DRAFT REPORT | APRIL 2022

Roseville Industrial Park Project
Water Supply Assessment

PREPARED FOR

City of Roseville

PREPARED BY

Roseville Industrial Park Project
Water Supply Assessment

Prepared for

City of Roseville

Project No. 1002-60-21-01

Project Manager: Amy Kwong, PE	Date
QA/QC Review: Elizabeth Drayer, PE	Date

WEST YOST
Water. Engineered.

DRAFT REPORT | APRIL 2022

Table of Contents

Table of Contents

LIST OF TABLES

Table of Contents

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

°F	Degrees Fahrenheit
AF/yr	Acre-feet Per Year
ASR	Aquifer Storage and Recovery
BRWTP	Barton Road Water Treatment Plant
CEQA	California Environmental Quality Act
CHWD	Citrus Heights Water District
CIMIS	California Irrigation Management Information System
City	City of Roseville
CVP	Central Valley Project
CVP M&I WSP	Central Valley Project Municipal & Industrial Water Shortage Policy
Developer	Panattoni Development Company
Delta	Sacramento-San Joaquin Delta
DWR	California Department of Water Resources
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
ESA	Endangered Species Act
GMP	Groundwater Management Plan
gpm	Gallons Per Minute
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
M&I	Municipal & Industrial
MFP	Middle Fork Project
mgd	Million Gallons Per Day
NOP	Notice of Preparation
OCAP	Operations Criteria and Plan
Ophir WTP	Ophir Water Treatment Plant
PCWA	Placer County Water Agency
Proposed Project	Roseville Industrial Park Project
SB 221	Senate Bill 221
SB 610	Senate Bill 610

sf	square foot or square feet
SGMA	Sustainable Groundwater Management Act of 2014
SJWD	San Juan Water District
SMUD	Sacramento Municipal Utilities District
SWRCB	State Water Resources Control Board
USBR	United States Bureau of Reclamation
UWMP	Urban Water Management Plan
WELO	Water Efficient Landscape Ordinance
WFA	Water Forum Agreement
WPGSA	West Placer Groundwater Sustainability Agency
WSA	Water Supply Assessment
WSCP	Water Shortage Contingency Plan

EXECUTIVE SUMMARY

Overview

This Water Supply Assessment (WSA) has been prepared for the City of Roseville (City) by West Yost in accordance with California Water Code sections 10910 through 10915 in connection with the proposed Roseville Industrial Park Project (Proposed Project). The Proposed Project is located in the northwest portion of the City. The Proposed Project site is undeveloped and would contain various industrial uses, including light manufacturing, warehouse, and distribution uses.

The Proposed Project will include approximately 1,938 employees and up to 15 buildings totaling approximately 2,415,000 square feet.

Projected Water Demands

The projected potable water demands for buildout of the Proposed Project were calculated by Laugenour and Meikle Civil Engineers using the City's adopted unit water demand factors. The projected landscape irrigation demands for buildout of the Proposed Project were estimated based on total irrigated area and the City's Water Efficient Landscape Ordinance (WELO). The total water demand for the Proposed Project is estimated to be 561 acre-feet per year (AF/yr), with 518 AF/yr and 43 AF/yr for potable water and recycled water, respectively. The landscape irrigation demands for the Proposed Project will ultimately be served by the City's recycled water system; however, these demands will be served from the potable water system in the interim until the necessary recycled water system infrastructure is constructed. Summaries of the availability and reliability of potable and recycled water supplies to serve the projected water demands for the Proposed Project are discussed below.

Water Supply Availability and Reliability

The City's water supply sources include American River surface water purchased through supply contracts with the United States Bureau of Reclamation (USBR), Placer County Water Agency (PCWA), and San Juan Water District (SJWD); groundwater pumped from the City's active production wells; and recycled water. The availability and reliability of the City's water supplies as described in this WSA are based on information contained in the City's 2020 Urban Water Management Plan (UWMP). As the Proposed Project was not included in the City's 2020 UWMP, the supply and demand comparison in normal, single dry, and multiple dry years has been recalculated in this WSA to include water demand for the Proposed Project.

According to the City's 2020 UWMP and the technical analysis outlined in this WSA, the City does not anticipate water supply shortages during normal water years through 2045. In single dry years and years four and five of an extended drought, some supply shortages are projected ranging from approximately 0.3 percent to 8.6 percent of projected demand. In the event of any water shortages, the City will implement the provisions of its Water Shortage Contingency Plan (WSCP) to reduce water demand and make up the supply deficit. The Proposed Project, if approved, would be subject to the same water use restrictions as other City water customers if the WSCP is implemented.

1.0 INTRODUCTION

The Roseville Industrial Park Project (Proposed Project) would develop a property in the City of Roseville (City) with a range of industrial uses, including light manufacturing, warehouse, and distribution uses, as well as a potential electrical substation south of Pleasant Grove Creek. Up to 15 buildings would be constructed, ranging in size from approximately 80,000 square feet (sf) to approximately 300,000 sf and connected by a bridge across Pleasant Grove Creek.[1,2]

The purpose of this Water Supply Assessment (WSA) is to support the Environmental Impact Report (EIR) for the Proposed Project. The following sections describe the legal requirement for the WSA and the Project background.

1.1 Legal Requirement for a Water Supply Assessment

California Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) amended 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. SB 610 and SB 221 were companion measures which sought to promote more collaborative planning between local water suppliers and cities and counties. Both statutes require detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects. The purpose of this coordination is to ensure that prudent water supply planning has been conducted, and that planned water supplies are adequate to meet existing demands, anticipated demands from approved projects and tentative maps, and the demands of proposed projects.

SB 610 amended California Water Code sections 10910 through 10915 (inclusive) to require land use lead agencies to:

- Identify any public water purveyor that may supply water for a proposed development project
- Request a WSA from the identified water purveyor

The purpose of the WSA is to demonstrate the sufficiency of the purveyor's water supplies to satisfy the water demands of the Proposed Project, while still meeting the water purveyor's existing and planned future uses. California Water Code sections 10910 through 10915 delineate the specific information that must be included in the WSA.

SB 221, which amended State law (California Government Code section 66473.7) to require that approval by a city or county of certain residential subdivisions,[3] requires an affirmative written verification of sufficient water supply. SB 221 was intended as a failsafe mechanism to ensure that collaboration on finding the needed water supplies to serve a new large residential subdivision occurs before construction

[1] City of Roseville. July 2021. Notice of Preparation of an Environmental Impact Report for the proposed Roseville Industrial Park Project and Notice of Public Scoping Meeting.

[2] Laugenour and Meikle Civil Engineers. September 2021. Draft Potable Water Study for Roseville Industrial Project.

[3] Per Government Code Section 66473.7(a)(1) subdivision means a proposed residential development of more than 500 dwelling units.

begins. As described further in Section 3.2, the Proposed Project does not include residential dwelling units and is therefore exempt from the requirements of SB 221.

1.2 Need for and Purpose of a Water Supply Assessment

The purpose of this WSA is to perform the evaluation required by SB 610 (California Water Code Sections 10910 through 10915) in connection with the Proposed Project, located within the City limits. This WSA does not reserve water or function as a "will serve" letter or any other form of commitment to supply water (see California Water Code section 10914). The provision of water service will continue to be undertaken in a manner consistent with applicable policies and procedures, consistent with existing law.

1.3 Water Supply Assessment Preparation, Format, and Organization

The format of this WSA is intended to follow California Water Code sections 10910 through 10915 to clearly delineate compliance with the specific requirements for a WSA. This WSA includes the following sections:

Section 1: Introduction
Section 2: Description of the Proposed Project
Section 3: Required Determinations
Section 4: City of Roseville Water System
Section 5: City of Roseville Water Demands
Section 6: City of Roseville Water Supplies
Section 7: Water Supply Reliability
Section 8: Determination of Water Supply Sufficiency Based on the Requirements of SB 610
Section 9: Water Supply Assessment Approval Process
Section 10: References

Relevant citations of California Water Code Sections 10910 through 10915 are included throughout this WSA in *italics* to demonstrate compliance with the specific requirements of SB 610.

2.0 DESCRIPTION OF THE PROPOSED PROJECT

The following sections describe the Proposed Project, including the Proposed Project's location, proposed land uses, and projected water demand.

2.1 Proposed Project Location and Overview

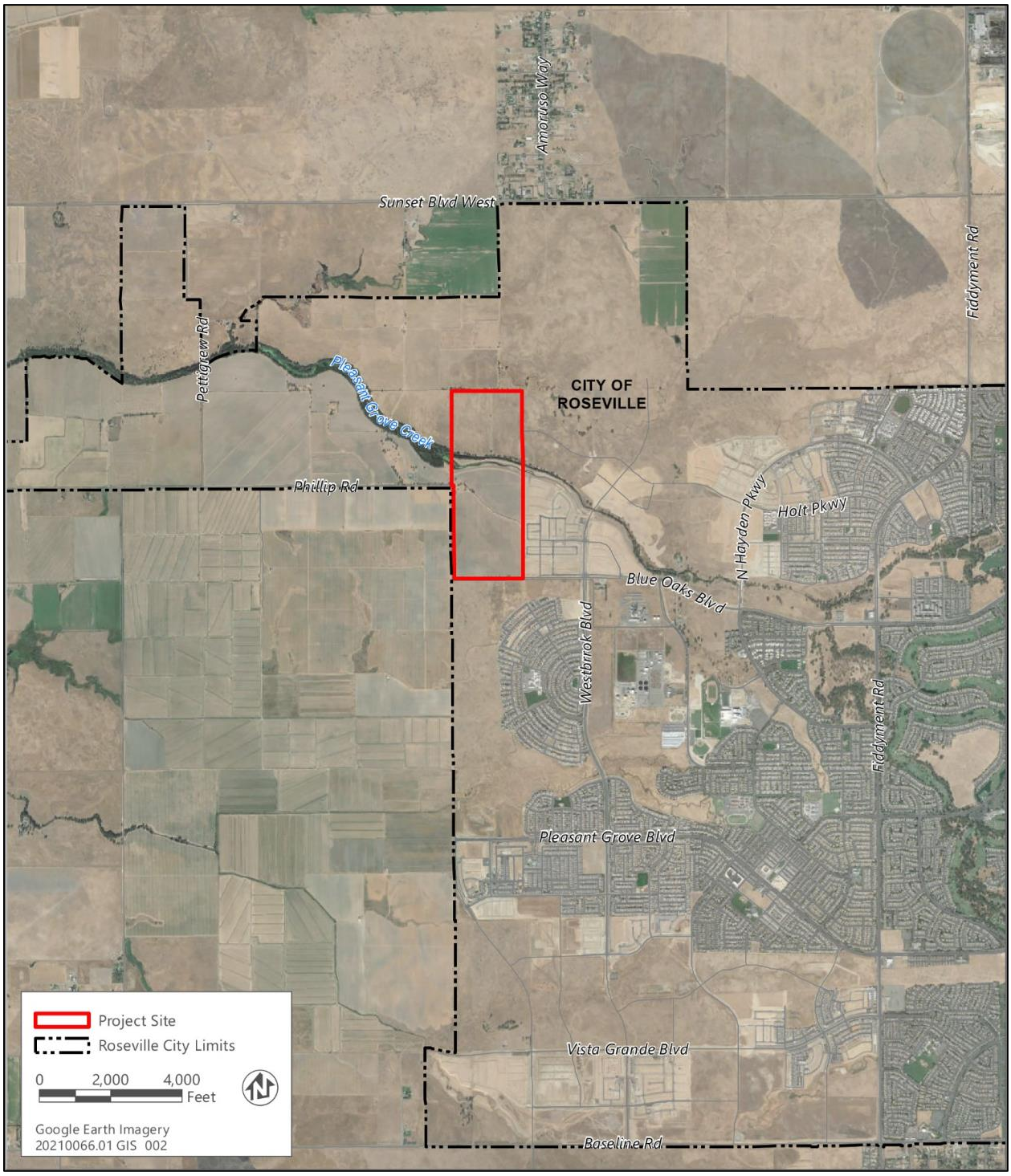
The Proposed Project location is 6382 Phillip Road in the northwest corner of the City, as shown on Figure 2-1. The Proposed Project site is bounded by the Al Johnson Wildlife Area to the northwest, and agricultural uses to the immediate west, east, and south. The future sites of the Creekview Specific Plan area (2,000 residential units), and the remainder of the West Roseville Specific Plan area (10,479 residential units, parks, open space, and commercial uses) are planned to the east and south, respectively. In addition, the Al Johnson Wildlife Area is part of a 1,700-acre site planned to accommodate the City's future stormwater Regional Retention facility.

The Proposed Project site is part of a larger 1,500-acre City-owned property (Reason Farms) purchased in 2003 for a retention basin project. As noted above, the retention basin project will now be located in the Al Johnson Wildlife Area. Therefore, the City entered into an Option and Purchase and Sale Agreement with Panattoni Development Company (Developer) to conduct due diligence and entitle the property in March 2021.

The Proposed Project site consists of approximately 241 acres of undeveloped grazing land. The existing site is predominantly flat with sparsely vegetated, low hills, and Pleasant Grove Creek bisects the property into a north and south parcel. Approximately 180 acres of the site are considered developable with approximately 7 acres for Blue Oaks Boulevard and Phillip Road extensions/widening; the remaining 55 acres consist of the Pleasant Grove Creek Floodplain, a retention basin bypass channel, and the future alignment of Placer Parkway.

2.2 Proposed Land Uses

The Proposed Project will be developed to incorporate a range of industrial uses, including light manufacturing, warehouse, and distribution uses, totaling up to 2,415,000 sf. The south parcel would include 131 acres of large warehouse buildings for warehousing, distribution, and light manufacturing, and an electrical substation. The north parcel would include 48 acres of industrial buildings for warehousing, light manufacturing, and storage yards. A center spine designed for large truck circulation and a bridge across Pleasant Grove Creek will connect the two parcels, with pedestrian and vehicular paths located around the site perimeter. At buildout, there would be approximately 1,938 employees and up to 15 buildings. Figure 2-2 illustrates the Proposed Project site plan at buildout.



Source: Notice of Preparation of an Environmental Impact Report for the proposed Roseville Industrial Park Project and Notice of Public Scoping Meeting, Figure 2: Project Location. Dated July 2021.

Figure 2-1. Proposed Project Location

Source: Provided by Developer. Dated March 2022.

Figure 2-2. Proposed Project Site

2.3 Projected Water Demand for the Proposed Project

The potable water demand for the Proposed Project was estimated by Laugenour and Meikle Civil Engineers using the City's adopted unit water demand factors. A copy of the potable water demand projection from the draft Potable Water Master Plan is provided in Appendix A. The total projected potable water demand for the Proposed Project is approximately 518 acre-feet per year (AF/yr).

The recycled water demand for the Proposed Project was estimated by Laugenour and Meikle Civil Engineers using the total irrigated area and the City's Water Efficient Landscape Ordinance. A copy of the recycled water demand projection from the draft Potable Water Master Plan is provided in Appendix A. The total projected recycled water demand for the Proposed Project is approximately 43 AF/yr.[4] The landscape irrigation demands for the Proposed Project will ultimately be served by the City's recycled water system; however, these demands will be served from the potable water system in the interim until the necessary recycled water system infrastructure is constructed.

[4] Based on a total estimated water use of 14,147,095 gallons per year.

3.0 REQUIRED DETERMINATIONS

The following sections describe the required determinations for a WSA.

3.1 Does SB 610 Apply to the Proposed Project?

10910 (a) Any city or county that determines that a project, as defined in Section 10912, is subject to the California Environmental Quality Act (Division 13 (commencing with Section 21000) of the Public Resources Code) under Section 21080 of the Public Resources Code shall comply with this part.

10912 (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.

As shown in Table 3-1, the Proposed Project does meet the definition of a "Project" as specified in California Water Code section 10912(a). The Proposed Project has not been the subject of a previously adopted WSA and has not been included in an adopted WSA for a larger project. Therefore, according to California Water Code section 10910(a), a WSA is required for the Proposed Project. The City has also determined that the Proposed Project is subject to the California Environmental Quality Act (CEQA) and that an EIR is required.

Table 3-1. Does the Proposed Project Meet the SB 610 Definition of a "Project"?

SB 610 Project Definition Components	Proposed Project Quantity	Meets the SB 610 Definition of a "Project"?
Residential > 500 dwelling units	N/A	NO
Retail > 1,000 employees or > 500,000 sf	N/A	NO
Commercial Office Building > 1,000 employees or > 250,000 sf	N/A	NO
Hotel/Motel > 500 rooms	N/A	NO
Industrial Plant/Park > 1,000 employees or > 40 acres or > 650,000 sf	1,938 employees 180 acres 2.42 million sf	YES
Mixed Use Project that includes one or more of the above	N/A	NO
A Project that would demand the amount of water required by a 500-dwelling unit project	N/A	NO
SB 610 Required?	**--**	**YES**

3.2 Does SB 221 Apply to the Proposed Project?

In 2001, SB 221 amended State law to require that approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply. Per California Government Code Section 66473.7(a)(1), a subdivision means a proposed residential development of more than 500 dwelling units. The Proposed Project does not include residential dwelling units and is therefore exempt from the requirements of SB 221.

3.3 Who is the Identified Public Water System?

> *10910(b) The city or county, at the time that it determines whether an environmental impact report, a negative declaration, or a mitigated negative declaration is required for any project subject to the California Environmental Quality Act pursuant to Section 21080.1 of the Public Resources Code, shall identify any water system that is, or may become as a result of supplying water to the project identified pursuant to this subdivision, a public water system, as defined by Section 10912, that may supply water for the project*
>
> *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…*

The Proposed Project is located in the City limits. Therefore, the City of Roseville is the identified public water system for the Proposed Project.

3.4 Does the Identified Water Supplier have an adopted UWMP and does the UWMP include the projected water demand for the Proposed Project?

> *10910(c)(1) The city or county, at the time it makes the determination required under Section 21080.1 of the Public Resources Code, shall request each public water system identified pursuant to subdivision (b) to determine whether the projected water demand associated with a proposed project was included as part of the most recently adopted urban water management plan adopted pursuant to Part 2.6 (commencing with Section 10610).*

The City's 2020 Urban Water Management Plan (UWMP) was adopted in June 2021 and is incorporated by reference into this WSA[5]. The City's 2020 UWMP included existing and projected water demands for existing and projected future land uses to be developed within the City's various specific plans through the year 2035. The water demand projections in the City's 2020 UWMP included existing City water demands, plus projected water demands for future developments, but did not include water demand projections for the Proposed Project, because the Proposed Project was not yet part of the City's development planning process. Therefore, this WSA has revised the water demand projections (UWMP Chapter 4) and the supply and demand comparison (UWMP Chapter 7) presented in the City's 2020 UWMP.

[5] City of Roseville 2020 Urban Water Management Plan, June 2021.

4.0 CITY OF ROSEVILLE WATER SYSTEM

The following sections describe the City's existing water service area, including population and climate information.

4.1 Water Service Area

The City of Roseville Water Utility is a public utility owned and operated by the City of Roseville. The City is located along the Interstate 80 corridor, approximately 15 miles northeast of downtown Sacramento, California. The City obtains its surface water from Folsom Lake through wholesale purchase primarily from the United States Bureau of Reclamation (USBR) and additional water contracts with Placer County Water Agency (PCWA) and San Juan Water District (SJWD). The City also maintains and operates several production well sites that provide additional water supply reliability; the City plans to construct additional wells in the future. The City also operates a recycled water system to irrigate landscaped areas throughout the City.

The City's service area boundary lies within the limits of the City of Roseville. There are a few small areas within the City limits that are served by PCWA, SJWD, and Citrus Heights Water District (CHWD). The service area is approximately 3,150 acres.

4.2 Population

City water service area population projections differ slightly from total City population estimates as a small number of City residents are served by adjacent water purveyors. The City estimated its current and projected water service area population in its 2020 UWMP through coordination with the City's General Plan, direct input from the City's Planning Division, and previous studies performed by the City's Environmental Utilities Division. As shown in Table 4-1, the City projects approximately 38 percent growth to occur from 2020 to buildout in 2035, and assumes the population will then remain constant through the rest of the planning period.

Table 4-1. Current and Projected Service Area Population

2020	2025	2030	2035	2040	2045
140,187	151,742	170,526	193,190	193,190	193,190

Source: City of Roseville 2020 UWMP, DWR Table 3-1.

4.3 Climate

The City's water service area experiences cool winters and hot and dry summers. The City's climate is similar to the City of Sacramento approximately 15 miles southwest. Historical climate data reported in the City's 2020 UWMP was obtained from California Irrigation Management Information System (CIMIS) Station 155 in Sacramento and is summarized in Table 4-2. The average monthly temperature from 2016 to 2020 ranged from 39.8 degrees Fahrenheit (°F) to 95.1°F. Typically the wet season begins in October and ends in May, with an average annual total precipitation of 13.2 inches.

Table 4-2. Monthly Average Climate Data[a]

Month	Average Minimum Temperature (°F)	Average Maximum Temperature (°F)	Average Temperature (°F)	Average Monthly Precipitation, inches
January	42.7	56.3	49.5	3.6
February	42.5	61.7	52.1	1.7
March	46.3	64.7	55.5	2.3
April	50.6	73.3	62.0	0.8
May	54.2	80.6	67.4	0.8
June	59.2	90.5	74.9	0.0
July	60.9	95.1	78.0	0.0
August	61.3	92.4	76.9	0.0
September	58.9	87.5	73.2	0.0
October	51.7	78.2	65.0	0.7
November	44.7	65.0	54.9	1.2
December	39.8	56.7	48.3	2.1
Average or Total	**51.1**	**75.2**	**63.1**	**13.2**

Source: City of Roseville 2020 UWMP, COR Table 3-E

(a) Values represent average monthly climate data for the CIMIS station 155 located in Sacramento from 2016 through 2020.

5.0 CITY OF ROSEVILLE WATER DEMANDS

10910(c)(2) If the projected water demand associated with the proposed project was accounted for in the most recently adopted urban water management plan, the public water system may incorporate the requested information from the urban water management plan in preparing the elements of the assessment required to comply with subdivisions (d), (e), (f) and (g).

The descriptions provided below for the City's water demands have been taken, for the most part, from the City's 2020 UWMP (adopted in June 2021). As indicated above, the Proposed Project was not included in the City's 2020 UWMP, and the water demand projections have been updated to include the water demand for the Proposed Project.

5.1 Historical and Existing Water Demand

The City's water demand from 2015 to 2020 is shown in Table 5-1. Water demand has increased since 2015 when the drought and subsequent water use restrictions limited demand, but that growth has slowed in recent years. Water demand significantly increased in 2020 due to water transfers to other agencies, as well as groundwater banking via the City's aquifer storage and recovery (ASR) program.

Table 5-1. Historical and Current Water Demand, AF/yr

Use Type	2015[a]	2016[a]	2017[a]	2018[a]	2019[a]	2020[b]
Commercial	1,930	2,101	2,218	2,565	3,021	2,630
Industrial	934	954	921	797	276	254
Institutional/Governmental	561	650	770	384	393	412
Multi-Family	1,464	1,556	1,569	1,376	1,358	1,416
Single Family	11,680	13,215	14,674	15,303	15,387	17,115
Landscape	4,152	4,691	5,491	5,656	5,974	6,422
Losses[c]	2,128	2,330	2,683	2,141	1,865	1,599
Sales/Transfers/Exchanges to other Suppliers	0	0	0	0	0	1,451
Groundwater Recharge	0	0	0	0	0	597
Raw Water[d]	0	0	0	0	0	404
Total	**22,849**	**25,497**	**28,326**	**28,222**	**28,274**	**32,300**

(a) City of Roseville 2020 UWMP, COR Table 4-A. See note (c) for losses.
(b) City of Roseville 2020 UWMP, DWR Table 4-1.
(c) All water losses are from the City of Roseville 2020 UWMP; 2015-2019 water losses are from COR Table 4-D.
(d) Discharge to Linda Creek and water wheeled on behalf of SJWD.

5.2 Projected Water Demand

In the City's 2020 UWMP, projected water demands were calculated by applying the City's current land-used based unit water demand factors to land uses in the City's various specific plans at buildout. As shown in Table 5-2, buildout of all specific plans is assumed to occur in 2035 with a total potable and recycled water demand of 62,546 AF/yr and remains constant through 2045.

Table 5-2. 2020 UWMP Projected Normal Year Water Demand, AF/yr					
Use Type	2025	2030	2035	2040	2045
Commercial	6,135	6,508	7,017	7,017	7,017
Industrial	4,175	4,726	5,123	5,123	5,123
Institutional/Governmental	8,904	9,494	10,321	10,321	10,321
Multi-Family	1,752	2,029	2,725	2,725	2,725
Single Family	22,564	24,508	26,281	26,281	26,281
Landscape	644	765	805	805	805
Losses	1,429	1,401	1,587	1,587	1,587
Sales/Transfers/Exchanges to other Suppliers[(a)]	0	0	0	0	0
Groundwater Recharge	1,560	2,720	3,350	3,350	3,350
Raw Water[(b)]	404	404	404	404	404
Recycled Water[(c)]	4,022	4,435	4,933	4,933	4,933
Total (Potable and Raw Water Only)	**47,567**	**52,555**	**57,613**	**57,613**	**57,613**
Total (All Sources)	**51,589**	**56,990**	**62,546**	**62,546**	**62,546**

Source: City of Roseville 2020 UWMP, DWR Table 4-2.

(a) The City has no planned contracts for water transfers from 2025-2045 as of the preparation of the 2020 UWMP.
(b) Discharge to Linda Creek and water wheeled on behalf of SJWD.
(c) Recycled water projections are from Table DWR 6-4 of the City's 2020 UWMP.

At the time the 2020 UWMP was prepared, the Proposed Project was not considered in the City's water demand projections, as described in Section 3.4. According to the Notice of Preparation (NOP) of an Environmental Impact Report prepared by the City in July 2021, Phase 1 of the Proposed Project will begin occupancy in 2025 with future phases to be determined later. This WSA assumes that the Proposed Project water demand will begin in the year 2025 and linearly increase until buildout in 2035, consistent with the 2020 UWMP.

The Proposed Project water demands are added to the 2020 UWMP potable water demands to obtain the revised water demand projections presented in Table 5-3.

Table 5-3. Revised Projected Water Demand, AF/yr					
Demand Projection	2025	2030	2035	2040	2045
Potable and Raw Water Demand					
2020 UWMP[(a)]	47,567	52,555	57,613	57,613	57,613
Proposed Project	173	345	518	518	518
Subtotal	**47,740**	**52,900**	**58,131**	**58,131**	**58,131**
Recycled Water Demand					
2020 UWMP[(a)]	4,022	4,435	4,933	4,933	4,933
Proposed Project	14	29	43	43	43
Subtotal	**4,036**	**4,464**	**4,976**	**4,976**	**4,976**
Total Water Demand	**51,776**	**57,364**	**63,107**	**63,107**	**63,107**

(a) Table 5-2 this WSA.

5.3 Dry Year Water Demand

The City currently has a Water Shortage Contingency Plan (WSCP) in place, as described in Appendix K of the City's 2020 UWMP. The City assumed in its 2020 UWMP that water demand in single dry or multiple dry years would be equal to normal year water demand. This is a conservative assumption as additional water conservation would likely occur in the event of drought or another water supply shortage or emergency due to the implementation of additional water conservation measures outlined in the City's WSCP and Chapter 14.09 of the City's Municipal Code. The City's WSCP and Municipal Code include a five-stage plan describing specific actions to reduce water demand by greater than 50 percent in the event of a water supply shortage or emergency. The water shortage stages, and their respective anticipated reduction in potable water demand, are shown in Table 5-4.[6]

Table 5-4. Water Shortage Contingency Plan Projected Demand Reduction

Water Shortage Stage Description	Projected Demand Reduction, percent
Baseline Water Conservation	0%
Stage 1 Drought	Up to 10
Stage 2 Drought	Up to 20
Stage 3 Drought	Up to 30
Stage 4 Drought	Up to 40
Stage 5 Drought	Up to 50 and Greater than 50

Source: City of Roseville 2020 UWMP, Appendix K, WSCP Table 4.

[6] City of Roseville 2020 Water Shortage Contingency Plan, June 2021.

6.0 CITY OF ROSEVILLE WATER SUPPLIES

The descriptions provided below for the City's water supplies have been taken, for the most part, from the City's 2020 UWMP (adopted in June 2021).

6.1 Roseville Existing and Projected Water Supplies

The City currently receives water from the following sources:

- Untreated surface water from the Folsom Reservoir through water supply contracts with PCWA, USBR, and SJWD;
- Groundwater from the North American Subbasin of the Sacramento Valley Groundwater Basin pumped from six groundwater wells, four of which possess ASR capability; and
- Recycled water delivered through the City's recycled water system.

Each of these existing supplies is discussed below.

6.1.1 Purchased and Imported Water

6.1.1.1 Surface Water from Folsom Lake

The City has historically relied heavily on its water supply contracts with PCWA, the USBR, and SJWD. The four untreated surface water contract entitlements for American River supply total 66,000 AF/yr. The City's current contract and supplies are outlined in Table 6-1.

Table 6-1. Purchased Surface Water Supply Summary

Contract Supply	Supply Type	Quantity, AF	Availability
USBR	Raw Surface Water	32,000	Subject to CVP M&I Usage Policy[(a)]
PCWA	Raw Surface Water	30,000	All Year Types
SJWD	Raw Surface Water	800	Normal or Wet Hydrologic Years
SJWD	Raw Surface Water	3,200	Normal or Wet Hydrologic Years

Source: City of Roseville 2020 UWMP, COR Table 6-A

(a) The City's USBR supply is subject in any year to determinations of allotments based on unimpaired inflow to Folsom Reservoir and downstream operations. See Section 7.1 and subsections for further discussion.

Water supplies from all three source agencies outlined above are received through the same point location at Folsom Dam. Folsom Lake has been the primary source of water supply for the City of Roseville since 1971. Surface water from the American River is collected and diverted at the Folsom Lake Pumping Plant located at Folsom Dam.The City receives supplies from all four of its raw water contract entitlements through the Folsom Lake Municipal and Industrial (M&I) Intake at this facility.

Untreated water supplies received at this point are conveyed by gravity or pumped by USBR depending on lake level through two parallel pipelines (84-inch and 72-inch) to the City's Barton Road Water Treatment Plant (BRWTP), with a capacity for treatment of up to 100 million gallons per day (mgd). The 72-inch pipeline was constructed in 2010 to increase redundancy and reliability of this critical supply route, in partnership with SJWD. Additionally, the City has 17 intertie facilities with neighboring agencies through which water supplies may be transferred under normal water year conditions as well as emergency or

drought conditions. In the future, the City is exploring options with PCWA to facilitate receipt of treated water directly through existing and/or new intertie facilities.

6.1.1.2 Other Available Water Purchases

The City may choose to purchase Article 3F water from the USBR when such supply is available.This supply source is typically only available in winter and spring months as it is generally considered "excess flow" released by the USBR above and beyond the entitlements of downstream users. In 2019, the City exercised this option and used approximately 950 AF of Article 3F water as part of their ASR program to inject and recharge the aquifer. This effort represented a continued commitment to provide not only water supply reliability for the City's residents, but also to support conjunctive use to aid in regional water supply reliability.

6.1.2 Groundwater

In recent years, the City has taken significant steps to expand and strengthen their groundwater program to broaden the City's water supply portfolio. The City currently owns and maintains six operational groundwater wells,with six additional wells planned for development in the next ten years, and one planned destruction. Four of the six operational wells are capable of ASR whereby treated water is injected into the underlying aquifer for later extraction and use. Currently, the City plans to design all new wells with ASR capability, as the City moves toward a more diversified water supply portfolio.

Groundwater is considered to be available for use as part of the City's water supply portfolio in all year types including normal, single dry, or multiple dry year scenarios. Importantly, groundwater will be a critical resource in future drought years as it supplements increasingly vulnerable surface water supplies.

6.1.2.1 Groundwater Basin Description

The City is located over the North American Subbasin of the Sacramento Valley Groundwater Basin. The North American Subbasin (DWR Groundwater Basin Number 5-21.64) is located in the eastern central portion of the Sacramento Valley Groundwater Basin, encompassing portions of Sutter, Placer, and Sacramento Counties. As of 2020, the Basin is listed by the California Department of Water Resources (DWR) as high priority in large part due to the population in the basin and the existing and projected future groundwater use, but the Basin has neither been adjudicated nor is it considered in overdraft or critical overdraft conditions.

Groundwater elevations in the subbasin along the Placer/Sacramento County line declined at a rate of 1 to 1.5 feet per year for multiple decades until approximately the mid-1990s. Some of the largest decreases have occurred in the area of the former McClellan Air Force Base. From 1995, groundwater elevations were stabilized, and the declining elevation trend was dampened due to groundwater management activities stemming from the Water Forum Agreement (see Section 7.1.1) restraining further increases in groundwater pumping and implementation of in-lieu banking in the region. Groundwater elevations in Sutter and northern Placer counties generally remain stable, although some wells in southern Sutter County have experienced declines.

In addition, the subbasin has historically been pumped by agricultural and urban users. Recently, in some areas of the subbasin, agricultural land has been and is being developed and converted to urban uses. The subbasin currently operates within the most recent estimate of sustainable yield.

6.1.2.2 Historical Groundwater Production

Until recently, groundwater had not been utilized by the City under normal year conditions. In the City's 2015 UWMP, the City's groundwater wells were identified for use only in drought or emergency conditions, with minimal pumping for the purpose of maintenance or demonstration of the City's ASR program. Over the last five years, the City has worked to advance and expand the groundwater infrastructure and groundwater program to provide additional water supply reliability.

Beginning in 2018, the City began to regularly operate existing groundwater infrastructure, specifically by pumping small volumes of groundwater from the City's production wells and serving that water into the distribution system as part of the maintenance plan. In 2019 and 2020, the City was able to store excess surface water using the ASR production wells to inject water into the aquifer. As the City continues to develop this program and look to the future of sustainable supply, groundwater pumping patterns will continue to evolve. A summary of the amount of groundwater pumped by the City over the past five years is provided in Table 6-2.

Table 6-2. Historical Groundwater Production, AF/yr

2016	2017	2018	2019	2020
0	0	17	23	201

Source: City of Roseville 2020 UWMP, DWR Table 6-1

6.1.2.3 Groundwater Management

The City actively manages groundwater resources both internally in coordination with land use planning and growth projections as well as regionally in accordance with the provisions of the Sustainable Groundwater Management Act. These efforts are discussed in the following subsections.

6.1.2.3.1 Western Placer County Groundwater Management

A Groundwater Management Plan (GMP) was completed in November of 2007 in accordance with Senate Bill 1938 and Assembly Bill 3030 in cooperation with PCWA, City of Lincoln, and California American Water.

6.1.2.3.2 Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act of 2014 (SGMA) contains a framework for sustainable management of groundwater supplies by local agencies, with a limited role for state intervention if local agencies fail to meet the requirements of SGMA. SGMA lays out a process and a timeline for local authorities to achieve sustainable management of high and medium-priority groundwater basins throughout the state. It also provides tools, authorities, and deadlines to achieve statewide sustainable groundwater management. For local agencies involved in implementation, the requirements are significant and will take years to accomplish. DWR has the responsibility to evaluate local agency progress, while the California State Water Resources Control Board (SWRCB) may intervene if DWR determines that local agencies fail to make progress and achieve the requirements of SGMA. Local agencies who volunteer to comply with SGMA must form a Groundwater Sustainability Agency (GSA) and prepare, adopt, and implement a Groundwater Sustainability Plan (GSP) that meets the requirements of SGMA.

More specifically, critical required steps include the formation of GSAs within two years of when SGMA became effective; the adoption of GSPs within five to seven years depending on the status of the basin in question (in critical overdraft condition or not); and preparation, adoption, and implementation of a GSP(s) that achieves the sustainability goal within 20 years of plan adoption.

SGMA applies to basins or subbasins designated by DWR as high or medium-priority, based on a statewide prioritization that uses criteria including population, importance and amount of groundwater pumped, extent of irrigated agriculture dependent on groundwater, and other criteria. DWR's final Basin Prioritization findings indicate that there are 127 of California's 515 groundwater basins and subbasins which are high and/or medium-priority. These high and medium-priority basins account for 96 percent of California's annual groundwater pumping and include 88 percent of the State's population. The priority ranking for the North American Subbasin of the Sacramento Valley Groundwater Basin (from which the City pumps groundwater) is 24 out of the state's 515 basins, with an overall ranking score of 22.5 and a designation of high-priority.

The City is well along the path of SGMA compliance, having joined the West Placer Groundwater Sustainability Agency (WPGSA) consisting of the City of Lincoln, Placer County Water Agency, Nevada Irrigation District, and the County of Placer. The WPGSA is one of a group of five GSAs formed within the North American Subbasin that consist of the West Placer, Sacramento, South Sutter Water District, Sutter County, and Recreation District 1001 GSAs. All five of these GSAs will prepare and submit one joint GSP for the entire subbasin. This GSP has been submitted to DWR for review, and the public comment period closed on April 16, 2022.

6.1.2.3.3 Aquifer Storage and Recovery

The City considers development of a diverse and drought resistant water supply portfolio of primary importance. To this end, the City has invested in both planning and capital improvements to develop their ASR program into a highly functional and critical component of the City's future. The ASR program utilizes groundwater pumping infrastructure along with existing water supplies to increase reliability. ASR wells can inject treated surface water from the distribution system into the groundwater aquifer for later extraction and use.

ASR production wells can be used seasonally (i.e., throughout the water year) or periodically over many years to create a "groundwater bank", storing surface water supplies within the aquifer in times of abundance (wet seasons or wet years) for use in times of scarcity (dry season or dry years). An important component of an ASR program is to maintain consistent and detailed records of groundwater levels within the aquifer and extraction/injection volumes. This information is used to ensure the groundwater basin is managed sustainably providing water supply reliability benefits while avoiding impacts to the groundwater basin. The City is a committed leader in the region with respect to the development of potential future cooperative water banking and responsible regional resource management.

6.1.3 Recycled Water

The Proposed Project will utilize recycled water for landscape irrigation demand and construct the necessary recycled water system infrastructure required to connect to the City's existing recycled water system[7]. The City has been successfully irrigating landscaped areas through the City with recycled water and is planning recycled water implementation as part of new developments. The City operates the recycled water program through the requirements of Master Reclamation Permit Order 97-147 (Permit).

Current uses of recycled water within the City include irrigation of landscapes and golf courses, industrial cooling for the Roseville Energy Park, and construction purposes such as dust control and soil compaction; recycled water is also conveyed outside the City's service area for golf course and landscape irrigation.

The City prepared the 2016 Recycled Water Systems Evaluation to position the City for implementing the next phases of recycled water projects as new users within the City come online, and as the various Urban Growth Areas plan for and install recycled water system infrastructure. The City continues to utilize recycled water supplies to promote responsible water supply management. Beneficial use of available disinfected tertiary treated Title 22 recycled water allows surface water and groundwater supplies to be applied to potable uses.

As of 2020, the peak recycled water production occurs in July and is approximately equal to the peak recycled water demand in July. For the City to further expand recycled water usage during the irrigation season, additional recycled water must be made available. This will most likely be accomplished through expansion of operational storage, with the necessary storage volume dependent on actual demand requirements. Therefore, the City will continue to evaluate City and regional recycled water demands and consider its ability to provide recycled water for future developments.

A major hindrance to expanding use of recycled water in existing developments is lack of infrastructure. Installing new infrastructure in existing areas is exceedingly expensive. The City requires use of recycled water for all commercial irrigation services in newly developing master planned areas, in which the infrastructure can be installed as part of the new construction, such as the Proposed Project.

6.2 Future Water Supply Projects

Future water supply project opportunities, including diversifying the purchasing or importing of water, expansion of the City's groundwater and ASR program, and regional cooperative conjunctive use, are discussed in the following sections.

6.2.1 Purchased or Imported Water

In addition to the current contract with PCWA for 30,000 AF/yr of surface water, the City is evaluating and may enter an agreement with PCWA for additional treated surface water supplies available in all hydrologic year types.The treated PCWA water would be supplied by PCWA's future Ophir Water Treatment Plant (Ophir WTP) which will treat water from the Middle Fork Project. The Ophir WTP will be constructed in phases, with the first phase expected to be operational by 2035 and provide an estimated 10 mgd of total supply to all customers. Additional phases will be evaluated as PCWA wholesale customers need

[7] Laugenour and Meikle Civil Engineers. August 2021. Draft Recycled Water Study for Roseville Industrial Project.

additional supply. The City may purchase up to 3 mgd of normal year capacity from the Ophir WTP, equivalent to 3,360 AF/yr of treated surface water supply.

The City is also exploring future opportunities for water transfers with regional partner agencies in an effort to diversify regional water management strategies in conjunction with responsible groundwater management practices. In 2019, the City executed an agreement for a pilot water transfer program with Sacramento Municipal Utilities District (SMUD). This agreement allows for an annual water transfer for up to 6,000 AF for three years. The transfer allows the City to use wet season supply to recharge the groundwater aquifer for later extraction and use. The City may look to renew this transfer or evaluate similar opportunities in coming years to provide drought resiliency and support the sustainable management of groundwater.

6.2.2 Groundwater and ASR Program

The City has historically relied upon groundwater resources only as a backup supply in times of shortage. In recent years and in response to lessons learned during the 2015 drought, changing climate conditions, and the overall need for further diversity and reliability of water supply, the City has invested in efforts to operate and expand its groundwater program as a regular part of its water supply portfolio in all year types. During the development of the GSP, the City evaluated current infrastructure, potential new well sites, and developed further understanding of the conditions and accessibility of the aquifer within the City's service area boundary to determine how groundwater planning would look moving forward. The result of these planning efforts has been the identification of six future well sites.

Conceptual design and siting have been completed for these sites, with exploratory drilling. The City plans to develop these wells and their above-ground improvements within the next 5 to 10 years, all with ASR capability to enhance flexibility of water system operations and expand the City's conjunctive use capabilities. For planning purposes, each well is assumed to extract a nominal 1,750 gallons per minute (gpm), with a final production value to be determined upon completion of well drilling and development. These six future wells are expected to represent a total of 16,936 AF/yr of additional water supplies.

7.0 WATER SUPPLY RELIABILITY

10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.

10911(a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. If the city or county, if either is required to comply with this part pursuant to subdivision (b), concludes as a result of its assessment, that water supplies are, or will be, insufficient, the city or county shall include in its water supply assessment its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies. Those plans may include, but are not limited to, information concerning all of the following:

(1) The estimated total costs, and the proposed method of financing the costs, associated with acquiring the additional water supplies.

(2) All federal, state, and local permits, approvals, or entitlements that are anticipated to be required in order to acquire and develop the additional water supplies.

(3) Based on the consideration set forth in paragraphs (1) and (2), the estimated timeframes within which the public water system, or the city or county if either is required to comply with this part pursuant to subdivision (b), expects to able to acquire additional water supplies.

The reliability discussion provided below has been taken, for the most part, from the City's 2020 UWMP (adopted in June 2021).

7.1 Surface Water Reliability

The City's purchased surface water supply is subject to reductions during dry years (seasonal and climatic shortages) pursuant to the Water Forum Agreement (WFA), the USBR Operations Criteria and Plan (OCAP), and the Central Valley Project Municipal and Industrial Water Shortage Policy (CVP M&I WSP). These agreements and programs are discussed in greater detail in the following subsections.

7.1.1 Sacramento Water Forum Agreement

The Sacramento Water Forum is a diverse group of business and agricultural leaders, citizen groups, environmentalists, water managers, and local governments working together to balance two co-equal objectives:

1. Provide a reliable and safe water supply for the Sacramento region's long-term growth and economic health.
2. Preserve the fishery, wildlife, recreational and aesthetic values of the Lower American River.

The City along with several other Sacramento-area water suppliers are signatory to the January 2000 Water Forum Agreement (WFA) which includes Purveyor Specific Agreements, with the most recent revisions adopted in 2015. The WFA provides the framework for how water resources, including surface water and groundwater supplies, would be used in the region through the year 2030. The City's Purveyor Specific Agreement includes limitations on City surface water diversions from the American River under various hydrologic conditions. The Water Forum categorized water years into three types, all of which are

defined in terms of the projected March through November unimpaired flow into Folsom Reservoir. The City's diversions from the American River are limited by the WFA in accordance with the hydrologic conditions outlined in Table 7-1.

Table 7-1. WFA Hydrologic Year Characterization and Limits on City Supplies

WFA Year Type	Required Unimpaired Flow into Folsom Reservoir, AF[(a)]	Maximum Volume of American River Water Diverted by the City, AF[(b)]
Normal/Average or Wet	≥ 950,000	58,900
Drier	400,000 to 950,000	43,800 to 58,900[(c)]
Driest/Critically Dry	≤ 400,000	43,800

(a) From City of Roseville 2020 UWMP, Table 7-A.
(b) From City of Roseville 2020 UWMP, Figure 7-1.
(c) In drier years, the City's maximum diversion from the American River is calculated linearly between 43,800 AF and 58,900 AF, based on the required amount of unimpaired flow between 400,000 AF and 950,000 AF.

It is important to note that during the drier and driest years, the City has an agreement with PCWA to release an additional 20,000 AF/yr of water down the American River on the City's behalf through re-operation of PCWA's American River Middle Fork Project (MFP). This 20,000 AF/yr of water is not part of the City's contracted supply of 66,000 AF/yr. The intent of the MFP re-operational releases during drier and driest years is to mitigate environmental impacts resulting from increased diversions above 1995 baseline levels.

7.1.2 USBR Operations and Criteria Plan

In addition to the WFA, the City's USBR supply is also subject to restrictions as detailed in the 2004 Long-Term Central Valley Project Operations Criteria and Plan. Chapter 5 of the OCAP entitled "Operations Forecasting" states that CVP allocations can be affected by:

- Forecasted reservoir inflows and Central Valley hydrologic water supply;
- Current amounts of storage in upstream reservoirs and in San Luis Reservoir;
- Projected water demands in the Sacramento Valley;
- Instream and Sacramento-San Joaquin Delta (Delta) regulatory requirements;
- Annual management of 3406(b)(2) resources (related to fish and wildlife); and/or
- Efficient use of CVP-SWP export capacity through Joint Point of Diversion flexibility.

The OCAP includes a requirement that contractors be informed by USBR no later than February 15 of any possible deficiency in supplies that year. Since 1992, increasing constraints placed on operations by legislative and Endangered Species Act (ESA) requirements have made water delivery to CVP contractors more difficult, with recent drought conditions further impacting deliveries. Additionally, it is important to note that the City's USBR water deliveries may be curtailed purely based on downstream Delta conditions, irrespective of available upstream supply.

For the purposes of this WSA, the City's USBR contracted amount is assumed to be reduced by 75 percent in single dry years and the fifth year of a five-year drought. This represents the actual curtailments experienced by the City in 2015, and is the largest reduction imposed on the City's USBR supply to date.

The full 32,000 AF is assumed to be available in the first multiple dry year and will decrease by 8,000 AF for each subsequent dry year.

7.1.3 Central Valley Project Municipal and Industrial Water Shortage Policy

Upon a condition of shortage as determined by the OCAP, the CVP M&I WSP details the "incremental steps" by which available M&I water supply is allocated to the CVP water service contractors. Elements of the CVP M&I WSP include:

- Defining water shortage terms and conditions for applicable CVP water service contractors, as appropriate.
- Determining the quantity of water made available to CVP water service contractors that, together with the M&I water service contractors' drought water conservation measures and other non-CVP water supplies would assist the M&I water service contractors in their efforts to protect public health and safety during severe or continuing drought.
- Providing information to CVP water service contractors for their use in water supply planning and development of drought contingency plans.

The Final Environmental Impact Statement (EIS) describes the existing setting, alternatives for future operations under the CVP M&I WSP, and potential environmental impacts of each alternative. USBR selected Alternative 4, the Preferred Alternative, which comprises the Updated CVP M&I WSP developed by USBR with stakeholder input received during preparation of the Final EIS. The decision will allow USBR the greatest degree of flexibility to address CVP water service contractors' needs during a shortage condition while recognizing that CVP deliveries are subject to the amount of CVP water available. The updated CVP M&I WSP also provides clarity to the terms, conditions, and procedures of the CVP M&I WSP.

7.2 Groundwater Reliability

While the City's groundwater supply is not limited in different year types like its purchased supply, the City intends to use their groundwater supply differently in different year types:

- **Normal Years –** In a normal year the City would typically extract less than or equal to the volume injected.
- **Single Dry Years –** In a single dry year the City would expect to pump for six months of the year at 90 percent of total extraction capacity.
- **Multiple Dry Years –** In the fifth year of a five-year drought, the City would expect to pump for six months of the year at 90 percent capacity.

A more detailed summary of the City's available groundwater supply is tabulated in Sections 7.4 and 7.5.

7.3 Recycled Water Reliability

Recycled water is considered 100 percent reliable in all water types. For the purposes of this WSA, projected recycled water supply is assumed to be equal to demand. Showing recycled water surpluses would incorrectly assume that potable water shortages could be offset by recycled water. Therefore, the Proposed Project recycled water demand of 43 AF/yr has been added to the City's recycled water supplies shown in Sections 7.4 and 7.5.

7.4 Normal Year Water Supply

The City's available water supplies in normal years are shown in Table 7-2.

Table 7-2. Normal Year Available Water Supplies, AF/yr

Supply Source	2025	2030	2035	2040	2045
USBR	32,000	32,000	32,000	32,000	32,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	4,000	4,000	4,000	4,000	4,000
Water Forum Limitation[a]	-7,100	-7,100	-7,100	-7,100	-7,100
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	1,560	2,720	3,350	3,350	3,350
Recycled Water[b]	4,036	4,464	4,976	4,976	4,976
Total	**64,496**	**66,084**	**70,586**	**70,586**	**70,586**

Source: City of Roseville UWMP, COR Table 7-D

(a) The WFA limits the City's maximum surface water diversion to 58,900 AF in normal/wet years, even if there are no curtailments on the City's total contract amounts of 66,000 AF.

(b) Recycled water supply assumed equal to demands projected in Table 5-3 of this WSA.

7.5 Dry Year Water Supply

The City's available water supplies in single dry years are shown in Table 7-3.

Table 7-3. Single Dry Year Available Water Supplies, AF/yr

Supply Source	2025	2030	2035	2040	2045
USBR[a]	8,000	8,000	8,000	8,000	8,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	0	0	0	0	0
Water Forum Limitation	0	0	0	0	0
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater[b]	7,920	12,570	14,431	14,431	14,431
Recycled Water[c]	4,036	4,464	4,976	4,976	4,976
Total	**49,956**	**55,034**	**60,767**	**60,767**	**60,767**

Source: City of Roseville UWMP, COR Table 7-D

(a) Assumes a 75 percent curtailment of the USBR contracted value, based on the same curtailment experienced in 2015.

(b) Groundwater is not used as a significant source of supply until a Drought Stage 3 of the WSCP is declared by the City.

(c) Recycled water supply assumed equal to demands projected in Table 5-3 of this WSA.

The City's available water supplies in multiple dry years are shown in Table 7-4.

Table 7-4. Multiple Dry Years Available Water Supplies, AF/yr

Supply Source	2025	2030	2035	2040	2045
Multiple Dry Year 1					
USBR	32,000	32,000	32,000	32,000	32,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	4,000	4,000	4,000	4,000	4,000
Water Forum Limitation	-7,100	-7,100	-7,100	-7,100	-7,100
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	1,560	2,720	3,350	3,350	3,350
Recycled Water[a]	4,036	4,464	4,976	4,976	4,976
Total	**64,496**	**66,084**	**70,586**	**70,586**	**70,586**
Multiple Dry Year 2					
USBR	24,000	24,000	24,000	24,000	24,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	0	0	0	0	0
Water Forum Limitation	0	0	0	0	0
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	1,560	2,720	3,350	3,350	3,350
Recycled Water[a]	4,036	4,464	4,976	4,976	4,976
Total	**59,596**	**61,184**	**65,686**	**65,686**	**65,686**
Multiple Dry Year 3					
USBR	24,000	24,000	24,000	24,000	24,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	0	0	0	0	0
Water Forum Limitation	0	0	0	0	0
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	1,560	2,720	3,350	3,350	3,350
Recycled Water[a]	4,036	4,464	4,976	4,976	4,976
Total	**59,596**	**61,184**	**65,686**	**65,686**	**65,686**
Multiple Dry Year 4					
USBR	16,000	16,000	16,000	16,000	16,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	0	0	0	0	0
Water Forum Limitation	0	0	0	0	0
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	1,560	2,720	3,350	3,350	3,350
Recycled Water[a]	4,036	4,464	4,976	4,976	4,976
Total	**51,596**	**53,184**	**57,686**	**57,686**	**57,686**

Table 7-4. Multiple Dry Years Available Water Supplies, AF/yr

Supply Source	2025	2030	2035	2040	2045
Multiple Dry Year 5					
USBR	8,000	8,000	8,000	8,000	8,000
PCWA	30,000	30,000	30,000	30,000	30,000
SJWD	0	0	0	0	0
Water Forum Limitation	0	0	0	0	0
PCWA (Future)	0	0	3,360	3,360	3,360
Groundwater	7,920	12,570	14,431	14,431	14,431
Recycled Water[(a)]	4,036	4,464	4,976	4,976	4,976
Total	**49,956**	**55,034**	**60,767**	**60,767**	**60,767**

Source: City of Roseville UWMP, COR Table 7-D

(a) Recycled water supply assumed equal to demands projected in Table 5-3 of this WSA.

8.0 DETERMINATION OF WATER SUPPLY SUFFICIENCY BASED ON THE REQUIREMENTS OF SB 610

> *10910(c)(4) If the city or county is required to comply with this part pursuant to subdivision (b), the water supply assessment for the project shall include a discussion with regard to whether the total projected water supplies, determined to be available by the city or county for the project during normal, single dry, and multiple dry water years during a 20-year projection, will meet the projected water demand associated with the proposed project, in addition to existing and planned future uses, including agricultural and manufacturing uses.*
>
> *10911 (a) If, as a result of its assessment, the public water system concludes that its water supplies are, or will be, insufficient, the public water system shall provide to the city or county its plans for acquiring additional water supplies, setting forth the measures that are being undertaken to acquire and develop those water supplies.*

Pursuant to California Water Code section 10910(c)(4) and based on the technical analyses described in this WSA, the City finds that the total projected water supplies determined to be available for the Proposed Project through 2045 will meet the projected water demand associated with the Proposed Project, in addition to existing and planned future uses.

Table 8-1 summarizes the projected availability of the City's existing and planned future water supplies and the City's projected water demands in normal, single dry, and multiple dry years through 2045. There is sufficient supply to meet projected demands in normal years through buildout. In single dry years and years four and five of an extended drought, some supply shortages are shown ranging from approximately 0.3 percent to 8.6 percent of projected demand. As discussed in Section 5.3, projected demands were not reduced in dry years to remain conservative. It is expected that the City will implement the provisions of its WSCP to reduce demand in years where a shortage is likely.

Table 8-1. Summary of Water Demand Versus Supply During Hydrologic Normal, Single Dry, and Multiple Dry Years

Year Type	Supply and Demand Comparison				
	2025	2030	2035	2040	2045
Normal Year					
Available Potable Water Supply[a]	64,496	66,084	70,586	70,586	70,586
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	12,720	8,720	7,479	7,479	7,479
Percent Shortfall	--	--	--	--	--
Single Dry Year					
Available Potable Water Supply[c]	49,956	55,034	60,767	60,767	60,767
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	(1,820)	(2,330)	(2,340)	(2,340)	(2,340)
Percent Shortfall	3.5%	4.1%	3.7%	3.7%	3.7%
Multiple Dry Year 1					
Available Potable Water Supply[d]	64,496	66,084	70,586	70,586	70,586
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	12,720	8,720	7,479	7,479	7,479
Percent Shortfall	--	--	--	--	--
Multiple Dry Year 2					
Available Potable Water Supply[d]	59,596	61,184	65,686	65,686	65,686
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	7,820	3,820	2,579	2,579	2,579
Percent Shortfall	--	--	--	--	--
Multiple Dry Year 3					
Available Potable Water Supply[d]	59,596	61,184	65,686	65,686	65,686
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	7,820	3,820	2,579	2,579	2,579
Percent Shortfall	--	--	--	--	--
Multiple Dry Year 4					
Available Potable Water Supply[d]	51,596	53,184	57,686	57,686	57,686
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	(180)	(4,180)	(5,421)	(5,421)	(5,421)
Percent Shortfall	0.3%	7.3%	8.6%	8.6%	8.6%
Multiple Dry Year 5					
Available Potable Water Supply[d]	49,956	55,034	60,767	60,767	60,767
Total Water Demand[b]	51,776	57,364	63,107	63,107	63,107
Surplus (Deficit)	(1,820)	(2,330)	(2,340)	(2,340)	(2,340)
Percent Shortfall	3.5%	4.1%	3.7%	3.7%	3.7%

(a) Normal Year water supplies are from Table 7-2.

(b) Projected water demand is from Table 5-3. This WSA conservatively assumes no reduction in water demand in dry years, consistent with the City of Roseville's 2020 UWMP.

(c) Single dry year water supplies are from Table 7-3.

(d) Multiple dry year water supplies are from Table 7-4.

9.0 WATER SUPPLY ASSESSMENT APPROVAL PROCESS

> *10910 (g)(1) Subject to paragraph (2), the governing body of each public water system shall submit the assessment to the city or county not later than 90 days from the date on which the request was received. The governing body of each public water system, or the city or county if either is required to comply with this act pursuant to subdivision (b), shall approve the assessment prepared pursuant to this section at a regular or special meeting.*

The Roseville City Council must approve this WSA at a regular or special meeting. Furthermore, this WSA must be included in the Draft EIR being prepared for the Proposed Project.

10.0 REFERENCES

City of Roseville Development Services Planning Division. 2021. *Notice of Preparation: Roseville Industrial Park Project.* July 2021.

City of Roseville. 2021. *Design Standards Section 8 – Domestic Water Supply System*. Accessed at https://www.roseville.ca.us/government/departments/development_services/engineering_land_development/construction_management_inspection/design_construction_standards, on September 16, 2021.

Laugenour and Meikle Civil Engineers. 2021. *Draft Recycle Water Study for Roseville Industrial Project.* August 2021.

Laugenour and Meikle Civil Engineers. 2021. *Draft Potable Water Study for Roseville Industrial Project.* September 2021

Laugenour and Meikle Civil Engineers. 2022. *Potable Water Master Plan for Roseville Industrial Project.* March 2022.

Water Works Engineers, LLC. 2021. *City of Roseville 2020 Urban Water Management Plan.* June 2021.

Water Works Engineers, LLC. 2021. *City of Roseville 2020 Water Shortage Contingency Plan.* June 2021.

Appendix A

Project Water Demand

Table 2 – Potable Water Demand

Location on Site	Water Demand Area (ac)	Land Use	Average Day Unit Water Demand Factor[a]	Unit-Factor Units	Average Day Demand (gpd) (gpd)[b]	Annual Demand (ac-ft/yr)	Peaking Factor[c]	Maximum Day Demand	Peaking Factor[d]	Peak Flow (gpd)[e]	Design Flow (gpm)
Area 1	81.27	M2, General Industrial	2,562	gpd/acre	208,209	233.2	2.0	416,417	1.7	707,909	492
Area 2	48.50	M1, Light Industrial	2,598	gpd/acre	126,008	141.2	2.0	252,016	1.7	428,428	298
Area 3	0.90	PQP, Public Quasi Public	1,780	gpd/acre	1,609	1.8	2.0	3,218	1.7	5,471	4
Area 4	0.17	PQP, Public Quasi Public	1,780	gpd/acre	306	0.3	2.0	612	1.7	1,041	1
Area 5	16.19	OS/Open Space	0	gpd/acre	0	0.0	2.0	0	1.7	0	0
Area 6	16.98	M2, General Industrial	2,562	gpd/acre	43,495	48.7	2.0	86,990	1.7	147,883	103
Area 7	31.86	M1, Light Industrial	2,598	gpd/acre	82,777	92.7	2.0	165,555	1.7	281,443	195
Area 8	21.19	PQP, Public Quasi Public[f]	0	gpd/acre	0	0	2.0	0	1.7	0	0
Area 9	17.34	Future Placer Parkway[g]	0	gpd/acre	0	0	2.0	0	1.7	0	0

(a) From Table of Section 8-6 of the City of Roseville Design Standards (January, 2020) (gpd/ac).

(b) Average Day Demand (gallons per day) = Water Demand Area x Average Day Demand Unit Flow Factor.

(c) Peaking factor from average day demand to maximum day demand per Section 8-7 of the City of Roseville Design Standards (January, 2020).

(d) Peaking factor from maximum day demand to peak hour demand per Section 8-7 of the City of Roseville Design Standards (January, 2020).

(e) Peak Hour Demand = Peaking Factor * Maximum Day Demand.

(f) Area 9 will not be served by the Proposed Project.

(g) The future Placer Parkway is not part of this Master Plan; therefore, no water demand is included in the Report.

Roseville Industrial Park North Worksheet

Reference Evapotranspiration (Eto) 52.2

Regular Landscape Areas There are no special landscape areas. Trees count as 25 sq'

Hydrozone#	Plant Factor	Irrigation Method	Irrigation Efficiency	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF X Area	Estimated Total Water Use (GPY)
1	0.2	Drip	0.81	0.25	306,605	76,651	2,480,741
2	0.4	Drip	0.81	0.49	76,651	37,559	1,215,559
3	0.2	Bubbler	0.81	0.25	7,750	1,938	62,705
4	0.4	Bubbler	0.81	0.49	1,650	809	26,166
Total					392,656		3,785,172

Maximum Allowed Water Allowance (MAWA)		5,718,563
Estimated Total Water Use (ETWU)		3,785,172
	Average ETAF	0.27
	Allowed ETAF	0.45

Total Landscape Area

Total Gallons Per Year Allowed Per The Model Water Efficient Landscape Ordinance

Total Gallons Per Year Projected Per The Projected Irrigation Design Usage

Roseville Industrial Park Worksheet

Reference Evapotranspiration (Eto) 52.2

Regular Landscape Areas There are no special landscape areas. Trees count as 25 sq'

Hydrozone#	Plant Factor	Irrigation Method	Irrigation Efficiency	ETAF (PF/IE)	Landscape Area (sq. ft.)	ETAF X Area	Estimated Total Water Use (GPY)
1	0.2	Drip	0.81	0.25	848,078	212,020	6,861,799
2	0.4	Drip	0.81	0.49	207,507	101,678	3,290,721
3	0.2	Bubbler	0.81	0.25	12,700	3,175	102,756
4	0.4	Bubbler	0.81	0.49	6,725	3,295	106,647
Total					1,075,010		10,361,923

Maximum Allowed Water Allowance (MAWA)		15,656,231
Estimated Total Water Use (ETWU)		10,361,923
	Average ETAF	0.27
	Allowed ETAF	0.45

Total Landscape Area

Total Gallons Per Year Allowed Per The Model Water Efficient Landscape Ordinance

Total Gallons Per Year Projected Per The Projected Irrigation Design Usage

Concord

1001 Galaxy Way, Suite 310
Concord CA 94520
925-949-5800

Davis

2020 Research Park Drive, Suite 100
Davis CA 95618
530-756-5905

Eugene

1650 W 11th Avenue, Suite 1-A
Eugene OR 97402
541-431-1280

Lake Forest

23692 Birtcher Drive
Lake Forest CA 92630
949-420-3030

Lake Oswego

5 Centerpointe Drive, Suite 130
Lake Oswego OR 97035
503-451-4500

Oceanside

804 Pier View Way, Suite 100
Oceanside CA 92054
760-795-0365

Olympia

825 Legion Way SE, Suite A6
Olympia WA 98501
360-350-4523

Phoenix

4505 E Chandler Boulevard, Suite 230
Phoenix AZ 85048
602-337-6110

Pleasanton

6800 Koll Center Parkway, Suite 150
Pleasanton CA 94566
925-426-2580

Sacramento

8950 Cal Center Drive, Bldg. 1, Suite 363
Sacramento CA 95826
916-306-2250

San Diego

11939 Rancho Bernardo Road, Suite 100
San Diego CA 92128
858-505-0075

Santa Rosa

2235 Mercury Way, Suite 105
Santa Rosa CA 95407
707-543-8506