population within the affected communities more than tripled between 1940 and 1970 with the latter amount tallying an estimated 81,362 and representing an average annual change of 9.60% over the preceding 30-year period. This surge in new growth coupled with increasing regulatory controls on wastewater discharges into open water bodies beginning in the late 1960s and into the early 1970s proved seminal in leading to the eventual creation of CSMA. Markedly, these new regulations included the Clean Water Act of 1972 and the resulting permit program known as the National Pollutant Discharge Elimination System (NPDES) aimed at regulating the treatment of wastewater discharges into surface waters. This legislation also – and in support of California's own legislative version – provided a funding mechanism for local agencies to receive monies to construct the necessary facilities in fulfilling the new regulations and highlighted by requiring all discharges meet enhanced secondary standards.

2.2 Formation Proceedings

The formation of CMSA was established in 1979 and upon the approving resolutions enacted by all four member agencies' boards/councils: County Sanitary District No. 1; County Sanitary District No. 2; San Rafael Sanitation District, and the City of Larkspur. The formation proceedings immediately preceded CSMA applying and receiving grant money that was reimbursed to construct and operate a new regional wastewater treatment facility on the north side of San Quentin Point along with its Central Marin Wastewater Improvements.

2.3 Post Formation Activities

A summary of notable activities undertaken by CSMA and/or affecting the agency's contracted service area following formation in 1979 is provided below.

- CSMA completes construction on a new regional wastewater treatment facility and begins receiving sanitary flows from its member agencies in January 1985. The facility was constructed at a cost of $84 million with approximately 87.5% being funded by federal and state grant monies.

- CMSA completed a planned expansion of the treatment facility to expand the total daily capacity during wet-month periods from 90 to 125 million gallons in 2010.

3.0 BOUNDARIES

3.1 Boundary Type / Contracted Service Area

The Commission has not established a jurisdictional boundary or sphere of influence to CSMA given the agency's formation as a JPA; only cities, towns, and special districts are directly overseen by LAFCOs under current State law. As such, CMSA's service area is statutorily tied to matching its four-member agencies' jurisdictional boundaries, and as such spans approximately 36.3 square miles in size and covers 23,246 total acres (parcels, right-of-ways, water bodies). Nine land use authorities overlap the service area. The County of Marin is the predominant land use authority and accounts for an estimated 40% of CMSA's service area. Another 19% of the service area falls under the land use authority of the City of Rafael. The remainder of the service area is divided among the land use authorities of San Anselmo at 15%, Fairfax at 12%, Corte Madera at 6%, Ross at 4%, Larkspur at 3%, Tiburon at 2%, and Mill Valley at less than 1%.

CMSA's contracted service area spans 36.3 square miles and overlaps nine land use authorities with the County of Marin being the largest with the unincorporated area covering 40%.

Total assessed value (land and structure) within CMSA is calculated at $25.196 billion and translates to a per acre value ratio of $1.083 million. This former amount – $25.196 billion – further represents a per capita value of $0.264 million based on the estimated service population of 95,428. CMSA does not receive any property tax proceeds.

Assessed land values in CMSA's contracted service area totals $25.196 billion, and equates to a per capita share of $0.264 million based on a service population of 95,428.

CMSA Contracted Service Area Breakdown: Land Use Authorities
Table 4.113 | Source: Marin LAFCO

Agency	Assessor Parcel Acres	Assessor Parcel Acres % of Total	Total Assessor Parcels	Total Residential Units
County of Marin	6,491	39.5	7,103	5,999
San Rafael	3,188	19.4	10,672	15,454
San Anselmo	2,440	14.9	5,482	6,279
Fairfax	1,904	11.6	3,173	3,900
Corte Madera	897	5.5	3,390	3,910
Ross	676	4.1	847	883
Larkspur	542	3.3	2,522	3,580
Tiburon	299	1.8	442	435
Mill Valley	1	0.0	1	0
	16,441	**100**	**33,632**	**40,440**

As provided in the preceding table there are overall 16,441 assessor parcels currently within CMSA's contracted service area and collectively add up to 33,632 acres as of June 2016. Close to three-fourths – or 72% – of the current assessor parcel acreage have already been developed/improved to date, albeit not necessarily at the highest zoning density. This existing development is highlighted by the standing construction of 40,400 residential units and divided between single-family and multi-family on a 68% to 32% split. The remaining one-fourth plus – or 28% – of the current assessor parcel acreage is undeveloped/unimproved. This includes 1,596 un-built and privately owned assessor parcels that are zoned for some type of urban use by the subject land use authority.

Almost three-fourths of CMSA's contracted service area has already been developed or improved – though not necessarily at its maximum density. This means the remaining one-fourth of the service area remains entirely undeveloped. This includes 1,596 un-built and privately owned parcels zoned for some type of urban use by the subject land use authority.

CMSA Boundary Breakdown: Land Use Features
Table 4.114 | Source: Marin LAFCO

% Parcel Acres Already Developed	Residential Built Units	% of Units Built as SFR	Unbuilt Private Parcels	Unbuilt Private Parcel Acres
71.9	40,400	67.9	1,596	9,450

4.0 DEMOGRAPHICS

4.1 Population and Housing

CMSA's resident population within its contracted service area is independently estimated by the Commission at 95,428 as of the term of the study. This projection – which is the sum of individual calculations performed for the member agencies along with taking into account San Quentin State Prison – represents 36.6% of the estimated countywide population. It is also projected CMSA has experienced an overall growth rate of 3.03% over the preceding five-year period or 0.61% annually; all of which generated an estimated net add of 2,805 persons. This projected increase has been generated by the addition of an estimated 934 new occupied housing units within the contracted service area as well as aided by an intensification of household sizes over the span of the five-year period starting at 2.39 in 2010 and ending at 2.41 in 2014; the latter being a net intensity increase of 0.89%.

LAFCO estimates there are 95,428 total residents within CMSA's contracted service area that are explicitly served by the District's wastewater treatment system as of the term of the study. It is further estimated CMSA has experienced an overall population increase of 2,805 over the preceding five-year period.

CMSA Resident Population: Past and Current Estimates
Table 4.115 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
e) San Rafael Sanitation	39,381	39,191	39,906	40,192	40,744
b) County Sanitary District No. 1	39,454	39,261	39,974	40,259	40,809
c) County Sanitary District No. 2	9,788	9,680	9,794	9,802	9,874
d) San Quentin State Prison	4,000	4,000	4,000	4,000	4,000
Estimated Population	**92,623**	**92,132**	**93,674**	**94,253**	**95,428**

** rounded for reporting purposes*
** County Sanitary District No. 1 and 2 collectively account for the City of Larkspur*

With respect to going forward, and for purposes of this review, it is reasonable to assume the growth rate among CMSA's member-agencies will generally match the preceding five-year period and produce an overall yearly population change of 0.61%. The substantive result of this assumption would be an overall increase in CMSA's resident population of 5,977 and produce a total of 101,405 by 2024. This growth rate, similarly, would generate the addition of 2,569 new and occupied housing units within CMSA through 2024 assuming the preceding five-year average ratio of 2.41 persons for every one occupied housing unit holds. These collective projections are summarized below.

CMSA Resident Population: Future Estimates
Table 4.116 | Source: Marin LAFCO

Factor	2014	2016	2018	2020	2022	2024
Estimated Population	**95,428**	**96,592**	**97,771**	**98,966**	**100,178**	**101,405**
Occupied Housing Units	38,256	38,900	39,311	39,810	40,313	40,825
- residents to housing units	2.39	2.38	2.39	2.39	2.39	2.39

** Estimated population totals include a flat 4,000 assignment each year for the San Quentin State Prison; this addition is excluded in calculating the residents to housing units' ratio*

4.2 Residency Type

The Commission projects CMSA's residential unit total (occupied and unoccupied) of 40,440 as of the study term is divided between single family and multi-family use at 67.9% (27,439) and 32.1% (13,001), respectively. These totals produce an estimated ratio of 2.1 to 1 with respect to single-family to multi-family units.

4.3 Social and Economic Indicators

A review of recent demographic information covering the CMSA contracted service boundary for the study period shows fulltime residents' economic and social standing generally matches countywide averages with certain notable exceptions. These exceptions include higher levels of unemployment and poverty rates within CMSA with both measurements having increased over the study period by more than 50%. CMSA residents were also more than

CMSA's fulltime residents generally match countywide averages with respect most measured social and economic indicators, and highlighted by a similar median household income rate of $93,647 generated during the study period. Nevertheless, certain distinctions exist and this includes CMSA experiencing increasingly higher rates of unemployment and poverty levels within its contracted service boundary with both referenced measurements increasing by more than one-half over the study period.

three times more likely to work at home compared to countywide averages during the 60-month period. Nonetheless, the median household income as of the study period totaled $93,647 and slightly above the countywide amount of $91,529. Median age, commute time, and household tenure relative to Proposition 13 (1979) within CMSA all finished within comparable countywide amounts.

CMSA: Resident Trends in Social and Economic Indicators
Table 4.117 | Source: Marin LAFCO / American Community Survey

Category	2005-09 Averages	2010-2014 Averages	Trend	Marin County 2010-2014 Avg.
Median Household Income	**$92,009**	**$93,647.63**	1.78%	**$91,529**
Median Age	42.63	43.59	2.25%	45.10
Prime Working Age (25-64)	58.14%	57.75%	(0.66%)	55.28%
Unemployment Rate (Labor Force)	3.30%	5.25%	59.26%	4.70%
Persons Living Below Poverty Rate	7.34%	11.88%	61.84%	8.80%
Mean Travel to Work	27.21 min	29.03 min	6.71%	29.4 min
Working at Home (Labor Force)	8.59%	8.65%	0.71%	2.50%
Adults with Bachelor Degrees or Higher	54.38%	54.80%	0.77%	30.80%
Non English Speaking	26.66%	27.33%	2.51%	23.50%
Householder Pre Proposition 13 (1979)	15.28%	11.65%	(23.75%)	12.80%

* Amounts represent the result of a weighted calculation by estimated population performed by Marin LAFCO taking into proportional account of all census tracts underlying CMSA.

5.0 ORGANIZATIONAL STRUCTURE

5.1 Governance

CMSA's governance authority is established under the Joint Exercise of Powers Act and codified under Government Code Section 6500 et seq. This legislation was functionally established in 1922 and authorizes two kinds of JPA arrangements: (a) two or more public agencies that jointly contract to exercise common service powers or (b) two or more public agencies that jointly contract to form a separate legal entity to provide common service powers.[76] CMSA has been formed under the latter category as a legally autonomous agency with the explicit delegation by its four-member agencies to construct and operate a new regional wastewater treatment facility on the north side of San Quentin Point. Further, and as provided under the enabling legislation, CMSA is

[76] The legislation defines "public agency" broadly to include all of the following: federal government and including any department or agency therein; State government or any department or agency therein; counties; county boards of education; county superintendents of schools; cities; public districts; public corporations; regional transportation commissions; federally recognized Indian tribes; private nonprofit hospitals; mutual water companies; and any joint-power authorities.

authorized to do all of the following: make and enter contracts; employ agents and employees; acquire, construct, manage, maintain, or operate any buildings, works, or improvements; acquire, hold, or dispose of real properties; incur debts, liabilities, or obligations; and sue or be sued.

Governance of CMSA is provided by a six-member Commission whose members are appointed and serve at the discretion of the appointing member agency as provided under the JPA agreement. The largest members – County Sanitary District No. 1 and San Rafael Sanitation District – appoint two members each. County Sanitary District No. 2 and Larkspur appoint one member each. The Commission holds regular meetings on the 2nd Tuesday of each month at 7:00 p.m. at the CMSA Administrative Office located at 1301 Anderson Drive in San Rafael. Commissioners currently receive a meeting stipend of $100. A current listing of CMSA Commissioners along with appointing authority follows.

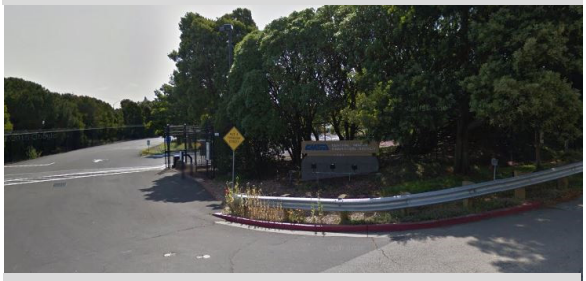
Current CMSA Commission Roster
Table 4.118 | Source: CMSA

Member	Position	Appointing Authority	Years on Board
Kathy Hartzell	Chair	City of Larkspur	6
Diane Furst	Vice Chair	County Sanitary District No. 2	2
Michael Boorstein	Commissioner	County Sanitary District No. 1	1
Al Boro	Commissioner	San Rafael Sanitation District	26
Maribeth Bushy	Commissioner	San Rafael Sanitation District	2
Thomas Gaffney	Commissioner	County Sanitary District No. 1	1
		Average Years of Commission Service	**6.3**

5.2 Administration

CMSA appoints an at-will General Manager to oversee all agency operations. The current General Manager – Jason Dow – was appointed by the Commission in 2002 and is fulltime. The General Manager presently oversees 43 other full-time employees and this includes three senior management support positions:

CMSA Administrative Offices
1301 Anderson Drive
San Rafael, California 94901



Courtesy: Google

Administrative Services Manager; Technical Services Manager; and Treatment Plant Manager. CMSA contracts with the County for legal services through County Counsel.

6.0 WASTEWATER SERVICES

6.1 System Structure

CMSA provides treatment service for its four member agencies (RVSD, CSD No. 2, SRSD and City of Larkspur) as well as San Quentin State Prison and San Quentin Village. CMSA reports the average age of the treatment system is around 30 years and the expected lifespan of the current infrastructure is approximately 25 years less subsequent improvements are made. The treatment facility was initially constructed in 1985 with most recent updates completed in 2014. Treated effluent is discharged into the San Francisco Bay through an approximate two-mile outfall pipeline. As of the study term CMSA's equipment replacement ratio – i.e., the number of years it would take the Agency to fully fund its depreciable capital asset inventory – is 23.6 years and has risen by 4.2% over the corresponding 60-month period.

CMSA's equipment replacement ratio – i.e., the number of years it would take the District to fully fund its depreciable capital asset inventory – as of the study term is 23.6 years.

6.2 Wastewater Demands

Recent Measurements | Wastewater Collection System Flows

CMSA's average annual wastewater treatment demand generated over the study period as reported by the Agency has been approximately 4.321 billion gallons. This average amount, which serves as a macro overview of system demands, represents a daily average flow of 11.8 million gallons. It also translates to an estimated 126.2 gallons per day for each resident of its member agencies or 314.2 gallons per day for each occupied housing unit; it also represents 393.6

Average annual wastewater flows generated within CMSA during the study period have produced the daily equivalent of 11.8 million gallons; an amount that accounts for flows received from the JPA's member agencies plus direct contract flows from the San Quentin area (State Prison and Village).

gallons per day for each service connection.

With respect to trends, annual demands within the five-year study period have shown an overall (15.83%) decrease in flows over the span of the affected 60-months. The high demand point for the treatment system during the study period occurred in 2010 with annual volume equaling 5.074 billion gallons. The high demand year translates to an estimated 149.6 gallons per day for each resident of its member agencies or 371.6 gallons per day for each occupied housing unit; and it also translates to 461.4 gallons per day for each service connection. A breakdown of annual and daily wastewater flows over the study period in relation to population and housing is shown below.

CMSA: Recent Annual and Average Daily Treatment Flows Breakdown
Table 4.119 | Source: Marin LAFCO and CMSA

	2010	2011	2012	2013	2014	Average	Trend
Annual Flow	5.074 bg	4.599 bg	3.778 bg	3.887 bg	4.271 bg	4.322 bg	(15.83%)
Daily Average	13.9 mg	12.6 mg	10.4 mg	10.7 mg	11.7 mg	11.8 mg	(15.83%)
- Daily Avg Per Resident	149.6	136.4	110.2	112.7	122.2	126.2	(18.30%)
- Daily Avg Per Housing Unit	371.6	339.2	274.3	280.9	305.1	314.2	(17.88%)
- Daily Avg Per Connection	461.4	420.4	345.9	352.6	387.8	393.6	(15.96%)

"bg" refers to billions gallons per day
"mg" refers to millions gallons per day
Per resident as estimated by the Commission
Per housing unit refers to occupied status as estimated by the Commission

Along with average annual wastewater flow three other more micro measurements are tracked with respect to CMSA's treatment system and provide additional context to assessing demand. These measurements are (a) dry-weather flow, (b) wet-weather flow, and (c) peak-day flow and summarized below.

Dry-Weather Day Flows

Average dry-weather wastewater flows over the study period has been 8.84 million gallons. This flow is typically recorded between July and September and most recently tallied 8.5 million gallons as of the study term. The overall average dry-weather tally translates to 94.2 gallons for every resident or 234.5 gallons for every occupied housing unit and 293.9 gallons per service connection during the affected 60 months. This measurement has decreased overall during the study period by (7.61%). A breakdown of dry-weather flows during the study period follows.

CMSA: Recent Dry Weather Day Flows
Table 4.120 | Source: Marin LAFCO and CMSA

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	9.2 mg	99.0 gallons	245.9 gallons	305.4 gallons
2011	9.3 mg	100.7 gallons	250.4 gallons	310.3 gallons
2012	8.6 mg	91.5 gallons	227.9 gallons	287.4 gallons
2013	8.6 mg	91.0 gallons	226.8 gallons	284.7 gallons
2014	8.5 mg	88.8 gallons	221.7 gallons	281.7 gallons
Average Trend	**8.8 mg (7.61%)**	**94.2 gallons (10.32%)**	**234.6 gallons (9.86%)**	**293.9 gallons (7.76%)**

"mg" refers to million gallons

Wet-Weather Day Flows

Average wet-weather day wastewater flows over the study period has been 14.8 million gallons. This flow typically is recorded between October and January and most recently tallied at 14.9 million gallons during the study term. The overall average wet-weather day tally translates to 158.2 gallons for every resident or 393.9 gallons for every occupied housing unit and 493.3 gallons for every service connection during the affected 60 months. This measurement has decreased during the study period by (19.9%). A breakdown of recent wet-weather flows follow.

CMSA: Recent Wet Weather Day Flows
Table 4.121 | Source: Marin LAFCO and CMSA

Year	Daily Gallon System Average	Average Gallon Per Resident	Average Gallon Per Housing Unit	Average Gallon Per Connection
2010	18.6 mg	200.2 gallons	497.2 gallons	617.5 gallons
2011	15.9 mg	172.1 gallons	428.1 gallons	530.5 gallons
2012	12.1 mg	128.8 gallons	320.7 gallons	404.4 gallons
2013	12.7 mg	134.4 gallons	335.0 gallons	420.5 gallons
2014	14.9 mg	155.7 gallons	388.6 gallons	493.9 gallons
Average Trend	**14.8 mg (19.9%)**	**158.2 gallons (22.3%)**	**393.9 gallons (21.9%)**	**493.9 gallons (20.0%)**

Peak- Day Flows

Average peak-day wastewater flows over the study period has been 94.5 million gallons producing a peak-factor relative to average day totals of 10.7. The average peak-day flow – which represents the highest volume during a 24-hour period for the affected year and typically is recorded during storm events – most recently tallied 98.3 million gallons as of the study term. The average wet-weather peak day tally translates to 1,027.1 gallons for every resident or 2,563.6 gallons for every occupied housing unit; it also translates to 3,258.1 gallons for every service connection during

the affected 60 months. This measurement has increased overall during the study period by 6.50%. A breakdown of peak-day flows during the study period follows.

CMSA: Recent Peak Day Flows
Table 4.122 | Source: Marin LAFCO and CMSA

Year	Peak Day Total	Gallon Per Resident	Gallon Per Housing Unit	Gallon Per Connection	Peaking Factor
2010	92.3 mg	993.6	2,467.3	3,064.1	10.0
2011	86.9 mg	940.5	2,339.7	2,899.6	9.3
2012	85.1 mg	905.8	2,255.5	2,843.9	9.9
2013	109.8 mg	1,161.6	2,896.1	3,635.2	12.8
2014	98.3 mg	1,027.1	2,563.6	3,258.1	11.6
Average	**94.5 mg**	**1,005.7**	**2,504.4**	**3,140.2**	**10.7**
Trend	**6.5%**	**3.4%**	**3.9%**	**6.3%**	**15.3%**

Projected Measurements | Wastewater Collection System Flows to Treatment Facility

Going forward – and specifically for purposes of this study – it appears reasonable to assume CMSA's wastewater collection system flows will generally follow trends over the study period. It is estimated, accordingly and using linear regression to control for variances in the most recent yearend totals, the system will ultimately experience an overall decrease in annual wastewater flows of 356.6 million gallons over the succeeding 10-year period finishing in 2024; a difference of (8.60%) or (0.86%) annually. This projection continues CMSA's overall annual flows decrease incurred during the study period, albeit at a deintensified rate relative to the study period over three-fold. It is also estimated – in using regression analysis - the system's peak-day flows will ultimately increase over the succeeding 10-year period by 9.42 million gallons or 9.58% and resulting in a peaking factor of 9.9; the latter representing a rise in peak day flows relative to average day amounts by one-fifteenth. The following table summarizes these and related projection flows through 2024.

> The Commission independently estimates CMSA's annual wastewater demands will continue to decrease over the succeeding 10-year period at an average rate of (0.86%). This will result in the average day demand equaling 3.8 billion gallons in 2024; a net difference of 500.0 million gallons relative to the baseline year (2014).

CMSA: Projected Wastewater Flows
Table 4.123 | Source: Marin LAFCO

Year	Average Annual Flows	Average-Day Flows	Dry-Weather Flows	Wet-Weather Flows	Peak-Day Flows
2014	4.271 bg	11.7 mg	8.5 mg	14.9 mg	98.3 mg
2015	3.965 bg	11.0 mg	8.2 mg	13.7 mg	99.6 mg
2016	3.943 bg	10.9 mg	8.0 mg	13.8 mg	101.8 mg
2017	3.929 bg	10.9 mg	7.9 mg	13.9 mg	103.2 mg
2018	3.907 bg	10.9 mg	7.7 mg	14.0 mg	105.4 mg
2019	3.893 bg	10.8 mg	7.6 mg	14.1 mg	106.8 mg
2020	3.870 bg	10.8 mg	7.4 mg	14.2 mg	109.1 mg
2021	3.856 bg	10.8 mg	7.3 mg	14.2 mg	110.5 mg
2022	3.833 bg	10.7 mg	7.1 mg	14.3 mg	112.8 mg
2023	3.818 bg	10.7 mg	6.9 mg	14.4 mg	114.3 mg
2024	3.826 bg	10.7 mg	7.0 mg	14.3 mg	113.5 mg
Average Trend	**3.884 bg (9.04%)**	**10.8 mg (7.49%)**	**7.50 mg (11.75%)**	**14.1 mg (5.41%)**	**107.7 mg 9.58%**

"bg" refers to billions gallons per day
"mg" refers to millions gallons per day

Constraints | Contractual Provisions

CMSA operates under the permit provisions of the California Regional Water Quality Control Board – San Francisco Bay Region (RWQCB) with respect to discharge allowances. This permit was most recently renewed on June 13, 2012 and extends through July 31, 2017.[77] It authorizes CMSA to discharge secondary treated wastewater into San Francisco Bay byway of the Agency's submerged outfall pipeline with a multi-port diffuser year round and up to 10.0 million gallons a day during the driest three months of the year.[78] The permit allows influent above 30 million gallons per day to blend with secondary treatment for the portion of the flow above 30 million gallons and recombine the blended flows with secondary-treated flow to be disinfected and subsequently discharged into San Francisco Bay. The permit also stipulates CMSA shall not exceed 10.0 million gallons per day in average dry weather flow through the treatment facility.

CMSA is prohibited from discharging more than 10.0 million gallons a day into San Francisco Bay during driest three-month period.

[77] Reference to RWQCB National Pollutant Discharge Elimination System Permit No. CA0038628.
[78] The permit does allow for limited blending of the referenced 10.0 million gallons limitation on discharge into Central San Francisco Bay between October 1st and June 1st to avoid overflows and upon advance notice/concurrence of RWQCB.

6.3 Wastewater Capacities

CMSA's treatment facility has a hydraulic capacity of 155 million gallons and a treatment capacity of 125 million gallons, and fully meets the referenced capacity of the Agency's associated member agencies' tributary collection systems. When flows exceed 30 million gallons per day of the treatment capacity for the District's secondary system, CMSA blends partially-treated effluent during wet-weather events as allowed by its NPDES permit. CMSA also retains an effluent storage pond with the ability to hold 7.2 million gallons of disinfected wastewater under due to maintenance or other emergency type conditions. CMSA has not had an NPDES permit exceedance in over 10 years. [79]

CMSA treatment system's daily capacity is 125 million gallons with the emergency ability to accommodate an additional 7.2 million gallons through storage facilities.

6.4 Demand to Capacity Relationships

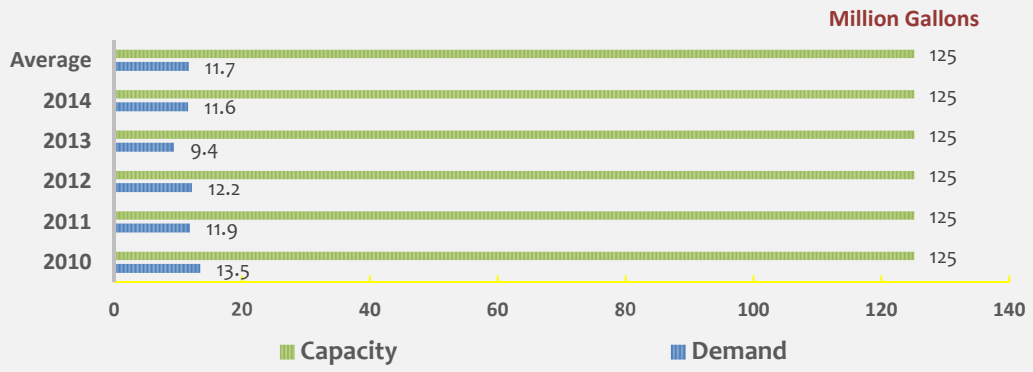
Study period flows averages show CMSA has sufficient available capacities within its collection system to accommodate current and projected demands over the succeeding 10-year period with some qualifiers as detailed. Average annual demands over the study period equal 9.4% of the treatment system capacity with minimal changes expected over the succeeding 10-year period. Average dry-weather demands over the study period represent the biggest tax on the treatment facility given permit restrictions by RWQCB and tally 60.0% of the collection system capacity and expected to reach 70% by 2024. Average peak-day demands over the study period equal 40.0% of capacity and expected to rise up to 90% by 2024.

[79] CMSA notes that as of 12/31/2016 the Agency has not had an NPDES permit exceedance in 12 years.

MEASUREMENT |

Average Day Demands v. Treatment System Capacity

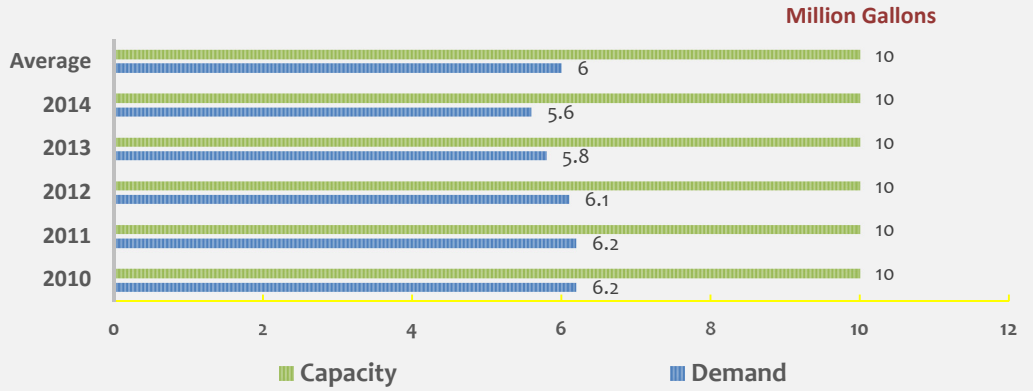
Study Period (2010-2014)



MEASUREMENT |

Average Dry-Day Weather Demands v. Treatment System Capacity

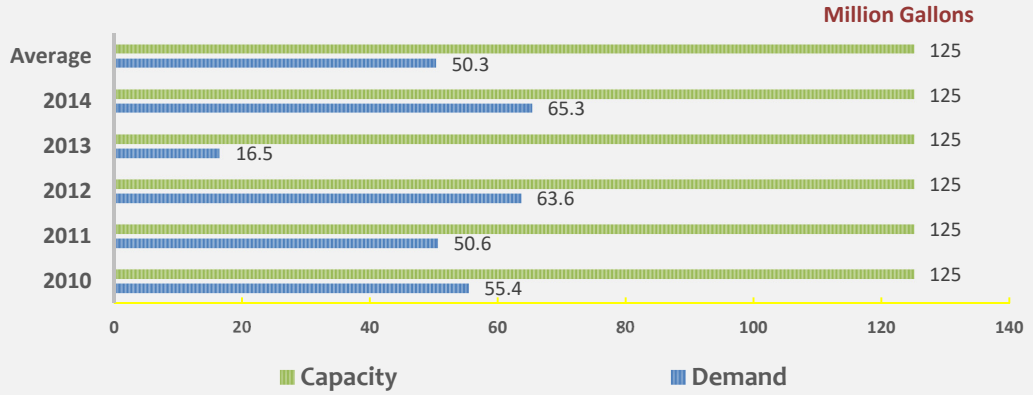
Study Period (2010-2014)



MEASUREMENT |

Average Peak-Day Demands v. Treatment System Capacity

Study Period (2010-2014)



6.5 Performance

Measurement | Treatment Facility Overflows

CMSA did not experience overflows from its treatment facility during the study term. If an overflow occurs in CMSA's treatment facility it cannot generally be pumped back into the treatment plant.[80] The agency has established protocols required by the Regional Water Board in the event of a treatment overflow. CMSA must contact the Regional Water Board within 2 hours a spill has been identified and then notify the County Environmental Health Services, along with the Office of Emergency Services. If spillage has potentially reached the Bay, the Coast Guard must be included in the notification process. Final effluent exceedances of compounds specified in the agency's NPDES permit must be followed by a notification to RWQCB within 24 hours of discovery. Samples must also be collected to quantify any environmental and safety impacts. CMSA did not experience any exceedances of its NPDES permit during the study period.

Measurement | System Maintenance

System maintenance for purposes of this study includes both corrective and preventative maintenance. Corrective maintenance, is performed when signals indicate a fault, so an asset can be restored to its operational condition. Preventative maintenance, conversely, is initiated according to a predetermined schedule rather than in response to failure. A summary of both measurements follow.

Corrective Maintenance

CMSA's corrective maintenance is noted in the number of service calls received to resolve, correct or assist a particular situation. During the entire 60-month study period, CMSA received 19 service calls all attributed to odor complaints. CMSA does operate and maintain pump stations for CSD No. 2 and SQVSMD but had not received any calls during the study period attributed to overflows or potential environmental and health impacts. The following table shows all service calls by category type over

[80] CMSA reports under certain limited conditions SSOs can be pumped back under some conditions.

the study period.

CMSA: Number of District Service Calls
Table 4.124 | Source: Marin LAFCO

Factor	2010	2011	2012	2013	2014
General	0	0	0	0	0
Public SSO	0	0	0	0	0
Private SSO	0	0	0	0	0
Odor Complaints	1	14	1	2	1
Noise Complaints	0	0	0	0	0
Pump Station Alarms	0	0	0	0	0
Non-District Incidents	0	0	0	0	0
Total	**1**	**14**	**1**	**2**	**1**

Preventative Maintenance

CMSA's preventative maintenance is designed to protect and preserve its wastewater treatment plant in a cost effective manner. The agency uses several approaches to determine when assets need to be replaced, expanded, modified or new equipment to be purchased. Energy reduction, process optimization, GHG reduction, and operational efficiency evaluations can lead to procurement of new or modifications of existing systems and equipment. Changes in water quality regulations may result in construction of new facilities or modifications to current facilities or operational practices. CMSA's completion in 2010 to expand treatment and storage facilities to accommodate intense wet weather events was a response to significant I/I during wet weather periods and increased system capacity at a cost of $58 million. CMSA has also provided a blending reduction analysis and found the best alternative is to develop an on-site storage of primary effluent, a parallel pumping system and new flocculation units for additional secondary clarification capacity with an estimated cost at $27 million. The agency has also additionally established a fat, oil, and grease (FOG) program to support member agencies in reducing these organic liquids in preventing blockages and SSOs in the tributary collection systems.

6.6 User Charges and Fees

CMSA bills its member agencies and San Quentin State Prison an annual sewer service charge, debt service charge, amounting to a total of $8,671,932 for the most recent study year to contribute to CMSA's operation and maintenance of its treatment system. Service charges are measured on wastewater flows and strength based on a three-year period of its member agencies. The service operating costs totaled to $13.3 million, with service charges contributing 65.1% to operating and capital costs. The user fee was last updated in 2012 from $169.74 per sewer service charge, $106.08 per debt service charge and $275.82 per annual service charge.

7.0 AGENCY FINANCES

7.1 Financial Statements

CMSA contracts with an outside accounting firm (Chavan and Associates) to prepare an annual report for each fiscal year to review the agency's financial statements in accordance with established governmental accounting standards. This includes vetting CMSA's statements with respect to verifying overall assets, liabilities, and equity as stated in a balance sheet. These audited statements provide the Commission with quantitative measurements in assessing CMSA's short and long-term fiscal health.

CMSA's most recent financial statements for the study period were issued for 2013-2014 and shows the District experienced a moderate and downturn change over the prior fiscal year as its overall equity or fund balance decreased by (2.7%)% from $51.9 to $50.5 million. Underlying this most recent change in equity standing is the result of CMSA reducing restricted cash in making capital improvements. A summary of year-end totals and trends over the study period follows.

End of Study Term Financial Statements	
Assets	$110.8 m
Liabilities	$60.3 m
Equity	$50.5 m

Agency Assets

CMSA's audited assets at the end of 2013-2014 totaled $110.881 million; an amount more than (5%) lower than the average sum generated over the course of the study period's 60 months. Assets classified as current with the expectation they could be liquidated within a year represented slightly more than one-tenth of the total amount with the majority tied to cash and investments and have decreased by (50.5%) over the corresponding 60 months. Assets classified as non-current represented the remaining nine-tenth plus total with the largest portion associated with utility infrastructure and have increased over the 60 month period by 7.8%.

CMSA Assets | Study Period
Table 4.125 | Source: CMSA

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	31.680	30.740	26.352	15.938	15.675	(50.5%)	24.077
Non-Current	88.418	87.230	90.520	99.565	95.206	7.7%	92.188
	120.098	**117.971**	**116.873**	**115.504**	**110.881**	**(7.7%)**	**116.265**

amounts in millions

Agency Liabilities

CMSA's audited liabilities at the end of 2013-2014 totaled $60.327 million; an amount that represents a collective decrease of more than one-tenth – or (12.5%) – over the study period's 60 month period. Current liabilities representing obligations owed in the near-term account for less than one-tenth and generally tied as of the study term to owed debt payments with the remainder involving accrued employee benefits. The majority of liabilities representing more than nine-tenth of the total are booked as non-current and highlighted by outstanding debt tied to a 2006 Revenue Bond used to finance improvements to the wastewater treatment facility.

CMSA Liabilities | Study Period
Table 4.126 | Source: CSMA

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Current	4.240	4.267	4.652	5.120	4.091	(3.5%)	4.474
Non-Current	64.681	62.766	60.553	58.453	56.235	(13.1%)	60.537
	68.921	**67.033**	**65.206**	**63.573**	**60.327**	**(12.5%)**	**65.012**

amounts in millions

Agency Equity / Net Assets

CMSA's audited equity or net assets at the end of 2013-2014 totaled $50.554 million and represent the difference between the agency's total assets and total liabilities. This referenced amount has decreased by (1.2%) over the 60 month period and primarily attributed to drawing down cash equivalents in making capital improvements. The ending equity amount includes $14.201 million in unrestricted funds and translates to a per capita reserve ratio of $148 based on an estimated resident population of 95,428.

CMSA's net assets have decreased by (1.2%) over the study period. The unrestricted fund balance as of the study term total of $14.2 million equates to a per capita reserve ratio of $148.

CMSA Equity | Study Period
Table 4.127 | Source: CMSA

Category	2009-10	2010-11	2011-12	2012-13	2013-14	Trends	Average
Unrestricted	10.264	11.513	12.651	13.337	14.201	38.7%	12.393
Restricted (Capital)	40.913	39.424	39.015	38.592	36.352	(11.2%)	38.859
	51.117	**50.938**	**51.666**	**51.930**	**50.554**	**(1.2%)**	**51.253**

amounts in millions

7.2 Measurements / Liquidity, Capital, Margin, and Structure

A review of the audited financial statement issuances by CMSA covering the five years comprising the study period and specifically fiscal years 2009-2010 through 2013-2014 shows the agency finished each year in relatively good health with respect to liquidity and – though to a less extent – capital. This includes CMSA finishing the study period with an estimated current ratio of over 3 to 1 and the net effect of having more than triple the amount of available cash resources to cover near-term debts. Similarly, CMSA finished the study period with over 14 months – or 448 days – of cash on hand to cover daily operating expenses. Separately CMSA finished the study period with a debt ratio of more than one-half at 54.0%; an amount that is somewhat on the higher end but has advantageously decreased over the 60 months by (5.2%). Conversely margin measurements show increasingly profit-challenges over the 60 month period. Total margin – i.e., all revenues and expenses – experienced a sizeable and escalating decrease over the study period at (244.4%). Operating margin – i.e., only operational revenues and expenses – also experienced an escalating decrease – albeit at a lower level – at

(88.1%). Last, and with respect to structure, CMSA's earned income ratio averaged exceeding high at 98.9%, and as such shows nearly all of the agency's annual revenues are tied to direct service fees. A summary of year-end liquidity, capital, margin, and structure ratios are show in the following table.

CMSA: Financial Measurements | Study Period
Table 4.128 | Source: CMSA Financials and Marin LAFCO

Fiscal Years	Current Ratio	Days' Cash	Debt Ratio	Total Margin	Operating Margin	Earned Income Ratio
2009-2010	7.47 to 1	890.49	57.39%	8.28%	24.99%	97.89
2010-2011	7.20 to 1	950.03	56.82%	(2.01%)	15.26%	99.22%
2011-2012	5.66 to 1	840.23	55.79%	(3.41%)	13.41%	98.94%
2012-2013	3.11 to 1	480.62	55.04%	(3.38%)	12.99%	99.05%
2013-2014	3.83 to 1	448.02	54.41%	(11.96%)	2.97%	99.46%
Average	**5.46 to 1**	**721.88**	**55.89%**	**(2.50%)**	**13.92%**	**98.91%**
Trend	**(48.7%)**	**(49.69%)**	**(5.19%)**	**(244.36%)**	**(88.10%)**	**1.61%**
		Liquidity	**Capital**		**Margin**	**Structure**

Notes

Current Ratio (liquidity) relates to the ability of the agency to pay short-term obligations (current liabilities) relative to the amount of available cash and cash equivalents (current assets). Higher is better.

Days' Cash (liquidity) measures the number of days' worth of average operating expenses the agency can meet with cash on hand. Higher is better.

Debt Ratio (capital) measures the portion of agency's total assets that are directly tied to debt financing. Lower is better.

Total Margin (profit) represents the year-end profit level of the agency and includes all revenues and expenses. Higher is better.

Operating Margin (profit) represents the year-end profit level of the agency specific to its normal and reoccurring revenues and expenses tied to service provision. Higher is better.

Earned Income (structure) measures the portion of annual revenues that are directly tied from user fees for services. Higher is better for enterprise agencies.

7.3 Pension Obligations

CMSA provides a defined benefit plan to its employees through an investment risk-pool contract with the California Public Employees Retirement Systems (CalPERS). This pension contract provides employees with specified retirement benefits and includes disability benefits, annual cost-of-living adjustments, and death benefits to members and their beneficiaries. Actual pension benefits are based on the date of hire. Employees hired before January 1, 2013 are termed "Category One" while employees hired afterwards are termed "Category Two." Additional details of the pension program

based on actuarial valuations issued by CalPERS follows.

Participants | Pension Formulas

Most CMSA employees receive defined pensions based on a 2.7 @ 50 formula. Employees hired before January 1, 2013 were also brought into the pension formula a 2.0 @ 60 pension formula.

As of the study period's term (2014) there are a total of 95 participants within CMSA's pension program. This total amount – which represents an overall increase of 3% in participants since 2012 – is further divided between enrollee type (i.e., active, separated, transferred, retired) and marked by a worker-to-retiree ratio of 0.9 to 1 as of the study term. Category One participants represent 98% – or 93 – of the total program enrollees and are eligible to receive one of two types of retirement payments. The first and predominate tier within Category One is based on a 2.7 at 50 formula, and as such provides eligible retirees with 20 years of total service credit 54% of their highest one year of salary beginning at age 55 and continuing each year thereafter. Category Two participants account for the remaining 2% of the total program enrollee amount as of the study period's term and are subject to a flat 2.0% at 60 pension formula. This tier provides eligible retirees with 20 years of total service credit 40% of their highest three years of average salary beginning at age 60 and continuing annually thereafter.

CMSA's Pension Enrollee Information
Table 4.129 | Source: CalPERS and Marin LAFCO

Type	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Active	n/a	n/a	40	41	38
Transferred	n/a	n/a	9	10	8
Separated	n/a	n/a	6	5	6
Retired	n/a	n/a	37	38	43
Total Enrollees	**n/a**	**n/a**	**92**	**93**	**95**
Worker-to-Retiree Ratio	**n/a**	**n/a**	**1.1 to 1**	**1.1 to 1**	**0.9 to 1**

Annual Contributions

CMSA's total annual pension contributions as of the study period's term tallied $1.170 million. This amount represents an overall increase over the five-year study period of 9% and is slightly less than the corresponding inflation rate calculated for the San Francisco Bay Region.[81] The most recent annual pension contribution by CMSA for the study period marked 28% of the District's total annual payroll for the corresponding fiscal year (2013-2014).[82]

CMSA's pension contributions have increased by 9% over the five-year study period, and as of 2013-2014 account for 28% of total payroll.

CMSA's Pension Contributions
Table 4.130 | Source: CalPERS and Marin LAFCO

2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
$1,071,270	$1,097,126	$1,130,352	$1,202,050	$1,170,254
			Five-Year Average	**$1,134,210**
			Five-Year Trend	**9.24%**

Funded Status

CMSA's unfunded liability – tally of pension monies owed and not covered by assets – ended the study period at $6.445 million and as such represented 45.4% of the District's unrestricted fund balance as of June 30, 2014. This former amount produces a funded ratio of 82% based on market value. It also reflects an overall improvement of 15% over the preceding four-year period.[83]

CMSA's unfunded pension liability has decreased over the last four years of the study period by (21%) and ended the term at $6.445 million; the equivalent of an 82.0% funded ratio.

CMSA's Pension Trends
Table 4.131 | Source: CalPERS and Marin LAFCO

	Unfunded Liability	Funded Ratio
2009-2010	n/a	n/a
2010-2011	$8,103,016	71.28%
2011-2012	$9,660,173	67.97%
2012-2013	$8,765,885	72.66%
2013-2014	$6,445,664	81.98%
Four-Year Average	**$8,243,685**	**73.47%**
Four-Year Trend	**(20.5%)**	**10.70%**

[81] According to the United States Department of Labor the overall inflation rate in the San Francisco Bay Area region between 2010 and 2014 tallied 10.77%.
[82] CMSA's covered annual payroll in 2013-2014 totaled $4.173 million.
[83] Pension information for 2009-2010 is not available.

Amounts above are show in market form and reflects the immediate and short term values of the pension with respect to assets and liabilities (i.e., here and now).

7.4 Revenue to Expense Trends

A review of CMSA's actual revenues and expenses during the study period and specific to fiscal years 2009-2010 to 2013-2014 shows the agency experiencing net losses in four of the five years. Overall actual expenses – which include outlays for depreciation – outpaced actual revenues over the 60 month period with the former averaging $15.707 million compared to the latter averaging 16.115 million. Moreover, the referenced budget gap has been widening with the growth rate of actual expenses increasing more than 4 to 1 over the growth rate of actual revenues

On average CMSA's annual revenue totals have fallen short of annual expense totals – which include depreciation outlays – by (2.60%) over the study period. This gap has also increased during the 60 months on a 4 to 1 ratio.

CMSA's annual budget reflects five distinct categories within its revenue ledger. Sewer treatment service charges to the member-agencies accounted on average for 92.5% of all revenues during the study period. The remaining revenues – which account for 7.5% of the average total – were largely drawn from maintenance contract fees and investment interest. CMSA books 10 distinct categories within its expense ledger. Over the study period salaries and benefits tallied the largest average expense for CMSA at 42.5% of the total. The next highest average expense tally was drawn from depreciation and accounted for 20.6%.

Top Average Revenues:
1) Treatment Charges @ 92.5%
2) Contract Maintenance @ 4.2%

Top Average Expenses:
1) CMSA Contract @ 28.6%
2) Collection System @ 25.9%

CMSA Actual Revenue Trends| Study Period

Table 4.132 | Source: CMSA Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	Share of Average
Sewer Treatment Charges	14.587	14.851	14.396	14.095	14.722	0.9%	14.530	92.5%
Contract Maintenance Fees	0.351	0.314	0.296	1.112	1.226	248.79%	0.660	4.20%
Other Operating	0.309	0.250	0.388	0.403	0.384	24.19%	0.347	2.21%
Investment Earnings	0.133	0.090	0.065	0.102	0.040	(69.49%)	0.086	0.55%
Other Non-Operating	0.195	0.030	0.95	0.46	0.047	(75.72%)	0.083	0.53%
	$15.578	**$15.537**	**$15.242**	**$15.760**	**$16.421**	**5.42%**	**$15.707**	**100%**

CMSA Actual Expense Trends| Study Period

Table 4.133 | Source: CMSA Financials and Marin LAFCO

Category	2009 2010	2010 2011	2011 2012	2012 2013	2013 2014	Trend	Average	Share of Average
Salaries and Benefits	6.107	6.520	6.340	6.722	8.585	40.59%	6.855	42.54%
Treatment Plant	1.268	1.195	1.317	1.300	1.340	5.65%	1.284	7.97%
Repairs and Maintenance	0.545	0.581	0.593	0.917	1.175	115.48%	0.762	4.73%
Permit Testing	0.089	0.087	0.090	0.107	0.110	23.08%	0.097	0.60%
Depreciation	2.263	3.605	3.663	3.506	3.562	57.38%	3.314	20.57%
Insurance	0.090	0.084	0.096	0.098	0.097	7.80%	0.092	0.58%
Utilities	0.379	0.364	0.383	0.431	0.471	24.40%	0.406	2.52%
General Administration	0.694	0.624	0.604	0.498	0.504	(27.37%)	0.585	3.63%
Interest Expense	2.849	2.781	2.703	2.702	2.536	(10.97%)	2.714	16.84%
Other Non-Operating	0.000	0.004	0.000	0.007	0.001	335.82%	0.002	0.002%
	$14.287	**$15.850**	**$15.762**	**$16.292**	**$18.386**	**28.69%**	**$16.155**	**100%**

Net	**$1.290**	**($0.312)**	**($0.520)**	**($0.532)**	**($1.964)**
	3.00%	**(2.01%)**	**(3.41%)**	**(3.38%)**	**(11.96%)**

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