Water Supply Assessment for the Santa Rosa General Plan 2050

City Council Meeting

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Colin Close

Senior Water Resources Planner

Santa Rosa Water

Overview

- SB 610 – Water Supply Assessments (WSA)
- Santa Rosa General Plan 2050
- WSA for General Plan
- Water Demand & Supply Analysis
- Sufficiency Determination
- Recommendation

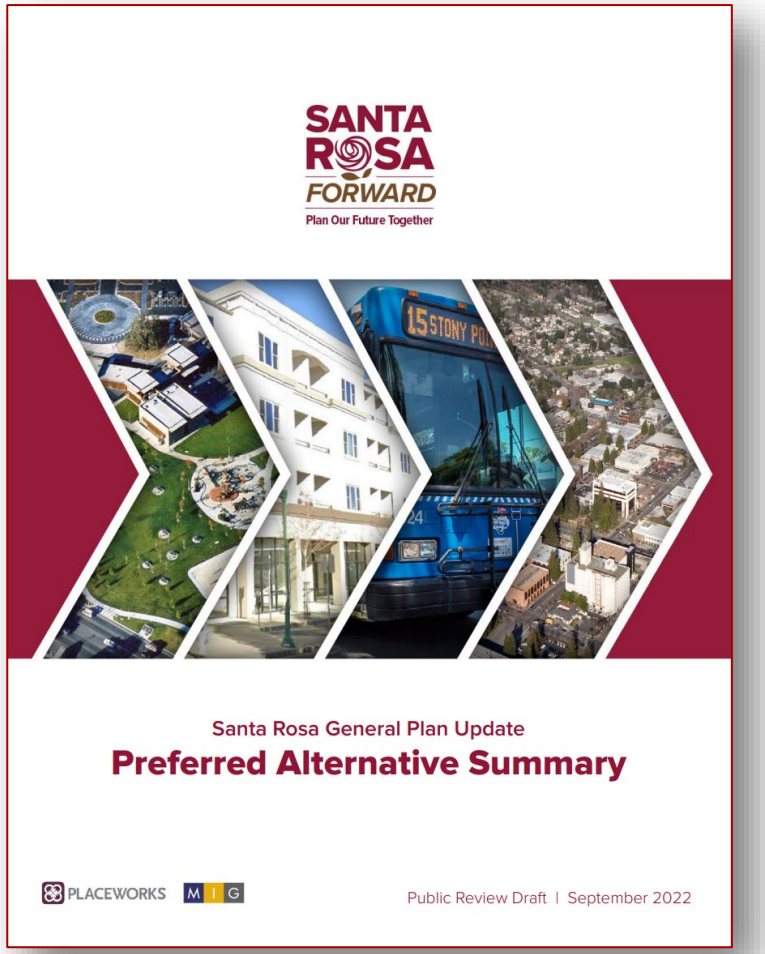
Water Supply Assessment (WSA)

Senate Bill 610 (2001)

- Required for certain projects subject to CEQA (California Environmental Quality Act).
  - Assess sufficiency of water supply to meet demands of project plus existing and planned future water uses over the next 20 years.
- Prepared by water supplier upon request of land use authority.
  - Governing body has 90-days to provide adopted WSA. Water supplier can request one 30-day extension.

Santa Rosa General Plan 2050

- Prepared by Planning & Economic Development (land use agency).
- Long-term vision and framework for zoning and land use decisions
- Future growth projections
  - Population
  - Housing
  - Economic development
  - Services
  - Connectivity
  - Infrastructure

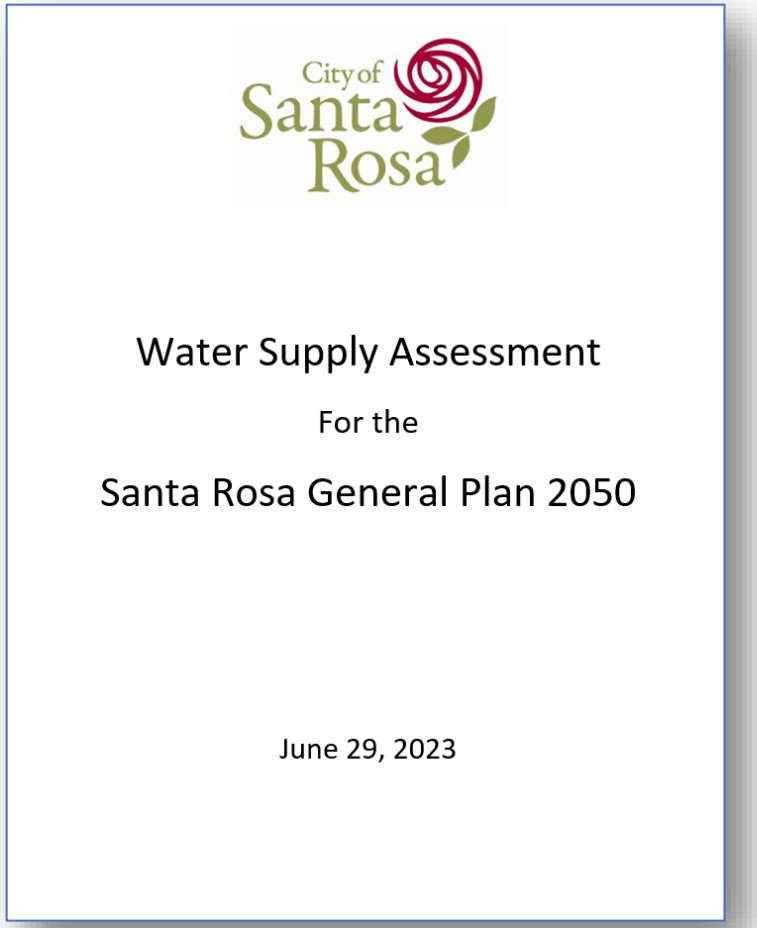


Santa Rosa General Plan 2050

- Requires CEQA review (California Environmental Quality Act).
- Fits the definition of a “project” under California Water Code (CWC) 10912(a)(7).
- Is subject to SB 610.

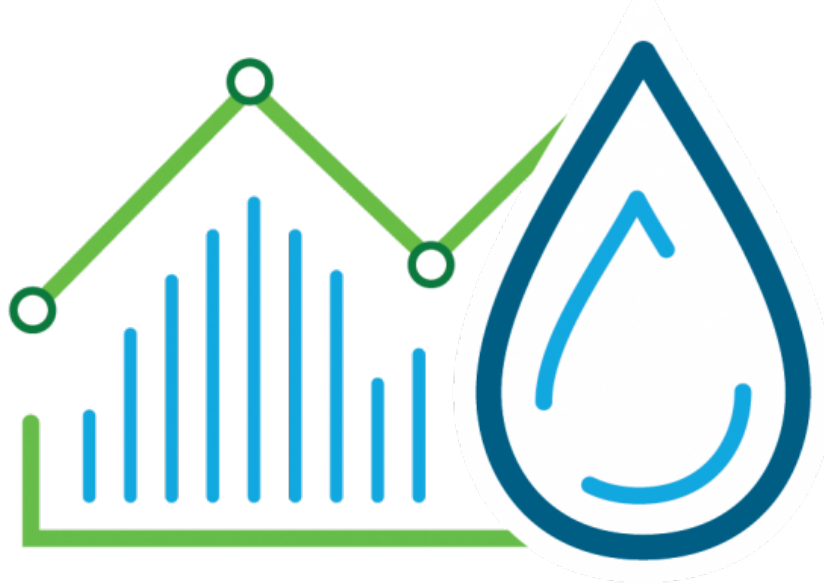
Water Supply Assessment for General Plan 2050

- Introduction
- Applicability
- Future & existing supplies
- Demand analysis
- Dry year analysis
- Sufficiency determination



Water Demand & Supply Analysis

- Considers new development anticipated by 2050, compared to baseline (2019).
- Projects water demand for new development.
- Calculates total water demand by 2050.
- Assesses existing (2019) and projected (2050) water supply:
  - Normal water year
  - Single dry year
  - Multi-dry year
- Assumes anticipated new development will occur within 20-year horizon of WSA (by 2043).
- Compares supply and demand.



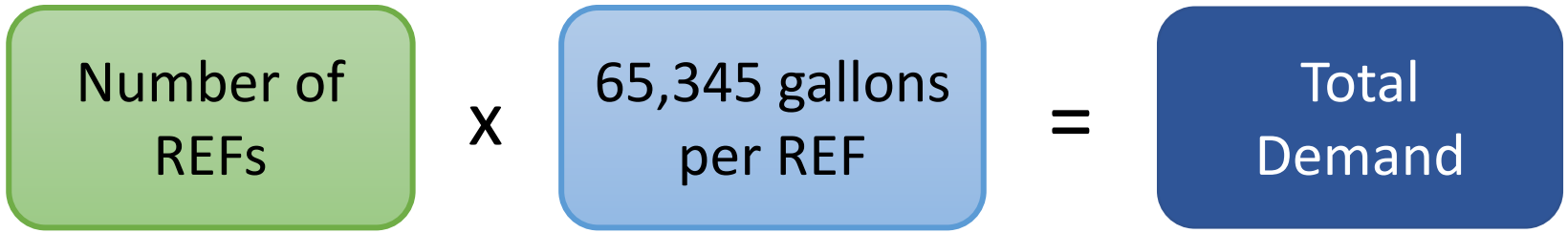
Demand Projection Methodology

- Residential Equivalency Factors (REFs) are used to assess demands using a standard methodology across various land use classifications

  Example: 1,000 square feet of retail development equal to 1 REF

- 1 REF = Average water use of one single-family home per year (65,345 gallons)

  Source: 2010-2019 average single-family home usage (2020 UWMP, Appendix E Water Demand Analysis)



Baseline vs Growth in Development

Land Use Category (Units)	Baseline (2019)	Growth Increment	Buildout (2050)
Residential Detached (dwelling units)	46,435	11,810	58,245
Residential Attached (dwelling units)	29,418	12,280	41,698
Retail (square feet [sf])	10,434,662	945,000	11,379,662
Office (sf)	6,704,000	2,100,000	8,804,000
Industrial (sf)	11,429,000	1,500,000	12,929,000
Public/Institutional (sf)	3,793,000	727,000	4,520,000
Park/Public Landscape (sf)	81,363,600	3,092,760	84,288,600
Hotels (rooms)	2,086	69	2,155
Education (students)	53,131	4,797	57,928

Source: Planning & Economic Development, based on data from Sonoma County Transportation Authority's Vehicle Miles Traveled Model

Converting Growth to Residential Equivalency Factors

Land Use Category	Net Project Area (square feet)	Net Project Rooms/Students	Net Residential Units	REF Conversion Factor	REFs
Residential Detached	-	-	11,810	1 REF/unit	11,810
Residential Attached	-	-	12,280	0.7 REF/unit	8,575
Retail	945,000	-	-	1 REF/1,000 SF	945
Office	2,100,000	-	-	1 REF/500 SF	4,200
Industrial	1,500,000	-	-	1 REF/1,300 SF	1,154
Public/Institutional	727,000	-	-	1 REF/500 SF	1,454
Park/Public Landscape	3,092,760	-	-	1 REF/2,819 SF	1,097
Hotel	-	69	-	0.75 REF/Room	52
Education	-	4,797	-	0.11 REF/Student	536
Total	8,364,760	N/A	24,090	N/A	29,823

Projected water demand for new development by 2050

29,823 REFs x 65,345 gallons/REF = **1.949 Billion Gallons** or **5,981 acre feet**

Plus non-revenue water use (e.g., firefighting) and misc. sales (e.g., construction).

5,981 acre feet + **504 acre feet (non-revenue water and misc. water sales)** = **6,484 acre feet ***

* Sum of values before rounding.

Projected total demand for General Plan 2050

Category	Water Demand (AFY)
Existing Water Demand (2019)	17,832
Net Demand Increase by 2050	6,484
Total	**24,316**

Projected Normal Year Water Supplies

Water Supply Sources	2020 actual	2025	2030	2035	2040	2045
Sonoma Water	18,024	29,100	29,100	29,100	29,100	29,100
City produced groundwater	1,253	2,300	2,300	2,300	2,300	2,300
Recycled water	110	140	140	140	140	140
Total	**19,387**	**31,540**	**31,540**	**31,540**	**31,540**	**31,540**

Source: City of Santa Rosa, 2020 Urban Water Management Plan, June 2021

Water Supply vs Demand (AFY) - Normal Year

(WSA assumes growth occurs by 2043)

Normal Year	2028	2033	2038	2043
Supply *	31,540	31,540	31,540	31,540
Demand	20,032	21,369	22,796	24,316
Difference	11,508	10,171	8,744	7,224
Shortage	**0%**	**0%**	**0%**	**0%**

* Interpolated linearly from Urban Water Management Plan to align with WSA 5-year projections

Water Supply vs Demand (AFY) - Single Dry Year

(WSA assumes growth occurs by 2043)

Single Dry Year	2028	2033	2038	2043
Supply*	21,447	20,818	20,962	21,405
Demand	20,032	21,369	22,796	24,316
Difference	1,415	-552	-1,834	-2,911
Shortage	**0%**	**3%**	**8%**	**12%**

* Interpolated linearly from Urban Water Management Plan to align with WSA 5-year projections

Water Supply vs Demand (AFY) – Multiple Dry Years

(WSA assumes growth occurs by 2043)

5th Dry Year	2028	2033	2038	2043
Supply *	23,514	24,424	25,058	25,790
Demand	20,032	21,369	22,796	24,316
Difference	3,481	3,055	2,263	1,474
Shortage	**0%**	**0%**	**0%**	**0%**

* Interpolated linearly from Urban Water Management Plan to align with WSA 5-year projections

Sufficiency Determination

The WSA finds that Santa Rosa has adequate existing and projected water supplies to meet existing and planned development, including new development in the proposed Santa Rosa General Plan 2050, with the implementation of demand management measures in dry years as needed.

NOTE: WSA will be included in the EIR for General Plan.

Recommendation

It is recommended by Santa Rosa Water that the Council, by resolution, approve the Water Supply Assessment for the Santa Rosa General Plan 2050.

Questions?