

RESOLUTION NO 16112

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF REDWOOD CITY APPROVING THE WATER SUPPLY ASSESSMENT FOR THE MIXED-USE DEVELOPMENT PROJECT AT 557 EAST BAYSHORE ROAD

WHEREAS, in 2001 the California State Legislature enacted Senate Bill 610 (Costa) amending state law effective January 1, 2002 to improve the link between information on water supply availability and certain land use decisions made by cities and counties; and

WHEREAS, SB 610 requires water assessments must be furnished to local governments for inclusion in any environmental documentation for projects, as defined in Water Code Section 10910 *et seq.*, subject to the California Environmental Quality Act (CEQA); and

WHEREAS, the Public Works Services Department operates the City's water system classified as a public water system as define by Water Code Section 10912 (c); and

WHEREAS, the Community Development & Transportation Department received an application for the Mixed-Use Development Project at 557 East Bayshore Road in Redwood City proposing, 480 multi-family residential units, and a 97,101 square feet athletic club; and

WHEREAS, the Mixed-Use Development Project at 557 East Bayshore Road meets the requirements in Water Code Section 10912 (a) for a project requiring a water supply assessment; and

WHEREAS, the Community Development & Transportation Department serving as the lead agency under CEQA requested the City's Public Works Services Department to prepare a Water Supply Assessment for the Mixed-Use Development Project at 557 East Bayshore Road; and

WHEREAS, the Public Works Services Department has prepared a Water Supply Assessment for the Mixed-Use Development Project at 557 East Bayshore Road pursuant to the applicable Water Code provisions, including Water Code Section 10910 *et seq.*

NOW, THEREFORE, BE IT RESOLVED BY THE COUNCIL OF THE CITY OF REDWOOD CITY, AS FOLLOWS:

1. The recitals set forth above are true and correct, and hereby incorporated herein by this reference as if fully set forth in their entirety.

2. Pursuant to the requirements of Water Code Section 10910 *et seq.*, the Council of the City of Redwood City hereby approves the Water Supply Assessment for the Mixed-Use Development Project at 557 East Bayshore Road, attached hereto as Exhibit A.

Passed and adopted by the Council of the City of Redwood City at a
Joint City Council/Successor Agency Board/Public Financing Authority Meeting
thereof held on the 12th day of December 2022 by the following votes:

AYES:	Aguirre, Gee, Espinoza-Garnica, Howard, Martinez Saballos, Reddy and Mayor Hale
NOES:	None
ABSENT:	None
ABSTAINED:	None
RECUSED:	None



Giselle Hale
Mayor of the City of Redwood City

Attest:



Pamela Aguilar, CMC
City Clerk of Redwood City

I hereby approve the foregoing resolution this
14th day of December 2022.



Giselle Hale
Mayor of the City of Redwood City



WATER SUPPLY ASSESSMENT

for the proposed

557 E. BAYSHORE ROAD PROJECT

December 12, 2022

**Prepared by the
CITY OF REDWOOD CITY
PUBLIC WORKS SERVICES DEPARTMENT**

1. OVERVIEW

On February 27, 2020, the City of Redwood City (City) Public Works Services Department received a request from the Community Development & Transportation Department to prepare a Water Supply Assessment (WSA) for the 557 E. Bayshore Road (Project). This WSA has been prepared in accordance with California Water Code Section 10910, subdivision(g)(2), and is to be presented to the Redwood City Council for its consideration at the time of EIR certification.

Water Use Characteristics

City staff and Project engineers used the City's Engineering Standards for Water System Design Criteria (known as " Attachment Q") to develop demand estimates for the Project. These estimates are summarized in Table 1.

Table 1. Project Water Demand (af/yr)

	Existing Demand	Proposed Project Demand	Potable Demand	Recycled Demand	Net New Potable Demand
Residential (a)	0	71.0	49.7	21.3	49.7
Commercial (b)	3.4	161.5	160.2	1.3	156.8
Irrigation	0	11.1	0	11.1	0
Total	3.4	243.5	209.9	33.7	206.5

a) Potable water for Residential uses is 70% of Proposed Project Demand, Recycled Water is 30% of Proposed Project Demand

b) Recycled water demand for commercial uses is taken from the Recycled Water System Report prepared for the Project by BKF Engineers (1-11-2019)

This WSA has been developed to determine if the City has sufficient water to meet the expected future water demands of the Project together with those of existing customers and planned future development. As shown in the City's 2020 Urban Water Management Plan (UWMP), City-wide demand for potable water is projected to be 10,207 acre-feet per year (afy) in the year 2045, which is below the City's Individual Water Supply Guarantee (ISG) of 12,243 afy. This demand includes the proposed Project and anticipated growth in demand projected to occur between 2020 and 2045.

2018 Bay-Delta Plan Amendment

In December 2018, the State Water Resources Control Board (SWRCB) adopted amendments to the Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Bay-Delta Plan Amendment) to establish water quality objectives to maintain the health of the Bay-Delta ecosystem. The SWRCB is required by law to regularly review this plan. The adopted Bay-Delta Plan Amendment was developed with the stated goal of increasing salmonid populations in three San Joaquin River tributaries (the Stanislaus, Merced, and Tuolumne Rivers) and the Bay-Delta. The Bay-Delta Plan Amendment requires the release of 40% of the "unimpaired flow"¹ on the three tributaries from February through June in every year type, whether wet, normal, dry, or critically dry.

¹Unimpaired flow represents the natural water production of a river basin, unaltered by upstream diversions,

If the Bay-Delta Plan Amendment is implemented, the SFPUC will be able to meet the projected water demands presented in this Urban Water Management Plan (UWMP) in normal years but would experience supply shortages in single dry years or multiple dry years. Implementation of the Bay-Delta Plan Amendment will require rationing in all single dry years and multiple dry years. The SFPUC has initiated an Alternative Water Supply Planning Program (AWSP) to ensure that San Francisco can meet its Retail and Wholesale Customer water needs, address projected dry years shortages, and limit rationing to a maximum 20 percent system-wide in accordance with adopted SFPUC policies. This program is in early planning stages and is intended to meet future water supply challenges and vulnerabilities such as environmental flow needs and other regulatory changes; earthquakes, disasters, and emergencies; increases in population and employment; and climate change. As the region faces future challenges – both known and unknown – the SFPUC is considering this suite of diverse nontraditional supplies and leveraging regional partnerships to meet Retail and Wholesale Customer needs through 2045.

The SWRCB has stated that it intends to implement the Bay-Delta Plan Amendment on the Tuolumne River by the year 2022, assuming all required approvals are obtained by that time. But implementation of the Plan Amendment is uncertain for several reasons.

First, since adoption of the Bay-Delta Plan Amendment, over a dozen lawsuits have been filed in both state and federal courts, challenging the SWRCB's adoption of the Bay-Delta Plan Amendment, including a legal challenge filed by the federal government, at the request of the U.S. Department of Interior, Bureau of Reclamation. This litigation is in the early stages and there have been no dispositive court rulings as of this date.

Second, the Bay-Delta Plan Amendment is not self-implementing and does not automatically allocate responsibility for meeting its new flow requirements to the SFPUC or any other water rights holders. Rather, the Bay-Delta Plan Amendment merely provides a regulatory framework for flow allocation, which must be accomplished by other regulatory and/or adjudicatory proceedings, such as a comprehensive water rights adjudication or, in the case of the Tuolumne River, may be implemented through the water quality certification process set forth in section 401 of the Clean Water Act as part of the Federal Energy Regulatory Commission's licensing proceedings for the Don Pedro and La Grange hydroelectric projects. It is currently unclear when the license amendment process is expected to be completed. This process and the other regulatory and/or adjudicatory proceedings would likely face legal challenges and have lengthy timelines, and quite possibly could result in a different assignment of flow responsibility (and therefore a different water supply impact on the SFPUC).

Third, in recognition of the obstacles to implementation of the Bay-Delta Plan Amendment, the SWRCB Resolution No. 2018-0059 adopting the Bay-Delta Plan Amendment directed staff to help complete a "Delta watershed-wide agreement, including potential flow measures for the Tuolumne River" by March 1, 2019, and to incorporate such agreements as an "alternative" for a future amendment to the Bay-Delta Plan to be presented to the SWRCB "as early as possible after December 1, 2019." In accordance with the SWRCB's instruction, on March 1, 2019, SFPUC, in partnership with other key stakeholders, submitted a proposed project description for the Tuolumne River that could be the basis for a voluntary substitute agreement with the SWRCB ("March 1st Proposed Voluntary Agreement"). On March 26, 2019, the

storage, or by export or import of water to or from other watersheds." (Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (Dec. 12, 2018) p.17, fn. 14, available at https://www.waterboards.ca.gov/plans_policies/docs/2018wqcp.pdf.)

Commission adopted Resolution No. 19-0057 to support the SFPUC's participation in the Voluntary Agreement negotiation process. To date, those negotiations are ongoing under the California Natural Resources Agency and the leadership of the Newsom administration².

For all these reasons, whether and when the Bay-Delta Plan Amendment will be implemented, and how those amendments if implemented will affect the SFPUC's, and thereby Redwood City's, water supply is currently uncertain and possibly speculative. Given this uncertainty, this WSA analyzes water supply and demand through 2045 under two scenarios:

1. With full implementation of the Bay-Delta Plan Amendment in 2023
2. Without implementation of the Bay-Delta Plan Amendment

WSA Determination

Scenario 1, With full implementation of the Bay-Delta Plan Amendment in 2023: The City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years. In dry years with the implementation of its Water Shortage Contingency Plan the City will be able to meet the expected future demand, including the demands of the Project. However, shortfalls represent a significant challenge for the community, and in a single dry year or first dry year the anticipated supply shortfall is between 36% and 47%. In prolonged dry conditions with up to five multiple dry years the shortfall could increase to 55%. This determination is contingent upon the use of recycled water which is available at the Project location.

Scenario 2, Without implementation of the Bay-Delta Plan Amendment: The City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years and dry years through 2040. In 2045 they City has sufficient supply in all years with the exception of the fourth and fifth dry years in a multiple dry year scenario. When supplies will not meet demand, the City would implement its Water Shortage Contingency Plan (WSCP) to curtail demands and ensure that its supplies remain sufficient to serve all users, including the proposed Project. This determination is contingent upon the use of recycled water which is available at the Project location.

2. BACKGROUND

State Laws

During 2001, the California Legislature enacted two laws – SB 610 (Costa) and SB 221 (Kuehl) – each designed to achieve greater coordination during the land use planning process between water suppliers and local land use agencies when considering certain large-scale development projects.

SB 610 requires preparation of a WSA for any development whose approval is subject to the California Environmental Quality Act (CEQA) and which meets the definition of “project” in Water Code Section 10910 (g)(1), (2) – i.e., residential development projects of more than 500 dwelling units or other types of developments (e.g., hotels and motels, commercial buildings, industrial parks, etc.) using a comparable amount of water.

The WSA must describe the proposed project's water demand over a 20-year period, identify the sources of water available to meet that demand and include an assessment of whether or not those water supplies

² California Natural Resources Agency, “Voluntary Agreements to Improve Habitat and Flow in the Delta and its Watersheds,” available at <https://files.resources.ca.gov/voluntary-agreements/>.

are, or will be, sufficient to meet the demand for water associated with the proposed project, in addition to the demand of existing customers and other planned future development. The available water supply must be based on three water supply scenarios: normal year, single dry year, and multiple dry years. If the conclusion is that water supplies are or will be insufficient, then the WSA is to describe plans (if any) for acquiring additional water supplies, and the measures that are being undertaken to acquire and develop those supplies.

SB 221 is similar in many respects to SB 610. However, it applies only to residential projects of 500 units or more and requires the land use planning agency to include as a condition of approval of a tentative map, parcel map or development agreement a requirement that “sufficient water supply” be available. Proof of a sufficient water supply must be based on a written verification from the public water system that will serve the development.

Thus, the WSA required by SB 610 is to be prepared sufficiently early in the development review process that it can be incorporated in the CEQA evaluation and documentation of the project. SB 221, by contrast, becomes operative at the point that the City is considering approval of a tentative subdivision map.

The City’s Roles and Responsibilities Under SB 610

Both SB 610 and SB 221 were drafted on the assumption that the land use planning agency (i.e., the city or county) is not the water supplier for the proposed project. The statutes thus identify distinct duties on the city/county and on the water supplier – which is assumed to be an entirely separate agency. In the case of Redwood City, this assumption is not applicable since the City performs both roles. However, the statute’s terminology, while awkward, can be adapted to the City’s situation relatively easily.

The “City,” as that term is used in the statute, means the components of city government that have responsibilities for the land use decision process. At the staff level, in Redwood City this is the Community Development & Transportation Department, Planning and Housing Division.

The “water supplier,” for SB 610 purposes, can be understood to mean the Public Works Services Department, which is responsible for the City’s Water Enterprise Fund.

The “governing body,” as used in SB 610, refers to the City Council, which is required to approve the WSA at a regular or special meeting.

In Redwood City, the Community Development & Transportation Department is responsible for requesting the preparation of the WSA, including sufficient information about the project. The Public Works Services Department is responsible for preparing the WSA. The City Council is responsible for approving the WSA. The Community Development Department then directs the inclusion of the WSA in the environmental documentation of the project.

Use of the WSA

As noted above, the WSA shall be included in the environmental document prepared for the project. In the case of the 557 E. Bayshore Road Project, it will be included in the Draft EIR prepared for the project.

At the stage of project approval/disapproval, the City “shall determine based on the entire record, whether projected water supplies will be sufficient to satisfy the demands of the project, in addition to

existing and planned future uses.” If the City determines at that point that water supplies will not be sufficient, it must include that determination in its findings for the project.

Urban Water Management Plan (UWMP)

A foundational document for compliance with both SB 610 and SB 221 is the Urban Water Management Plan (UWMP). Both of these statutes identify the UWMP as a planning document that, if properly prepared, can be used by a water supplier to meet the standards set forth in both statutes. The City of Redwood City has adopted an UWMP pursuant to the State of California Urban Water Management Planning Act. The UWMP was last updated/adopted by the City Council on June 14, 2021 and duly forwarded to the California State Department of Water Resources (DWR). The water supply and demand analysis contained in this WSA is based on information contained within the City’s adopted 2020 UWMP.

3. DETERMINATION OF APPLICABILITY OF SB 610 TO THE 557 E. BAYSHORE ROAD PROJECT

The DWR has prepared a flowchart (see Attachment 1) to assist in the determination of the applicability of SB 610 to projects and identify what WSAs must address. Based on the City’s review of the Project development application, the City has determined that the 557 E. Bayshore Road Project is subject to CEQA, and it is considered a “project” as defined by Water Code §10912. Therefore, the City, as both Lead Agency and Water Supplier, is required to prepare an SB 610 WSA. This Project was not specifically listed in the 2020 UWMP, but its demands are factored into the growth projections in the 2020 UWMP based on its consistency with the City 2010 General Plan.

4. REDWOOD CITY WATER SUPPLY

Potable Water Supply

The City of Redwood City receives 100% of its potable water supply from the San Francisco Regional Water System operated by the San Francisco Public Utilities Commission (SFPUC). Existing water supply entitlements, rights and/or water service contracts relevant to this water supply are:

1984 Settlement Agreement and Master Water Sales Contract between Suburban Purchasers and the City and County of San Francisco. The Master Contract primarily addresses the rate-making methodology used by San Francisco in setting wholesale water rates for its wholesale customers in addition to addressing water supply and water shortages for the regional water system. The Master Contract expired on June 30, 2009. The Master Contract provided for a 184 million gallon per day (mgd) “Supply Assurance” to the SFPUC’s wholesale customers, subject to reduction in the event of drought, water shortage, earthquake, other acts of God, or rehabilitation and maintenance of the system. The Master Contract does not guarantee that San Francisco will meet peak daily or hourly customer demands when their annual usage exceeds the Supply Assurance. The SFPUC’s wholesale customers have agreed to the allocation of 184 mgd Supply Assurance among themselves, with each entity’s share of the Supply Assurance set forth on a schedule adopted in 1993. This Supply Assurance survives expiration of the Master Contract in 2009.

Water Supply Agreement between The City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County (July 2009). Redwood City, along with 26 other Bay Area water suppliers, signed the Water Supply Agreement and an Individual Water Sales Contract with San Francisco in 2009. Redwood City’s contracted Supply Assurance from the SFPUC is 12,243 afy.

Recycled Water Supply

The Redwood City Council approved a recycled water project in 2003 with the goal of reducing demand on the Hetch Hetchy system. Silicon Valley Clean Water and Redwood City entered into agreements for the production and distribution of recycled water that is treated to the California State Title 22 standards for non-potable unrestricted use. The recycled water can be used for landscape irrigation, industrial applications, and other approved indoor uses such as toilet flushing in new commercial, and some multi-family buildings. The recycled water system has been designed to deliver up to 3,238 afy. Current demand on the recycled water system is approximately 856 afy. In 2008, the City Council of Redwood City adopted a Recycled Water Use Ordinance and established a Recycled Water Service Area. Specific uses of recycled water including landscape irrigation and toilet/urinal flushing are required within the Recycled Water Service Area for new developments. However, for properties outside of the Recycled Water Service Area recycled water use is voluntary.

Groundwater supply

Groundwater is not a source of potable water supply for Redwood City because of water quality, reliability, and long-term production capacity concerns. Local groundwater is currently used by a limited number of private well owners for domestic and irrigation uses. The City does not include groundwater as a source of supply in its 2020 UWMP. However, a preliminary assessment of groundwater production potential for the City conducted during the preparation of the 2020 UWMP found that sufficient groundwater supply may be available for the City to use as a source of back-up supply for emergency conditions (EKI, 2020; 2020 UWMP Appendix G).

Dry Year Water Supplies

Since adoption of the UWMP, the following milestones on the San Francisco Regional Water System have occurred:

- Calaveras Dam Replacement Project – Construction of the new dam was completed in September 2018, and the overall project was completed in June 2019.
- Regional Groundwater Storage and Recovery Project – Construction of this project is still underway. Phase 1 of the project, consisting of installation of 13 production wells, will be completed in 2019. Since May/June 2016, the project has been in a storage phase through periodic deliveries of RWS surface water in lieu of groundwater pumping by Daly City, San Bruno, and the California Water Service Company.

Summary of Current and Planned Water Supplies

As shown in Table 2 Redwood City's water supply and demand is balanced with some room for unplanned growth through 2045.

Table 2. Projected Supply vs. Demand for Normal Year Scenario

	Projected Water Demand (afy)				
	2025	2030	2035	2040	2045
Potable Water Supply	12,243	12,243	12,243	12,243	12,243
Potable Water Demand	9,520	9,623	9,880	9,995	10,207
<i>Surplus or (Deficit)</i>	<i>2,723</i>	<i>2,620</i>	<i>2,363</i>	<i>2,248</i>	<i>2,036</i>
Recycled Water Supply	3,238	3,238	3,238	3,238	3,238
Recycled Water Demand	1,286	1,426	1,686	1,701	1,716
<i>Surplus or (Deficit)</i>	<i>1,952</i>	<i>1,812</i>	<i>1,552</i>	<i>1,537</i>	<i>1,522</i>
Total Water Demand	10,806	11,049	11,566	11,969	11,923

Source: Redwood City, 2020 Urban Water Management Plan, Table 4-8

Additional Water Supplies

With the adoption of the Bay-Delta Plan Phase 1 (Bay-Delta Plan) by the State Water Resources Control Board in December of 2018, coupled with the uncertainties associated with litigation and the development of Voluntary Agreements that, if successful, would provide an alternative to the 40% unimpaired flow requirement that is required by the Bay-Delta Plan, BAWSCA redoubled its efforts to ensure that the SFPUC took necessary action to develop alternative water supplies such that they would be in place to fill any potential gap in supply by implementation of the Bay-Delta Plan and that the SFPUC would be able to meet its legal and contractual obligations to its Wholesale Customers.

In 2019, BAWSCA held numerous meetings with the SFPUC encouraging them to develop a division within their organization whose chief mission was to spearhead alternative water supply development. On June 25, 2019, BAWSCA provided a written and oral statement to the Commissioners urging the SFPUC to focus on developing new sources of supply in a manner similar to how it addressed the implementation of the Water System Improvement Program (WSIP). BAWSCA urged that a new water supply program was called for, with clear objectives, persistent focus, a dedicated team, adequate funding, and a plan for successful execution. The SFPUC Commission supported BAWSCA’s recommendation and directed staff to undertake such an approach.

In early 2020, the SFPUC began implementation of the Alternative Water Supply Planning Program (AWSP), a program designed to investigate and plan for new water supplies to address future long-term water supply reliability challenges and vulnerabilities on the RWS.

Included in the AWSP is a suite of diverse, non-traditional supply projects that, to a great degree, leverage regional partnerships and are designed to meet the water supply needs of the SFPUC Retail and Wholesale Customers through 2045. As of the most recent Alternative Water Supply Planning Quarterly Update, SFPUC has budgeted \$264 million over the next ten years to fund water supply projects. BAWSCA is heavily engaged with the SFPUC on its AWSP efforts.

The SFPUC is increasing and accelerating its efforts to acquire additional water supplies and explore other projects that would increase overall water supply resilience through the AWSP. The drivers for the program include: (1) the adoption of the Bay-Delta Plan Amendment and the resulting potential limitations to RWS supply during dry years, (2) the net supply shortfall following the implementation of WSIP, (3) San Francisco’s perpetual obligation to supply 184 MGD to the Wholesale Customers, (4)

adopted LOS Goals to limit rationing to no more than 20 percent system-wide during droughts, and (5) the potential need to identify water supplies that would be required to offer permanent status to interruptible customers. Developing additional supplies through this program would reduce water supply shortfalls and reduce rationing associated with such shortfalls. The planning priorities guiding the framework of the AWSP are as follows:

1. Offset instream flow needs and meet regulatory requirements
2. Meet existing obligations to existing permanent customers
3. Make interruptible customers permanent
4. Meet increased demands of existing and interruptible customers

In conjunction with these planning priorities, the SFPUC considers how the program fits within the LOS Goals and Objectives related to water supply and sustainability when considering new water supply opportunities. The key LOS Goals and Objectives relevant to this effort can be summarized as:

- Meet dry-year delivery needs while limiting rationing to a maximum of 20 percent system-wide reduction in water service during extended droughts;
- Diversify water supply options during non-drought and drought periods;
- Improve use of new water sources and drought management, including groundwater, recycled water, conservation, and transfers;
- Meet, at a minimum, all current and anticipated legal requirements for protection of fish and wildlife habitat;
- Maintain operational flexibility (although this LOS Goal was not intended explicitly for the addition of new supplies, it is applicable here).

Together, the planning priorities and LOS Goals and Objectives provide a lens through which the SFPUC considers water supply options and opportunities to meet all foreseeable water supply needs.

In addition to the Daly City Recycled Water Expansion project³, which was a potential project identified in the SFPUC's 2015 UWMP and had committed funding at that time, the SFPUC has taken action to fund the study of potential additional water supply projects. Capital projects under consideration to develop additional water supplies include surface water storage expansion, recycled water expansion, water transfers, desalination, and potable reuse. A more detailed list and descriptions of these efforts are provided below. The capital projects that are under consideration would be costly and are still in the early feasibility or conceptual planning stages. Because these water supply projects would take 10 to 30 years to implement, and because required environmental permitting negotiations may reduce the amount of water that can be developed, the yield from these projects are not currently incorporated into SFPUC's supply projections. State and federal grants and other financing opportunities would be pursued for eligible projects, to the extent feasible, to offset costs borne by ratepayers.

- *Daly City Recycled Water Expansion (Regional, Normal- and Dry-Year Supply).*
This project can produce up to 3 MGD of tertiary recycled water during the irrigation season (~7 months). On an average annual basis, this is equivalent to 1.25 MGD or 1,400 AFY. The project is envisioned to provide recycled water to 13 cemeteries and other smaller irrigation customers,

³ While this potential project was identified in the 2015 UWMP, it has since been approved by Daly City following environmental review and has a higher likelihood of being implemented.

offsetting existing groundwater pumping from the South Westside Groundwater Basin; this will free up groundwater, enhancing the reliability of the Basin. The project is a regional partnership between the SFPUC and Daly City. The irrigation customers are located largely within California Water Service's (Cal Water's) service area. RWS customers will benefit from the increased reliability of the South Westside Basin for additional drinking water supply during droughts. In this way, this project supports the GSR Project, which is under construction.

- *ACWD-USD Purified Water Partnership (Regional, Normal- and Dry-Year Supply).*

This project could provide a new purified water supply utilizing Union Sanitary District's (USD) treated wastewater. Purified water produced by advanced water treatment at USD could be transmitted to the Quarry Lakes Groundwater Recharge Area to supplement recharge into the Niles Cone Groundwater Basin or put to other uses in Alameda County Water District's (ACWD) service area. With the additional water supply to ACWD, an in-lieu exchange with the SFPUC would result in more water left in the RWS. Additional water supply could also be directly transmitted to the SFPUC through a new intertie between ACWD and the SFPUC.
- *Crystal Springs Purified Water (Regional, Normal- and Dry-Year Supply).*

The Crystal Springs Purified Water (PREP) Project is a purified water project that could provide 6-12 MGD of water supply through reservoir water augmentation at Crystal Springs Reservoir, which is a facility of the RWS. Treated wastewater from Silicon Valley Clean Water (SVCW) and/or the City of San Mateo would go through an advanced water treatment plant to produce purified water that meets state and federal drinking water quality standards. The purified water would then be transmitted 10 to 20 miles (depending on the alignment) to Crystal Springs Reservoir, blended with regional surface water supplies and treated again at Harry Tracy Water Treatment Plant. Project partners include the SFPUC, Bay Area Water Supply and Conservation Agency (BAWSCA), SVCW, CalWater, Redwood City, Foster City, and the City of San Mateo. Partner agencies are contributing financial and staff resources towards the work effort.
- *Los Vaqueros Reservoir Expansion (Regional, Dry Year Supply).*

The Los Vaqueros Reservoir Expansion (LVE) Project is a storage project that will enlarge the existing reservoir located in northeastern Contra Costa County from 160,000 acre-feet to 275,000 acre-feet. While the existing reservoir is owned and operated by the Contra Costa Water District (CCWD), the expansion will have regional benefits and will be managed by a Joint Powers Authority (JPA) that will be set up prior to construction. Meanwhile, CCWD is leading the planning, design and environmental review efforts. CCWD's Board certified the EIS/EIR and approved the LVE Project on May 13, 2020. The additional storage capacity from the LVE Project would provide a dry year water supply benefit to the SFPUC. BAWSCA is working in concert with the SFPUC to support their work effort on the LVE project.

 - Conveyance Alternatives: The SFPUC is considering two main pathways to move water from storage in a prospective LVE Project to the SFPUC's service area, either directly to RWS facilities or indirectly via an exchange with partner agencies. The SFPUC is evaluating potential alignments for conveyance.
 - Bay Area Regional Reliability Shared Water Access Program (BARR SWAP): As part of the BARR Partnership, a consortium of 8 Bay Area water utilities (including ACWD, BAWSCA,

CCWD, EBMUD, Marin Municipal Water District (MMWD), SFPUC, Valley Water, and Zone 7 Water Agency) are exploring opportunities to move water across the region as efficiently as possible, particularly during times of drought and emergencies. The BARR agencies are proposing two separate pilot projects in 2020-2021 through the Shared Water Access Program (SWAP) to test conveyance pathways and identify potential hurdles to better prepare for sharing water during a future drought or emergency. A strategy report identifying opportunities and considerations will accompany these pilot transfers and will be completed in 2021.

○

- *Bay Area Brackish Water Desalination (Regional, Normal- and Dry-Year Supply).*

The Bay Area Brackish Water Desalination (Regional Desalination) Project is a partnership between CCWD, the SFPUC, Valley Water, and Zone 7 Water Agency. The East Bay Municipal Utilities District (EBMUD) and ACWD may also participate in the project. The project could provide a new drinking water supply to the region by treating brackish water from CCWD's existing Mallard Slough intake in Contra Costa County. While this project has independent utility as a water supply project, for the current planning effort the SFPUC is considering it as a source of supply for storage in LVE. While the allocations remain to be determined among partners, the SFPUC is considering a water supply benefit of between 5 and 15 MGD during drought conditions when combined with storage at LVE.
- *Calaveras Reservoir Expansion (Regional, Dry Year Supply).*

Calaveras Reservoir would be expanded to create 289,000 acre-feet (AF) additional capacity to store excess Regional Water System supplies or other source water in wet and normal years. In addition to reservoir enlargement, the project would involve infrastructure to pump water to the reservoir, such as pump stations and transmission facilities.
- *Groundwater Banking.*

Groundwater banking in the Modesto Irrigation District (MID) and Turlock Irrigation District (TID) service areas could be used to provide some additional water supply to meet instream releases in dry years reducing water supply impacts to the SFPUC service area. For example, additional surface water could be provided to irrigators in wet years, which would offset the use of groundwater, thereby allowing the groundwater to remain in the basin rather than be consumptively used. The groundwater that remains in the basin can then be used in a subsequent dry year for irrigation, freeing up surface water that would have otherwise been delivered to irrigators to meet instream flow requirements. A feasibility study of this option is included in the proposed Tuolumne River Voluntary Agreement. Progress on this potential water supply option will depend on the negotiations of the Voluntary Agreement.
- *Inter-Basin Collaborations.*

Inter-Basin Collaborations could provide net water supply benefits in dry years by sharing responsibility for in-stream flows in the San Joaquin River and Delta more broadly among several tributary reservoir systems. One mechanism by which this could be accomplished would be to establish a partnership between interests on the Tuolumne River and those on the Stanislaus River, which would allow responsibility for streamflow to be assigned variably based on the annual

Projected Water Demand

The City bases its water demand projections on the adopted *City Engineering Standards for Water Demand Projection Criteria (Attachment Q)*. Project engineers provided demand estimates in Attachment Q, which have been reviewed by the City's Engineering Division. A summary of existing and projected demand is included in the request to prepare this WSA.

Does the 2020 UWMP account for the 557 E. Bayshore Road Project demands?

Yes, although the 557 E. Bayshore Road Project demands were not specifically included in the 2020 UWMP it is consistent with the growth projections in the 2010 General Plan which formed the basis of the growth projections in the 2020 UWMP.

Recycled Water Uses

Redwood City Municipal Code Chapter 38, Article VIII, Sec. 38.50 requires that new Commercial Properties, and New Apartments and Condominiums within the Recycled Water Service Area shall use recycled water for landscape irrigation and internally for toilet flushing. The City's Recycled Water Development Standards (Attachment U) further prescribes the uses for recycled water and excludes the use of recycled water in tenant improvement spaces intended for retail uses, and makes the use of recycled water in child care facilities optional. For properties outside of the Recycled Water Service Area recycled water use is voluntary.

The Water Demand Projections worksheet (Attachment Q) does not differentiate between potable or recycled water uses. During the preparation of the UWMP the City did not have any existing properties using recycled water for internal uses, so estimates were used to identify the ratio of potable and recycled water for internal uses.

- For residential properties it was estimated that for all internal uses 75% would be for potable water and 25% would be for recycled water.
- For commercial properties it was estimated that for all internal uses 20% would be for potable water and 80% would be for recycled water.

A number of projects have been completed that have been dual plumbed for internal use of recycled water, but are not yet using recycled water because the Recycled Water Distribution System has not been expanded to service those properties. However, separate water meters were installed at these projects for future recycled water use and are currently using potable water. Actual demand was reviewed at these properties to verify the accuracy of the estimated ratio between potable and recycled water with the results closely matching the estimates.

- For residential properties actual demand for internal uses was 70% potable water and 30% recycled water.
- For commercial properties actual demand for internal uses was 20% potable water and 80% recycled water.

The 557 E. Bayshore Road Project is within the Recycled Water Service Area. To determine the ratio of potable and recycled water for the Project the actual demand ratios were applied to internal residential uses. However, because the Project's commercial uses are not typical of most commercial projects in an

office environment, and all commercial areas are intended to be used for an athletic club the standard ratio could not be used. Alternatively estimates prepared by Project engineers in the “Recycled Water System Report” were used. The Report estimated recycled water uses in the athletic club to be 1,162 gallons per day or 1.3 acre feet per year. Finally, landscape irrigation was allocated to 100% recycled water. A summary of these demands is available in Table 1.

Recycled water distribution system pipelines are existing along the frontage of the Project, and recycled water can be used upon completion of the project.

6. WATER SUPPLY SUFFICIENCY ANALYSIS

The following section provides a supply and demand comparison for the two scenarios described in Section 1 of this report. Procedures for determining SFPUC RWS supply availability are provided in the Water Shortage Allocation Plan (WSAP) between the SFPUC’s Retail and Wholesale Customers which is referred to as Tier 1 of the WSAP. The WSAP further allocates the supplies amongst Wholesale Customers (BAWSCA Members) under Tier 2 of the WSAP to derive available supply for each wholesale customer including Redwood City.

For the purposes of 2020 UWMP development only, SFPUC and BAWSCA provided revised methodologies to allocate RWS supplies during projected future single dry and multiple dry years in instances where the projects supply shortfalls are greater than 20%. SFPUC and BAWSCA assumed that Tier One allocations for system-wide shortfalls of 16% to 20% would apply for all shortfalls greater than 20%. BAWSCA also provided a revised methodology to allocate RWS supplies to Wholesale Agencies. The inclusion of the following revised methodologies, which serve as the preliminary basis for the 2020 UWMP supply reliability analyses, does not in any way imply an agreement by BAWSCA member agencies as to the exact allocation methodologies.

1. When the average Wholesale Customers’ RWS shortages are 10 percent or less, an equal percent reduction will be applied across all agencies. This is consistent with the existing Tier Two requirement of a minimum 10 percent cutback in any Tier Two application scenario.
2. When average Wholesale Customers’ shortages are between 10 and 20 percent, the Tier Two Plan will be applied.
3. When the average Wholesale Customers’ RWS shortages are greater than 20 percent, an equal percent reduction will be applied across all agencies.

Scenario 1: With full implementation of the Bay-Delta Plan Amendment in 2023

Under this Scenario this WSA determines that the City has sufficient water supplies to serve the Project and all other existing and planned future demands, in normal years. In dry years with the implementation of its Water Shortage Contingency Plan (WSCP) the City will be able to meet future demand, including the demands of the Project. However, shortfalls represent a significant challenge for the community, and in a single dry year or first dry year the anticipated supply shortfall is between 36% and 47%. In prolonged dry conditions with up to five multiple dry years the shortfall could increase to 55%.

The WSCP lists a number of actions to be taken by the City and water customers in the event of a water shortage for the purpose of reducing water demands, and includes 6 stages of curtailment levels, ranging from 10 percent to greater than 50 percent depending on the severity of the water shortage. For a single dry year water shortage beginning in the year 2025 the WSCP indicates a Stage 4 water shortage (up to

40%) will need to be declared, and in a multiple dry year scenario a Stage 5 water shortage (up to 50%) will need to be declared. Based on projected water demand in the years 2040 and 2045 a Stage 6 shortage will need to be declared in the fourth and fifth years of a drought, and represents a significant reduction in water demands that must be met including no irrigation with potable water, a 35% reduction in commercial, institutional, and industrial (CII) water use, and indoor per capita or per person daily use of 27 gallons.

Table 3. Water Allocation Program Cutbacks by Customer Sector (Table 6-3, WSCP, June 2021)

Stage Reduction Goal	10%	20%	30%	40%	50%	>50%
Customer Sector	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5	Stage 6
Residential Indoor Allocation	50 gpcd	45 gpcd	40 gpcd	34 gpcd	31 gpcd	27 gpcd
Residential Outdoor Allocation	15%	35%	65%	80%	90%	100%
Commercial (CII) Reduction	3%	7%	10%	20%	30%	35%
Irrigation Accounts Reduction	15%	35%	65%	80%	90%	100%
Recycled Water Reduction	0%	0%	0%	0%	0%	0%

gpcd= gallons per capita per day

Because the Project’s water demands are included in the 2020 UWMP the Project would not change the water shortage Stage that would need to be declared, and the Project would not require additional curtailments from existing or planned customers beyond the curtailments that would be required without the Project. Table 4 includes the reduction in potable water demand anticipated due to the implementation of the Bay Delta Plan for each dry year scenario.

Table 4. Potable Water Supply and Shortage Levels with Bay Delta Plan

Year Type		2025	2030	2035	2040	2045
Normal Supply		12,243	12,243	12,243	12,243	12,243
2020 UWMP Projected Potable Demand		9,852	9,520	9,623	9,995	10,207
Single Dry Year Supply		6,049	6,060	6,150	6,217	5,433
Multiple Dry Years Supply	First year	6,049	6,060	6,150	6,217	5,433
	Second year	5,186	5,197	5,265	5,332	5,433
	Third year	5,186	5,197	5,265	5,332	5,433
	Fourth year	5,186	5,197	5,265	4,705	4,615
	Fifth year	5,186	5,197	4,828	4,705	4,615
Percent Shortage based on Projected Demand						
Normal Year		0%	0%	0%	0%	0%
Single Dry Year		38.6%	36.3%	36.1%	37.8%	46.8%
	First year	38.6%	36.3%	36.1%	37.8%	46.8%

Multiple Dry Years Shortage	Second year	47.4%	45.4%	45.3%	46.7%	46.8%
	Third year	47.4%	45.4%	45.3%	46.7%	46.8%
	Fourth year	47.4%	45.4%	45.3%	52.9%	54.8%
	Fifth year	47.4%	45.4%	49.8%	52.9%	54.8%

The above conclusions assume that the Project includes the use of recycled water, and subsequent compliance with the recycling water requirements in the City’s Municipal Code (Chapter 38, Article VIII (Section 38.50 et seq.)). Redwood City is not currently limited in its recycled water capacity and has sufficient supply for the project in normal and dry years. The Project’s anticipated net demand for recycled water is 33.7 afy, which is well within the City’s available recycled water supplies.

Scenario 2: Without Implementation of the Bay-Delta Plan Amendment

Under this Scenario this WSA determines that the City has sufficient water to meet all of its expected future water demands, including the demands of the proposed Project, in normal years and dry years through 2040. In the year 2045 they City has sufficient supply in all years with the exception of the fourth and fifth consecutive dry years in a multiple dry year scenario. When supplies will not meet demand, the City would implement its Water Shortage Contingency Plan (WSCP) to curtail demands and ensure that its supplies remain sufficient to serve all users, including the proposed Project. For a fourth and fifth consecutive dry year in 2045 the WSCP indicates a Stage 2 water shortage will need to be declared.

Table 5. Potable Water Supply and Shortage Levels Without Bay Delta Plan (afy)

Year Type		2025	2030	2035	2040	2045
Normal Supply		12,243	12,243	12,243	12,243	12,243
2020 UWMP Projected Potable Demand		9,852	9,520	9,623	9,995	10,207
Single Dry Year Supply		9,852	9,520	9,623	9,995	10,207
Multiple Dry Years Supply	First year	9,852	9,520	9,623	9,995	10,207
	Second year	9,852	9,520	9,623	9,995	10,207
	Third year	9,852	9,520	9,623	9,995	10,207
	Fourth year	9,852	9,520	9,623	9,995	9,074
	Fifth year	9,852	9,520	9,623	9,995	9,074
Percent Shortage based on Projected Demand						
Normal Year		0%	0%	0%	0%	0%
Single Dry Year		0%	0%	0%	0%	0%
Multiple Dry Years Shortage	First year	0%	0%	0%	0%	0%
	Second year	0%	0%	0%	0%	0%
	Third year	0%	0%	0%	0%	0%
	Fourth year	0%	0%	0%	0%	11.1%
	Fifth year	0%	0%	0%	0%	11.1%

The above conclusions assume that the Project includes the use of recycled water, and subsequent compliance with the recycling water requirements in the City’s Municipal Code (Chapter 38, Article VIII (Section 38.50 et seq.)). Redwood City is not currently limited in its recycled water capacity and has

sufficient supply for the project in normal and dry years. The Project's anticipated net demand for recycled water is 33.7 afy, which is well within the City's available recycled water supplies. **7.**

REFERENCES

- City of Redwood City 2020 Urban Water Management Plan (UWMP).
- *Water Supply & Development, A User's Guide to California Statutes including SB 221 (Kuehl) & SB 610 (Costa)*. Association of California Water Agencies, 2002.
- 1984 Master Sales Agreement between Suburban Purchasers and the City and County of San Francisco.
- *2018 Amended and Restated Water Supply Agreement between The City and County of San Francisco and Wholesale Customers in Alameda County, San Mateo County, and Santa Clara County*.
- *Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001*. California Department of Water Resources, October 2003.

8. ATTACHMENTS

Attachment 1: SB 610 Flowchart

Attachment 2: 557 E. Bayshore Road - Attachment Q Worksheets

SB 610 Flowchart

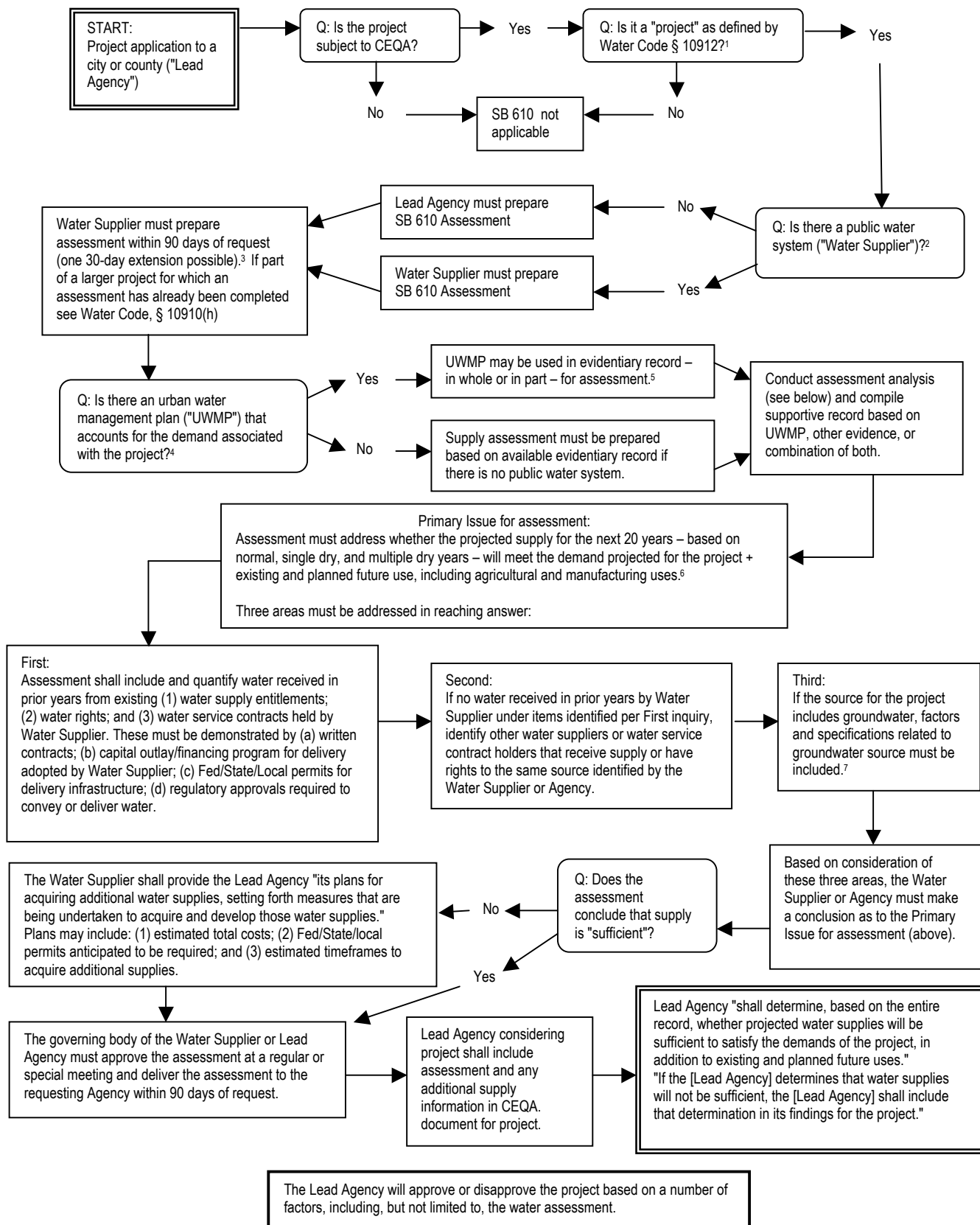


Chart Courtesy of the
The Building Industry Legal Defense

Notes for SB 610 Flowchart

Footnote 1:

California Water Code section 10912.

For the purposes of this part, the following terms have the following meanings:

- (a) "Project" means any of the following:
- (1) A proposed residential development of more than 500 dwelling units.
 - (2) A proposed shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
 - (3) A proposed commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.
 - (4) A proposed hotel or motel, or both, having more than 500 rooms.
 - (5) A proposed industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
 - (6) A mixed-use project that includes one or more of the projects specified in this subdivision.
 - (7) A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.
- (b) If a public water system has fewer than 5,000 service connections, then "project" means any proposed residential, business, commercial, hotel or motel, or industrial development that would account for an increase of 10 percent or more in the number of the public water system's existing service connections, or a mixed-use project that would demand an amount of water equivalent to, or greater than, the amount of water required by residential development that would represent an increase of 10 percent or more in the number of the public water system's existing service connections.

Footnote 2:

California Water Code section 10912.

(c) "Public water system" means a system for the provision of piped water to the public for human consumption that has 3,000 or more service connections. A public water system includes all of the following:

- (1) Any collection, treatment, storage, and distribution facility under control of the operator of the system which is used primarily in connection with the system.
- (2) Any collection or pretreatment storage facility not under the control of the operator that is used primarily in connection with the system.
- (3) Any person who treats water on behalf of one or more public water systems for the purpose of rendering it safe for human consumption. It also means a system that will become a public water supplier if the project puts it over 3,000 service connections.

Footnote 3:

California Water Code section 10910, subdivision (g)(1).

Footnote 4:

The requirement for and contents of an urban water management plan are provided in California Water Code section 10631, as amended by SB 610 in 2001.

Footnote 5:

California Water Code section 10910, subdivision (c)(2) provides that the UWMP may be used, but it may or may not provide all of the information needed.

Footnote 6:

See California Water Code section 10910, subdivisions (c)(3) & (4); see also Government Code section 66473.7, subdivision (a)(2) [SB 221]

Footnote 7:

California Water Code section 10910, subdivision (f):

- (f) If a water supply for a proposed project includes groundwater, the following additional information shall be included in the water assessment:
- (1) A review of any information contained in urban water management plan relevant to the identified water supply for proposed project.
 - (2) A description of any groundwater basin or basins from which the proposed project will be supplied. For those basins for which a court or the board has adjudicated the rights to pump groundwater, a copy of the order or decree adopted by the court or the board and a description of the amount of groundwater the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), has the legal right to pump under the order or decree. For basins that have not been adjudicated, information as to whether the department has identified the basin or basins as overdrafted or has projected that the basin will become overdrafted if present management conditions continue, in the most current bulletin of the department that characterizes the condition of the groundwater basin, and a detailed description by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), of the efforts being undertaken in the basin or basins to eliminate the long-term overdraft condition.
 - (3) A detailed description and analysis of the amount and location of groundwater pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), for the past five years from any groundwater basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
 - (4) A detailed description and analysis of the amount and location of groundwater that is projected to be pumped by the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), from any basin from which the proposed project will be supplied. The description and analysis shall be based on information that is reasonably available, including, but not limited to, historic use records.
 - (5) An analysis of the sufficiency of the groundwater from the basin or basins from which the proposed project will be supplied to meet the projected water demand associated with the proposed project. A water assessment shall not be required to include the information required by this paragraph if the public water system determines, as part of the review required by paragraph (1), that the sufficiency of groundwater necessary to meet the initial and projected water demand associated with the project was addressed in the description and analysis required by paragraph (4) of subdivision (b) of Section 10631.

ATTACHMENT Q (1 of 3)

WATER DEMAND PROJECTION WORKSHEET

JOB TITLE 557 Bayshore Ave CAL. BY Shanté Stowell
JOB NUMBER 20020125 CHKD. BY Mike O'Connell, P.E.
JOB LOCATION 557 Bayshore Ave, Redwood City DATE 01/18/19

INDOOR WATER DEMAND PROJECTION

A. RESIDENTIAL

1. Multi - Family
480 Units X 2.2 Persons = 1056 Persons

2. Single Family
 Units X 3.4 Persons = Persons

1056 Persons X 60* GPD = 63,360 GPD Projected

B. OFFICE/COMMERCIAL

 sqft X 0.13 gpd/sqft = GPD Projected

C. HOTEL

 rooms X 195 gpd/room = GPD Projected

D. RESTAURANTS

 seats X 30 gpd/seat = GPD Projected

E. ALL OTHERS SEE PAGE 3: (Health Club) = 144,155 GPD Projected

LANDSCAPING WATER DEMAND PROJECTION

A. RESIDENTIAL

 17 gpd X persons = GPD Projected

B. COMMERCIAL

 sqft X 3.5 cuft of water /sqft of = CUFT/YR
landscape per year

To convert to GPD:

 cuft/yr X 7.48 gal/ X 1 yr/ = GPD Projected
cuft 365 days

TOTAL DOMESTIC WATER DEMAND PROJECTION

INDOOR + LANDSCAPING PROJECTION = 207,515 GPD Projected

* From SFPUC Demand Study by URS, " Projected Water Usage for BAWSCA Agencies ", Tech Memo of August 2006.

ATTACHMENT Q (2 of 3)

WATER DEMAND PROJECTION WORKSHEET OCCUPANT LOADS

JOB TITLE 557 Bayshore Ave
JOB NUMBER 20020125
JOB LOCATION 557 Bayshore Ave, Redwood City

CAL. BY Shanté Stowell
CHKD. BY Mike O'Connell, P.E.
DATE 01/18/19

DESIGNED USE OF THE FACILITY

OCCUPANT LOAD OF FLOOR AREA

A. SCHOOL/CLASSROOM

20 sqft/person

B. HEALTH CLUB

50 sqft/person/shift
(3 shifts per day)

C. MANUFACTURING AREAS

200 sqft/person

D. NURSERIES (DAY-CARE)

35 sqft/person

E. STORAGE FACILITIES

300 sqft/person

ATTACHMENT Q (3 of 3)

WATER DEMAND PROJECTION WORKSHEET UNIT LOADS

JOB TITLE 557 Bayshore Ave
JOB NUMBER 20020125
JOB LOCATION 557 Bayshore Ave, Redwood City

CAL. BY Shanté Stowell
CHKD. BY Mike O'Connell, P.E.
DATE 01/18/19

TYPE OF ESTABLISHMENT	VOLUME OF CONSUMPTION/DAY
Assembly Halls	2 gal per seat
Bowling Alley	75 gal per lane
Churches	7 gal per seat
Dance Halls	2 gal per person
General Hospitals	0.27 gal per sqft
Health Clubs	25 gal per person
Laundries	400 gal per machine
Manufacturing (excluding industrial usage)	30 gal per person/shift
Motels with bath, toilet and kitchen wastes	170 gal per room
Nursing homes/Daycare	75 gal per person
Medical Offices (other than hospitals)	0.18 gal per sqft
Research and Development	0.21 gal per sqft
Schools	35 gal per person
Service Station	750 gal per bay
Storage facilities	1 gal per person
Stores (Retail type)	450 gal per 25 ft frontage
(Food -- non-restaurant type)	900 gal per 25 ft frontage
Trailer parks or tourist camps (with built-in bath)	50 gal per person

Villasport estimated water use:

Health Club occupant load:
(50 sqft/person each shift) / (3 shifts each day)=16.6 sqft/person

Health Club daily consumption:
(25 gal/person/day) / (16.6 sqft/person) = 1.5 gal/sqft/day

Villasport total area:
96,103 sqft

(1.5 gal/sqft/day) * (96,103 sqft) = 144,155 gal/day